

Tanzania Planners' Handbook

A Guide for Development Planning

Constantine Lifuliro, Innocent Zilihona, Tiberio Mdendemi
Adalbertus Kamanzi, George Kinyashi, Teun van Dijk (editorial board)



Universiteit
Leiden



Tanzania Planners' Handbook
A Guide for Development Planning

Tanzania Planners' Handbook

A Guide for Development Planning

Editorial Board

Constantine Lifuliro, Innocent Zilihona,

Tiberio Mdendemi, Adalbertus Kamanzi,

George Kinyashi, Teun van Dijk



Occasional Publication 30

African Studies Centre Leiden
P.O. Box 9555
2300 RB Leiden
The Netherlands
asc@ascleiden.nl
www.ascleiden.nl

Cover design: Heike Slingerland
Cover photo: Planning discussion Chololo Ecovillage Dodoma.
Picture by Nuru Joseph, September 2017

First edition 1989
Second edition 2018

Published by: African Studies Centre, The Netherlands

© Institute of Rural Development Planning, 2018
Dodoma, Tanzania

IRDP is a corporate body established by Tanzania Parliamentary Act No. 8 of 1980 as a national centre for providing facilities, student places, and a centre for training, research, and consultancy in rural development planning and related disciplines.

Printed by Ipskamp Printing, Enschede

ISBN: 978-90-5448-165-2

Table of Contents

Preface	9
Acknowledgement	12
List of Abbreviations	13
List of Contributors	18

PART I

The Context: Planning, Planners and the Planning System

1	Planning: Concept, Theories and Models	31
	<i>Andrew Komba, Kenneth M.K. Bengesi, Titus Mwageni</i>	
2	Historical Perspectives on Development Planning in Tanzania	43
	<i>Adalbertus Kamanzi, Daniel Mpeta</i>	
3	Planning Systems in Tanzania	51
	<i>Andrew Komba, Domitilla Bashemera, Jane Mbilinyi</i>	
4	Planner's Identity: Roles Tasks, Competencies and Ethics	61
	<i>George Kinyashi, Tiberia Mdendemi, Jane Mbiinyi</i>	
5	Societal Actors in Development Planning	69
	<i>Adalbertus Kamanzi, Emmanuel Nyankweli, Emmanuel Hauli</i>	
6	Planning and Demography	81
	<i>Domitilla Bashemera, Tiberio Mdendemi</i>	

PART II

Regional (Micro) Development Planning in Tanzania

7	Regional Development and Planning	105
	<i>George Kinyashi, Jane Mbilinyi, Africanus Sarwatt</i>	
8	Planning at Local Government Level	135
	<i>Israel B. Katega, Andrew Komba, Aisha Mjegere, Gelliver Simime</i>	

9	Local Government and Local Economic Development <i>Andrew Komba, Jane Mbilinyi, George Kinyashi</i>	159
10	Territorial Livelihoods and Development <i>George Kinyashi, Upendo Mmari, Adalbertus Kamanzi</i>	173
11	Planning and Financing Investment for Local Economic Development <i>Vedastus Timothy, Revocatus Nyefwe, Ezekiel Kanire, Galinoma Lubawa, Daniel Mpeta</i>	187
 PART III Sectorial Planning 		
12	Agricultural Development Planning <i>Youze Mnguu, Frank Hawassi, Batimo Sebyiga</i>	199
13	Livestock Development Planning <i>James Lwelamira, John Safari, Hija Mwatawala, Francis Njau</i>	239
14	Environmental Planning and Management <i>Israel B. Katega, Hozen Mayaya, Idd Masumbuko, Emmanuel Nyankweli, Abiud Kaswamila, John Safari, Innocent Zilihona, Francis Njau, Omari Mzirai, Boniface Kauki</i>	249
15	Industrial Development and Planning <i>Joseph Haule, Danford Chisomi</i>	279
16	Economic Infrastructure Planning <i>Godrich Mnyone, Martha Nhembo, Omari Mzirai</i>	291
17	Transportation Planning <i>Adalbertus Kamanzi, Stanslaus Msuya</i>	301
18	Social Infrastructures Planning <i>Benedict Kilobe, Godrich Mnyone, Martha Nhembo, Christina Geoffrey Mandara, Mafuru Solomi</i>	317
19	Sanitation and Development Planning <i>Stanslaus Msuya, Adalbertus Kamanzi, Emmanuel Nyankweli</i>	329

PART IV

Macro-Economic Planning in Tanzania

- 20 **National Development Policy and Planning** 351
Daniel Mpeta, Batimo Sebyiga
- 21 **Macro -Economic Policies for Planning** 363
Andrew Komba, Allan Mfuru, Tafuteni Chusi
- 22 **Planning and Budgeting Processes in Tanzania** 373
Jane Mbilinyi, Provident Dimoso, Andrew Komba

PART V

Selected Facets and Planning Issues

- 23 **Project Planning and Management** 387
Baltazar Namwata, Tiberio Mdendemi, Andrew Komba, Emmanuel Nyankweli, Juma Kidunda
- 24 **Settlement, Land Use and Physical Planning** 411
Stanslaus Msuya, Gerald Temu, Canute Hyandy, Agness Chawene, Masumbuko Idd
- 25 **Migration and Development Planning** 429
Adalbertus Kamanzi, Deodatus Buberwa
- 26 **Urban Planning** 449
Isreal B Katenga, Godrich Mnyone, Gerald Temu
- 27 **Rural Development Planning** 463
George Kinyashi
- 28 **Participation in Development Planning** 473
Baltazar Namwata, Zacharia Masanyiwa, Mark Msaki
- 29 **Research Methods for Development Planning** 485
Mwabless Malila, Adalbertus Kamanzi, Omari Mzirai
- 30 **Mainstreaming Gender and HIV/AIDS in Development Planning** 505
Domitilla Bashemera, Christina G. Mandara, Irene Reginard, Aisha Mjegere

31	Human Resource Planning and Management <i>Stephen James, Judith Namabira, Rofina Mrossoi</i>	523
32	Information and Communication Technologies for Development Planning <i>Benjamin Mwalugeni, Omari Mzirai, Canute Hyandye</i>	535
33	Conflict Management and Development Planning <i>Mark Msaki, Hellen Stephen, John Safari, Hozen Mayaya, Baltazar Namwata</i>	555

Preface

This Planners' Handbook is a second edition. The first edition was prepared in the late 1980s. The reason for this revision is to take into account the current and emerging planning issues in order to harmonize with the operating and paradigm shift. The Handbook is a practical guide to the process of planning for practising planners and other professionals engaged as functional managers and officers in Tanzania. In seeking to provide practical guidelines for those professionally engaged in the planning process, the Handbook still focuses on presenting three main aspects: (a) required concepts; (b) appropriate approaches and procedures; and (c) relevant methods and techniques. Because the emphasis is on securing improvements in the practice of planning, preference has been given to the application of knowledge rather than to the theoretical basis. This second edition of the Handbook has been written to orient planners to perform their daily work. It provides a review of the major planning concepts and methods planners need to be familiar with. It discusses the appropriate planning approaches and procedures that planners can make use of. It explains and/or refers to the analytical tools that planners use to make planning successful. It indicates the optimum data required for particular kinds of development to take place and where such data are available.

The Handbook is divided into five parts:

Part I describes the context of planning in its historical perspective. It discusses planning, planners, and planning systems. It introduces us to a rather current way of conceptualizing planning. It sets a scene whereby the traditional perspective of looking at planning from a government perspective gives way to a governance perspective. While planning from a government perspective is 'central-oriented,' planning from a governance perspective is decentralized and emphasizes the role of different stakeholders in planning. On the one hand, planners become facilitators rather than implementers; and on the other hand, rather than having blueprints to implement from the top, the focus is on local area/economic development. The issues presented in this part of the Handbook include concepts, theories, and models of planning; the historical perspectives of development planning in Tanzania; the current Tanzanian planning system in Tanzania; the identity of planners in terms of roles, tasks, competencies, and ethics; and the demographic dynamics.

Part II explains the evolution from regional development planning towards territorial planning in general terms and in the context of Tanzania, with a focus on governance of local economic development in respect to all stakeholders. The role of the planner is one of coordinating all these interests in a context of local economic development. Consequently, this part discusses local-level planning in its institutional and legal framework.

Part III describes the planning and implementation process in various sectors, starting from sectoral policy formulations and continuing to sectoral implementation processes in the context of national and local planning, with a discussion of sector-specific potentials and limitations. There is separate discussion of planning in reference to the agricultural sector, livestock sector, natural resources sector, industrial sector, economic infrastructure, and social infrastructure. In the context of social infrastructure, sanitation is emphasized as a rather new sector that requires attention in light of a rapidly growing population.

Part IV discusses macro-economic planning in Tanzania, starting from national development policy implementation, its macro-economic policy mechanisms, and its related performance review. The main argument that evolves in this part is that planning in Tanzania is a function, among others, of the country's macro-policies. This part, therefore, sets a context from and in which a planner becomes a facilitator. The focus is on explaining how development planning should reflect the national development policy, the macro-economy, and the budgetary processes. It is of utmost importance that local and sectoral planners are fully aware of the macro-economic context they are operating in.

Finally, Part V explains project planning and management. It deals with bridging between problematic and ideal situations. It presents a number of practical issues encountered in the implementation of development and proposes ways in which a planner can go about them as a facilitator. This part of the Handbook focuses on settlement planning, land use planning, and physical planning. It pays specific attention to different kinds of on-going migration flows, which it is important to be aware of in both urban and rural development planning. It discusses participation in development planning, with an emphasis on the role of the various societal actors in the planning process. It describes various research methodologies for development planners to make use of. As the government emphasizes incorporation of cross-cutting issues in development planning, the examples of gender mainstreaming and HIV/AIDS awareness raising are also discussed. Towards the end, Part V discuss-

es human resources development for local economic development and for specific organizations. It highlights the role of information and communication technologies in development planning. It concludes with a discussion of how to deal with conflicting interests, as it is clear from the above that in all aspects of life every stakeholder has their own interests: thus, for planners to have their plans implemented, they should play an intermediary role. A planner is required to be pro-active in dealing with development.

Editorial Board

Constantine Lifuliro, Innocent Zilihona, Tiberio Mdendemi
Adalbertus Kamanzi, George Kinyashi, and Teun van Dijk

Acknowledgements

The Institute of Rural Development Planning (IRDP) is proud to have its staff revise this Planners' Handbook, which—although focused on Tanzania—is intended to be of use to planners all over the world. It is the result of tremendous efforts by and cooperation among IRDP staff to reflect on each other's articles after scanning through the existing texts in a critical manner and to describe all major aspects of planning for development relevant to the Tanzanian context.

The revised Handbook is the result of the capacity-building programme undertaken through the financial support of the Dutch government via the Nuffic NPT and Niche programmes, which, under the leadership of the Management for Development Foundation (MDF, Ede), were supported by the Institute of Social Studies (ISS, The Hague), the Association of Dutch Municipalities, and Wageningen University.

As an Institute, we appreciate the notable contributions of various staff and representatives of the Planning Commission, Ministry of Finance, PMO-RALG, the Vice President's Office, and the higher education institutions during the various workshops that accompanied the revision of this Handbook.

Specific words of appreciation go to Prof. Dr Bert Helmsing from ISS, who in the final stages coached the Editorial Board through the current literature concerning planning and local economic development. Thanks as well go to Mr. Ruadhan Hayes, from Moussac, France, for his excellent work of checking the language of this Handbook.

And without the continuous and joyful logistical support of Isaya Kapela, who ensured that photocopies were made, workshop rooms were prepared, and coffee, tea, and water were served to sustain the energy of the authors during the various meetings, the Handbook might not have been accomplished in the way that it is. His resilience and perseverance is much appreciated.

Constantine Lifuliro
Rector Institute of Rural Development Planning

List of Abbreviations

AAA	Annual Appropriation Act
AGDP	Agricultural Gross Domestic Product
AGOA	African Growth Opportunities Act
AI	Artificial insemination
AIC	Appreciation-Influence-Control
AIDS	Acquired Immunodeficiency Syndrome
BA	Beneficiary assessment
BDS	Business development services
BGC	Budget Guidelines Committee
BOO	Build, Operate, and Own
BOOT	Build, Own, Operate, and Transfer
BOT	Build, Operate, and Transfer
BoP	Balance of Payments
BRELA	Business Registration and Licensing Agency
BRN	Big Results Now
CACRS	Closed annual confidential report system
CAD	Computer-aided design
CAG	Controller and Auditor General
CBA	Cost–benefit analysis
CBO	Community-based organization
CEDI	Community economic development initiatives
CFS	Consolidated Fund Service
CLASS	Consumer-Led Aspirational Sanitation Services
CLTS	Community-Led Total Sanitation
CMT	Council Management Team
COMESA	Common Market for Eastern and Southern Africa
CRDB	Cooperative and Rural Development Bank
CSC	Council Standing Committee
DART	Dar es Salaam Rapid Transit System
DBMS	Database management systems
DCC	District Consultative Council
DEM	Digital Elevation Model
DHS	Demographic Health Surveys
DROMAS	District Roads Maintenance System
DSS	Decision Support Systems
EAC	East Africa Community
ECF	East Coast Fever
EIA	Environmental impact assessment
ELAW	Environmental Law Alliance Worldwide

EMA	Environmental Management Act
EMIS	Education management information system
EMS	Environmental management system
EPM	Environmental planning and management
EWURA	Energy and Water Regulatory Authority
FCC	Fair Competition Commission
FDI	Foreign direct investment
FMD	Foot and mouth disease
FSP	Farming systems perspective
FSR	Farming system research
FYDP	Five-Year Development Plan
GA	Gender analysis
GAD	Gender and development
GAFM	Gender and forced migration
GDP	Gross Domestic Product
GHG	Greenhouse gases
GIS	Geographical Information System
GPS	Global Positioning System
HIPC	Heavily Indebted Poor Countries
HIV	Human Immunodeficiency Virus
HLG	Higher local government
HRP	Human resource planning
IBM-WASH	Integrated Behavioural Model for Water, Sanitation and Hygiene
ICT	Information and communication technology
IFMS	Integrated Financial Management System
IMF	International Monetary Fund
IMTC	Inter-Ministerial Technical Committee
IRDPA	Institute of Rural Development Planning
ISI	Import substitution industrial
ISS	Institute of Social Studies
IT	Information technology
KCI	Commented for authors to define
KM	Knowledge management
LAAC	Local Authorities Accounts Committee
LED	Local economic development
LFA	Logical framework approach
LGA	Local Government Authorities
LGMD	Local Government Monitoring Database
LLG	Lower local government
LTI	Labour turnover index

M&E	Monitoring and Evaluation
MACMOD	Macro-economic model
MDA	Ministries, departments, and agencies
MDF	Management for Development Foundation
MDG	Millennium Development Goal
MIS	Management information systems
MKUKUTA	National Strategy for Growth and Poverty Reduction
MKUZA	Zanzibar Strategy for Growth and the Reduction of Poverty
MoF	Ministry of Finance
MoFEA	Ministry of Finance and Economic Affairs
MoW	Ministry of Works
MPO	Metropolitan Planning Organization
MTEF	Medium-Term Expenditure Framework
MTUHA	Health Information System
MVIWATA	Network of Farmers' Organizations in Tanzania
MYR	Mid-year review
NAMA	Nationally appropriate mitigation action
NBC	National Bank of Commerce
NBS	National Bureau of Statistics
NEMC	National Environmental Council
NEP	National Environmental Policy
NGDP	National Gross Domestic Product
NGO	Non-governmental organization
NHC	National Housing Corporation
NMC	National Milling Corporation
NOIR	Four data types: nominal, ordinal, interval, and rate
NRI	Natural resource inventory
NTR	Non-tax revenue
O&OD	Opportunities and Obstacles to Development
OC	Other charges
OFR	On-farm research
OOPP	Objectively oriented project planning
OPRAS	Open performance review and appraisal system
PAC	Public Accounts Committee
PBG	Plan and Budget Guidelines
PDM	Product data management
PE	Personal emoluments
PER	Public Expenditure Review
PF	Project Framework
PFI	Private finance initiatives
PHAST	Participatory Hygiene and Sanitation Transformation

PLA	Participatory learning and action
PLF	Progress-linked finance
PM	Project matrix
PMIS	Procurement management information system
PMO-RALG	Prime Minister's Office – Regional Administration and Local Government
PO-PC	President's Office – Planning Commission
PO-PSM	President's Office – Public Service Management
PPM	Project planning matrix
PPP	Public–Private Partnership
PRA	Participatory rural appraisal
PRS	Poverty reduction strategies
PRSP	Poverty-reduction strategy papers
RAS	Regional Administrative Secretary
RCC	Regional Consultative Council
RFB	Road Fund Board
RFTA	Road & Fuel Tolls Act
RS	Regional Secretariat
RVF	Rift Valley Fever
SA	Societal actors
SADC	Southern African Development Community
SAP	Structural Adjustment Programme
SBAS	Strategic Budget Allocation System
SCC	Systematic client consultation
SEA	Strategic environmental assessment
SGR	Strategic Grain Reserve
SIDO	Scale Industries Development Organization
SIDP	Sustainable Industrial Development Policy
SIS	Sectoral Information System
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SME	Small and medium-sized enterprises
SUDECO	Sugar Development Corporation
SUDP	Strategic Urban Development Plan
SUNATRA	Surface and Marine Transport Regulatory Authority
TBA	Tanzania Building Agency
TCCIA	Tanzania Chamber of Commerce, Industry and Agriculture
TCCL	Tanga Cement Company Limited
TCRA	Tanzania Communication Regulatory Authority
TFNC	Tanzania Food and Nutrition Centre
THIS	Tanzania HIV Indicator Survey
THMIS	Tanzania HIV Malaria Indicator Survey

TIB	Tanzania Investment Bank
TIN	Triangulated irregular network
TRA	Tanzania Revenue Authority
TSED	Tanzania Socio-Economic Database
TSZ	Tanzania Shorthorn Zebu
UA	Commented for authors to define
UN	United Nations
UNAIDS	United Nations Programme on HIV/AIDS
UNCHS	United Nations Centre for Human Settlements
UNGASS	United Nations General Assembly Special Sessions
VAT	Value Added Tax
VE	Virtual environments
VEO	Village executive officers
VIP	Ventilated improved pit
VR	Virtual reality
WASH	Water, Sanitation and Hygiene
WDC	Ward committee
WEO	Ward Executive Officer
WHO	World Health Organization
WID	Women in development
WIFM	Women in forced migration
WSIS	World Summit on Information Systems
WWTR	Wastewater treatment and recycling
ZAC	Zanzibar AIDS Commission

List of Contributors

Abiud Kaswamila is a Full Professor at the University of Dodoma in the Department of Geography and Environmental Studies. He holds a PhD in land use planning from Greenwich University, UK. Before joining the University of Dodoma, he taught at the College of African Wildlife Management, Mweka. He has also worked as an agricultural research officer at Mlingano Agricultural Research Institute, Tanga.

Adalbertus Kamanzi holds a PhD in International Development Studies from Radboud University of Nijmegen, The Netherlands. He is Senior Researcher at the Institute of Rural Development Planning, Dodoma, and Visiting Professor at the Virtual University of Uganda, Kampala, Uganda.

Africanus Sarwatt holds a Master of Science Degree in Development Policy from Mzumbe University, Morogoro, Tanzania and he is Lecturer at the Institute of Rural Development Planning, Dodoma, Tanzania.

Agnes Chawene holds a Master of Science Degree in Natural Resources Assessment and Management from the University of Dar es Salaam. She is currently Assistant Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Aisha Mjegere holds a Master's Degree in Revenue Law and Administration from the Institute of Tax Administration Dar es Salaam in collaboration with the University of Dar es Salaam. She is Assistant Lecturer and Legal Officer at the Institute of Rural Development Planning, Dodoma, Tanzania.

Allan Mfuru holds a Master of Science Degree in Agricultural Economics from WYE College, England. He is currently Senior Lecturer in the Department of Rural Development and Regional Planning (where he has also been head) at the Institute of Rural Development Planning, Dodoma, Tanzania.

Andrew Komba holds a PhD in Spatial Planning from Sokoine University of Agriculture. He is currently Director of Sector Coordination in the President's Office, Regional Administration and Local Governments.

Bartazar Namwata holds a PhD in Urban Agriculture and Urban Planning from the University of Dodoma. He is Associate Professor and Coordinator of Consultancy at the Institute of Rural Development Planning, Dodoma.

Batimo Sebyiga holds a PhD in Economics from the Open University of Tanzania in collaboration with KwaZulu Natal, South Africa. He has been Senior Lecturer in the Department of Rural Development and Regional Planning and also Deputy Rector in charge of Academics, Research, and Consultancy at the Institute of Rural Development Planning, Dodoma, Tanzania. He is currently Professor at Saint John's University of Tanzania, working as Dean of the Faculty of Commerce and Business Studies.

Benedict Kilobe holds a PhD from Sokoine University of Agriculture, Morogoro, Tanzania. He is Senior Lecturer and serves as Director of the Lake Zone Center of the Institute of Rural Development Planning, Mwanza, Tanzania.

Benjamin Mwalugeni holds a Master of Science Degree in Urban and Regional Development Planning and Management from Dortmund University, Germany and Ardhi University, Tanzania. He is Lecturer and Head of the Information and Communication Technology Unit at the Institute of Rural Development Planning, Dodoma, Tanzania.

Boniface Kauki holds a Master of Science Degree in Climate Change and Sustainable Development from the University of Dar es Salaam. He is currently working as Research Fellow in the Department of Research and Consultancy at the Institute of Rural Development Planning, Dodoma, Tanzania.

Canute Hyandye holds a Master of Engineering in Environmental Science Degree from the China University of Geoscience, Wuhan, China. He is finalizing his PhD in Environmental Science and Engineering at Nelson Mandela African Institution of Science and Technology, Arusha, Tanzania. He is currently Senior Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Christina Geoffrey Mandara holds a PhD from Wageningen University, The Netherlands. She is a Lecturer in the Department of Population Studies at the Institute of Rural Development Planning, Dodoma, Tanzania. Her research interest and publications focus on sociology, planning, and development in areas such as rural water services, gender studies, policy analysis, community development, environmental and natural resources management, participatory GIS, sanitation, and climate change.

Constantine Lifuliro holds a Master's Degree in Population Studies from Legon University, Ghana. He retired as Senior Lecturer and Rector at the Insti-

tute of Rural Development Planning, Tanzania. He is still involved in education as Director of an English-medium Primary School in Dodoma/

Danford Chisomi has been Assistant Lecturer in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania. He is now a politician and Counselor in one of the wards of Dodoma Region.

Daniel Mpeta holds a PhD in Economics from Mzumbe, Tanzania. He is currently Senior Lecturer and Deputy Registrar at the Institute of Rural Development Planning, Dodoma.

Deodatus Buberwa holds a PhD in Gender and Migration from the University of Dodoma. He is currently Lecturer in Sociology in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Domitilla Bashemera holds a PhD in Demography from the University of Dar es Salaam. She is Senior Lecturer in the Department of Population Studies at the Institute of Rural Development Planning, Dodoma.

Emmanuel Hauli holds a Master's Degree in Linguistics from the University of Dar es Salaam. He is a Lecturer in Communication Skills at the Institute of Rural Development Planning, Dodoma, Tanzania.

Emmanuel Nyankweli holds a PhD in International Development Studies from Amsterdam University, Amsterdam, The Netherlands. He is currently Deputy Director Higher Education in the Ministry of Education, Science and Technology, Tanzania.

Ezekiel Kanire holds a Master's in Business Administration and a Degree in Marketing from the University of Sunderland, UK. He is Assistant Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Francis Njau holds a PhD in Animal Science from Sokoine University of Agriculture, Morogoro, Tanzania. He is Senior Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Frank Hawassi holds a PhD in Agricultural Economics from Sokoine University of Agriculture in Tanzania. He is Senior Lecturer and Rector of the Institute of Rural Development Planning, Dodoma, Tanzania. He is also currently working as Secretary of Finance and Economic Affairs of the ruling party (CCM) in Tanzania.

Galinoma Lubawa holds a Master's in Business Administration, majoring in Accounting and Finance from St Augustine University, Tanzania. He is Assistant Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma.

George Kinyashi holds a PhD from Dortmund University, Germany. He is Senior Lecturer at the Institute of Rural Development Planning, Dodoma, where he holds the position of Head of Department of Rural Development and Regional Planning.

Gerard Temu holds a Master of Science Degree in Regional Development Planning and Management from the Technical University of Dortmund, Germany and Universidad Austral de Chile, Chile. He is Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Godrich Mnyone holds a PhD in Housing from Ardhi University, Dar es Salaam, Tanzania. He is Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Gulliver Walter Simime holds a Master of Laws Degree (LLM in Commercial Law) from Mzumbe University. He is Assistant Lecturer and Legal Officer at the Institute of Rural Development Planning, Dodoma, Tanzania. He is also Advocate of the High Court of Tanzania and its subordinate Courts, save for Primary Courts.

Hellen Stephen holds a Master of Science Degree in Urban Planning and Management. She is currently pursuing her PhD and serves as Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Hija Mwatawala holds a PhD in Animal Science, Breeding and Genetics from Sokoine University of Agriculture, Morogoro, Tanzania. He is Associate Professor in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Hozen Mayaya holds a PhD in Environmental Planning from Eldoret University, Kenya. He is Associate Professor and the Deputy Rector Academics, Research and Consultancy at the Institute of Rural Development Planning, Dodoma, Tanzania.

Idd Masumbuko holds a Master of Science Degree in Environmental Planning and Management from Moi University, Eldoret, Kenya. He is Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania. He is currently doing his PhD in Urban Governance and Development at the Institute of Housing and Urban Development Studies, Rotterdam, The Netherlands.

Innocent Zilihona holds a PhD in Environmental Studies from Helsinki University, Finland. He is Professor at the Institute of Rural Development Planning, Dodoma, where he has held the position of Deputy Rector in charge of Academics, Research and Consultancy.

Irene Reginald holds a PhD in Development Studies from the University of Dodoma. She is Senior Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Israel B. Katega holds a PhD in Urban Development Planning from the University of Dar es Salaam, Tanzania. He is Professor and Head of the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

James Lwelamira holds a PhD in Animal Science (Breeding and Genetics) from Sokoine University of Agriculture, Morogoro, Tanzania. He is Professor, heading the Department of Research and Consultancy at the Institute of Rural Development Planning, Dodoma, Tanzania.

Jane Mbilinyi holds a Master's Degree in Development Planning and Management from Dortmund Technical University, Germany in collaboration with Kwame Nkrumah University, Ghana. She is Lecturer in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

John Safari holds a PhD in Animal Science, Nutrition and Ecology from Norwegian University of Life Sciences. He is Associate Professor, heading the Department of Population Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Joseph Haule holds a Post-Graduate Diploma in Development Planning Technology from the International Institute of Social Studies, The Hague, The Netherlands and he is Lecturer in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Judith Namabira holds a Master's in Business Administration from the University of Dodoma and a Post-Graduate Diploma in Management from the Uganda Management Institute of Kampala, Uganda. She is currently pursuing her PhD in Human Resources Management at Texila American University. She is Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Juma Kidunda holds a Master of Science Degree in Agricultural Economics from London. He has worked as Lecturer at the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma. He is now retired.

Kenneth M. K. Bengesi holds a PhD in Strategic Entrepreneurship from the University of Pretoria, South Africa. He is currently Deputy Principal College of Social Sciences and Humanities, Sokoine University of Agriculture, Morogoro, Tanzania.

Mafuru Solomi holds a Master of Science Degree in Integrated Sanitation Management from the University of Dar es Salaam. He is currently Assistant Lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Mark Msaki holds a PhD in Food Security from the University of KwaZulu Natal, PMB, South Africa. He is currently Senior Lecturer in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Martha Jackson Nhembo holds a PhD in Rural Development from Sokoine University of Agriculture, Morogoro, Tanzania. She is retired Associate Professor in the Department of Population Studies at the Institute of Rural Development Planning, Dodoma, Tanzania, where she has also served as Coordinator of Post-Graduate Studies.

Mwabless Malila holds a PhD in Rural Development from Sokoine University of Agriculture, Morogoro, Tanzania. He is Associate Professor in the Department of Population Studies at the Institute of Rural Development Planning, Dodoma, Tanzania. He also serves as Head of the Quality Assurance and Control Unit.

Omari Mzirai holds a PhD in Agricultural Engineering from Sokoine University of Agriculture in Tanzania. He is Associate Professor in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Provident Dimoso holds a Master of Science Degree in Development Policy from Mzumbe University and a Post-Graduate Diploma in Poverty Analysis from the International Institute of Social Studies (ISS), The Hague. He is finalizing his PhD in Development Studies at the University of Dar es Salaam. He is Senior Lecturer in the Department of Rural Development and Regional Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Revocatus Nyefwe holds a Master's in Business Administration in Banking and Finance from the University of Wales, Bangor. He is Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Rofina Mrosso holds a Master of Science Degree in Human Resources Management from Mzumbe University, Morogoro, Tanzania. She is Assistant Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Stanlaus Msuya holds a Professional Master's in Geoinformation Systems Rural Application from ITC Enschede (currently known as the Earth Science Faculty at Twente University), The Netherlands. He is finalizing his PhD in Sanitation Management at the Virtual University of Uganda, Kampala, Uganda. He is lecturer in the Department of Environmental Planning at the Institute of Rural Development Planning, Dodoma, Tanzania.

Stephen James holds a Master of Science Degree in Human Resources Management from Mzumbe University, Morogoro, Tanzania. He is Assistant Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Tafuteni Chusi holds a Master's Degree in Economics from Osmania University in India. She is a Lecturer in the Department of Development Finance and Management Studies at the Institute of Rural Development Planning, Dodoma, Tanzania.

Teun Van Dijk is finalizing his PhD in Development Studies at the International Institute of Social Studies, The Hague. He has retired after having done development and consultancy work in Africa since 1978. He is currently Director of the Teun van Dijk Advisory Services in The Netherlands.

Tiberio Mdendemi holds a PhD in Development Studies from the University of Dodoma. He is Senior Lecturer in the Department of Population Studies at the Institute of Rural Development Planning, Dodoma, where he has held the position of Deputy Rector in charge of Planning, Finance and Administration.

Titus Mwageni holds a Master of Science Degree in Urban Planning and Management from Ardhi University, Dar Es Salaam, Tanzania and a Post-Graduate Diploma in Regional Planning from the Institute of Rural Development Planning, Dodoma, Tanzania. He is finalizing his PhD at Mzumbe University, Morogoro, Tanzania. He is Lecturer in the Department of Rural Development and Regional Planning.

Upendo Mmari holds a Master of Arts Degree in Public Administration from the University of Dodoma. She is Lecturer at the Institute of Rural Development Planning, Dodoma, Tanzania.

Vedastus Timothy holds a PhD from Liaoning, China. He is Senior Lecturer in the Department of Development Finance and Management Studies and also serves as Deputy Rector in charge of Finance and Administration at the Institute of Rural Development Planning, Dodoma, Tanzania.

Youze O. Mnguu holds a PhD from the University of Los Baños / IRRI, the Philippines. He is Associate Professor in the Department of Environmental Planning and also serves as Registrar at the Institute of Rural Development Planning, Dodoma, Tanzania.

Zacharia Samwel Masanyiwa holds a PhD in Sociology and Governance from Wageningen University, the Netherlands. He is Associate Professor in Development Studies at the Institute of Rural Development Planning, Tanza-

nia where he currently heads the Department of Development Finance and Management Studies.

PART I

The Context: Planning, Planners and the Planning System

The Context: Planning, Planners and the Planning System

Planning has shifted significantly from a government perspective to a governance perspective. While from the government perspective, planning was premised on the fostering of economic and social innovation centred on the developmental state, the governance perspective is premised on the need for collaboration and complementation of roles among organizations and individuals of different types in a more globalizing world. The assumption and practicality behind this shift in perspective is that there is no single solution to attaining development objectives. Hence, much as the planning in Tanzania remains in the hands of the state, the participation in development variables is still a challenge that calls for more integration of private actors in planning processes. Quite a number of these actors are not only local and national, but also global. They represent not only local and national interests, but also external interests. Such dynamics of variability among actors in planning processes and the different levels of interests behind planning must be taken into consideration by any planner in Tanzania.

This first part of the Handbook sets the context for planning in Tanzania. Not only is an understanding of the theoretical underpinnings of planning in terms of its conceptualization and theorization important, but also planning's historical contextualization is crucial. The context in terms of the population for and with whom to plan, together with the actors involved in planning, is a key issue to understand if one wishes to undertake proper planning in Tanzania. Planning is geared not only towards economic planning (i.e. planning economic activities which are carried out in different ways by different stakeholders) but also towards a more inclusive objective (i.e. planning for the well-being of the population as a whole). Changing population dynamics, therefore, call for different services that need to be planned for. These changing population dynamics call for a different approach and for the population to actively participate in planning processes. Moreover, population concerns are among the most complex and controversial issues encountered by planners. The issues are complex because, in a broad sense, population concerns relate to all other development efforts undertaken by a society; and from a public service point of view, capacity needs to be built up to ensure that adequate services are provided at the right time. What is required to build such capacity? Who are the planners in public and private service, and what planning system is required to ensure that the current and future demands

or needs of the population are catered for? Since government, non-government, civil society, and private sector stakeholders are nowadays all involved in planning, the role of the planner is increasingly growing as a facilitator of democratization processes. A planner needs to elaborate and work out, for example, what the economic consequences are for particular social or political choices; planners need to elaborate on alternative scenarios. And last but not least, a planner in Tanzania cannot do without understanding the prevailing planning systems in the country.

This part of the Handbook has six chapters. Chapter 1 describes the concepts and various theories and models of planning. The second chapter describes the historical perspectives of development planning in Tanzania. The third chapter discusses the current planning system in Tanzania. The fourth chapter deals with the roles, tasks, competencies, and ethics of planners. Chapter 5 presents issues related to the different actors who are involved in development planning. This Part I ends with the demographic dynamics for development planning.

1

Planning: Concept, Theories and Models

Andrew Komba, Kenneth M. K. Bengesi, Titus Mwageni

1.1 Introduction

This chapter aims at acquainting the planner with the concept of planning, together with the theories and models related to it. The clarification of this concept is important for understanding the state of and for implementing planning in Tanzania. The first section of this chapter is concerned with the meaning of planning, with various definitions and conceptualizations underscored. The second section traces the evolution of planning starting from around the period before World War II to date. The third section of the chapter focuses on planning theories drawn from various contributors. The last section summarizes a number of planning models commonly used in development planning.

1.2 The concept of planning

All development planners face practical questions of what planning means. Planning has been defined in many ways. The most comprehensive definition is that planning is the process of strategic determination of measurable goals and actions that a person, organization, or community would like to meet within a certain given period of time; it involves the formulation of policies, programmes, projects, and actions for achieving development objectives. The essence of planning, therefore, is to consider an organized, conscious, and continuous attempt to select the best available alternatives to achieve specific goals (Waterson 1971, as discussed in Shakya 2007).

Faludi (1983) characterized planning as the distinct perspective(s) from which problems and solutions are defined, with three clearly distinct theo-

retical standpoints: 'object-centred', 'control-centred', and 'decision-centred'. From this perspective, planning contains clear objectives for change that needs to be controlled and managed, and it entails critical decision making after detailed analysis of the situation.

Shakya (2007) categorizes development planning into central and indicative planning. While central planning is practised where the role of the state is dominant in development planning for the population, indicative planning is practised in market-based economies where the role of the state is to facilitate processes of development planning rather than planning.

Apart from the above definitions of planning, planners need to be reminded of some old but still useful aspects of planning. These include spatial levels of planning, operational fields of planning, and time horizons of planning. Spatial levels of planning refer to the fact that planning is undertaken at different spatial levels: in most cases it occurs at the macro (national) level, at meso (regional) level, and at the micro (local) level. In this case, when planning, planners should take on board all conditions related to the spatial level they are planning for.

The aspect of operational field of planning points to the fact that planning is not a one-man show. This is because development is a result of decisions by many stakeholders, ranging from individuals to the state and societal actors. As a consequence, planning was traditionally conceptualized into four operational fields: project planning, sectoral planning, macro-economic planning, and integrated development planning. Currently, however, there is a move away from sectors to integral thematic approaches. For example, current planning tends to look at chains where numerous sectors are active. Chains look at how end-products are developed from their conception to their recycling. In more detail, they look at actors who are suppliers of raw materials, inputs, and capital goods; actors who transform these into products; actors who undertake logistics; actors who commercialize and sell the product to final users; and actors who engage in recycling. It is important to note that there can be supporting actors who are providers of services to the chain actors, and chain promoters who are organizations promoting particular actors and/or processes in the chain. Details on how these fields of planning are operationalized are given in later chapters. At this point, it is enough to note that these fields are related and that at a certain point they all have projects and require coordination to achieve a better result.

The time horizon aspect of planning addresses the length of time over which the development plan is undertaken. In many cases, there are short-term plans of one year, medium-term plans of up to five years, and long-term or perspective plans of up to more than 20 years. Time horizon is an important concept in planning because it gives the plan its value. Short-term plans of one year are good because they are easy to associate with a budget. But having short-term plans that do not emanate from medium or long-term plans denies a planning area (be it a nation or a region) the opportunity to think of the distant future. Such a denial is not beneficial for the development of a planning area; in this regard, planners should be careful with their decisions on the time horizon of a plan.

1.3 The evolution of planning

Conceptualizing and theorizing about planning go back to the first days of the profession. These early days of the profession are traced to around the period before and after World War II (1939–1945) (Hackett 2013).

With the exception of Russia, there were no serious attempts to develop a planning doctrine until the period soon before World War II. At that time, the New Deal—a practical example of national planning—was launched in the USA in 1933. In the New Deal, the USA government engaged directly in planning and managing development projects to enhance production and address unemployment. Franklin D. Roosevelt (the then president of the USA) and Rexford Tugwell (a former governor of Puerto Rico) championed planning as the ‘Fourth Power’ of the government, the other three powers being the judiciary, executive, and legislature (Friedman 2011). Mannheim (1940) noted that planning was inevitable due to technology and population growth taking shape in all economies (Stiftel 2000). Mannheim’s idea triggered both scholarly and political debates. On the one hand, there were planners who favoured increased levels of government influence in the economy; on the other hand, there were *laissez-faire* or market-based advocates who saw government involvement in planning as clumsy and inefficient. These advocates feared the power of government to reduce the freedom of people to acquire individual prosperity (Hayek 1944). According to Jhingan (2011), planning under a market-driven economy has to be symptomatic, co-ordinative, and authoritarian. With this view of planning, the industrially developed countries saw the role of planning as limited, and it is for this reason that they held to indicative planning.

The issue is not whether planning is needed, however; it certainly is. The question is whether the most effective place to do the planning is in a government centralized bureau or at the local level. Even at the local level, the relevant question to ask is this: Who should plan? Should it be the forces of authoritative or democratic participatory institutions? This question has resulted in a re-thinking of planning conceptualization and practices. This became necessary because government is left with no option but to place less effort on direct intervention and more on the creation of an enabling environment to enhance area services to be delivered by individual households, community-based organizations (CBOs), non-governmental organizations (NGOs), and the private sector. Having said that, planning practice should focus on involving households, CBOs, NGOs, and the private sector in public–community planning processes and should incorporate the outcomes of such efforts in local government’s development planning. Only then can we talk of the evolution of another form of planning: the enabling planning practice (Helmsing 2000).

Crucial for promotion by government are enabling policies, which in principle should help to ensure there is more attention given to better regulation. In order to achieve a smooth functioning of the market, where all actors or stakeholders can become optimally productive, regulation and inclusion-oriented stimulating policies are necessary. Enabling policies are aimed at the enablement of communities and markets, with the important assumption that the economy and society will flourish better when the positions of all stakeholders, including the poor, are strengthened, both vis-à-vis the state and in relation to other parties in the market place.

1.4 Planning theories

Faludi (1983) and Sager (2001) placed planning theories into three groups: (a) definitional; (b) procedural; and (c) subjective. The definitional theory describes what planning actually is and how it fits into the social context. It examines the role of planning within the systems of which it is a part, and it includes political and social theories. Procedural theories, on the other hand, deal with the processes of planning, the issues related to determining the best approaches for transferring knowledge into action. These theories include the types of processes applied, how decisions are made, how values are included, who is incorporated in the processes, and other procedural issues. Subjective-oriented theories provide the knowledge base to inform the planning processes. This covers theories related to subjects that are of concern

in any particular planning situation; they often refer to theories from other disciplines deemed relevant to the circumstances. Apart from such grouping of theories, other planning theories and their descriptions are summarized in Table 1.1.

Table 1.1
Planning theories and their description

Planning Theory	Description
Thorstein Veblen's (1930s) technocratic planning theory (Stabile 1986)	Technocracy is a theory of rule by technical experts. The technocracy planning theory advocates for expertise supremacy in the planning process
Hudson's SITAR planning theory (1979)	SITAR theory classifies planning approaches into five types: Synoptic, Incremental, Trans-active, Advocacy, and Radical (SITAR)
Friedman's (1987) four traditions of planning	The core-periphery 4-stage model of regional development contends that where economic growth is sustained over long time periods, its incidence works towards a progressive integration of the space economy. The stages are as follows: pre-industrial, transitional, industrial, post-industrial
Fainstein's (2000) collaborative planning theory	Collaborative planning theory takes a democratic approach, focusing on discursive concepts and approaches to planning. Communication, interaction, and relationship building among government, interest groups, and other major sectors are at the heart of collaborative planning. These factors are viewed as the means for improving policy development and implementation through social learning and consensus building
Jurgen Habermas's (1984) communicative rationality planning theory	Habermas believed old planning methods may be dead, but pure market relations do not seem to be the only answer for social betterment. With his communicative rationality planning theory, it is believed that rationality in planning is achieved through communicative action

Charles Lindblom's instrumentalism planning theory (2001)

Instrumentalism planning involves a theory of partisan mutual adjustment and insists that planning should be an incremental process. Planning builds on existing plans, adding only small increments and by making small changes at the margin

Table 1.1 shows a number of theories which at a certain point guide planners in carrying out the planning process. The selection of which theory a planner is to base his/her plan on is a critical issue and depends on what the planner aims to achieve. Planners aiming at dictating the output of the process are likely to adopt the first three theories. This is because these theories seem to be non-participatory in nature. But those aiming at inclusion of a wide range of stakeholders tend to adopt the last three theories.

In considering that the planning context has to do with enabling planning practice, as mentioned above, planners are advised to choose relevant theories to guide their planning process. In this case, the last three are likely to promote an environment which will facilitate a dialogue among various development stakeholders to discuss issues relevant to the development of their area.

1.5 Planning models

Different countries use different planning models, depending upon the nature of their economy. Some of the traditional models common in both developed and developing economies are shown in Table 1.2.

Table 1.2
Planning models and their descriptions

Model	Description
Harrod Domar (H-D) growth model (1939)	The H-D model is the simple analysis of capital accumulation in the absence of technological progress. The simple version of H-D model is formulated in the following equation: $Y = K/\alpha$, where Y is the rate of growth, K is the savings (investment) rate, and α is the capital-output ratio. The equation simply states that the rate of economic growth is determined, given the technology, by the rate of investment
The neoclassical growth model	In the H-D growth model, there is no place for technological changes, but neoclassical economists believe that growth is also the function of technological changes. Hence, the neoclassical growth model is given by the production function: $Y = A K^\alpha L^\beta$ where Y is the rate of economic growth, K is the capital, and L the labour. A represents the technological progress, and α and β represent the share of capital and labour in the production process. This is usually referred to as the Cobb-Douglas production function, which simply states that the measure of technological progress is important in the determination of aggregate growth rate
The Leontief (1951) input-output model	The input-output model (I/O) provides a microscopic view of the national economy. It is a statement of the output of goods and services produced by a sector and the volume of goods and services which are consumed to produce a given unit of production in that sector. Since different sectors of the economy are interrelated, each sector has to depend on other sectors for input and to sell output. In other words, the output of one sector is used as input in other sectors. The I/O is an instrument which recognizes the interdependent nature of the economy. For instance, the agriculture sector output depends on the production of the fertilizer industry; and so on

The Feldman model (1928)	Feldman presents his model on a theoretical basis which is concerned with long-term planning. The model was built on various assumptions, including assumptions that there is no government expenditure except on consumption and investment; production is independent of consumption; there are no lags in the growth process; and capital is the only limiting factor. Given these assumptions, Feldman followed the Marxist division of the total output of an economy (W) into category 1 and category 2. The former relates to capital goods that are meant for both producer goods and consumer goods, while the latter category relates to all consumer goods, including raw materials for them. The production of each category is expressed as the sum of constant capital (C), variable capital (wages) V , and surplus value S
The Mahalanobis model (1953)	Mahalanobis developed a single-sector, two-sector, and four-sector model that fit into the development planning of the Indian economy. Initially, he made national income and investment the variables in his single model; later, he developed a two-sector model where the entire net output of the economy was to be produced in the investment goods sector and the consumer goods sector. The model assumes an economy that is related to a closed economy: non-shiftable capital equipment once installed in any of the sectors; a full capacity production in both the consumer and capital goods sectors; determination of investment by the supply of capital goods; and no changes in prices
The linear programming (optimizing) model	The linear programming model can provide a simultaneous solution for the three basic purposes of development planning: (a) the optimum allocation of resources; (b) efficiency in the use of resources through the proper valuation of the resources and the avoidance of social waste; and (c) the balance between different branches of the national economy. Linear programming can be considered as providing an operational method for dealing with economic relationships, which involve discontinuities
Macro econometric models	A number of macro econometric models have been developed by different planners. The demonstration of such models takes the form of a simple Keynesian framework of analysis

As noted, these are traditional models. With econometric modelling, current models have become increasingly sophisticated—for example, GCE modelling and agent modelling.

1.6 General remarks

There are numerous definitions, theories, and models of planning. This makes planning complex but real, because each of these definitions or theories or models is different from the others on account of its need for contextualization. The debates over planning, therefore, do not generally lead to questioning whether planning as such is required or not. Rather, discussions focus, on the one hand, on defining the most effective place in which to undertake the planning, be it at central, meso, or local level—and, on the other hand, on who should undertake the planning, be they the forces of authoritative or democratic participatory institutions.

With the development of techniques and technologies, the task of planning has become more challenging due to the easy predictability of circumstances that will have significant impacts. For example, with computer modelling and simulations, it is possible to see what is coming in the near or distant future with considerable precision. This information, however, is available not only to the planners, but to other development actors who may have different interests in the development processes. While this situation places the whole planning profession in the advantageous position of foreseeing issues, it poses two large challenges. The first challenge is that the professional planner is now bombarded with large quantities of information, the processing of which can be a problem. The second challenge is that when the professional planner is planning, other development actors are also planning and implementing. As a consequence, development planning becomes a more complex process: different social actors propose their own scenarios, public planners must test these and work out the consequences, and then the political process must negotiate the making of certain choices.

Planning is necessary. It can be considered a necessary evil, because some people may be taken in a direction they do not wish to go. However, what requires attention in planning processes is that not only are all the different development actors involved in the processes of planning, but they are also left to creatively plan within the larger frames that the people themselves—directly or indirectly through their representatives at different levels (from local to national)—deem fit.

References

- Fainstein, S. (2000). 'New directions in planning theory', *Urban Affairs Review* 34(4): 451–476 .
- Faludi, A. (1983). *Planning Theory*. Oxford: Pergamon Press, International Library of Science and Technology, Engineering and Social Studies.
- Feldman, G.A. (1964) [1928]. 'On the theory of growth rates of national income', in: N. Spulber, *Foundations of Soviet Strategy for Economic Growth*. Bloomington: Indiana University Press. (translated version).
- Friedman, J. (1987). *Planning in the Public Domain. From Knowledge to Action*. Princeton: Princeton University Press.
- Friedman, J. (2011). *Insurgencies. Essays in Planning in Planning Theory*. New York: Anchor.
- Habermas, J. (1984). *The Theory of Communicative Action (Volume 1): Reason and the Rationalisation of Society*. Cambridge: Polity Press.
- Hackett, J. (2013). Economic planning. <https://www.britannica.com/topic/economic-planning> Encyclopædia Britannica.
- Harrod, R.F. (1939). 'An essay in dynamic theory', *Economic Journal* 49: 14–33.
- Hayek, F.A. (1944). *The Road to Serfdom*. London: Routledge.
- Helmsing, A. (2000). Decentralisation, enablement and local governance in low income countries. A paper presented on an inaugural address for professorship of local and regional planning at the Faculty of Geographical Sciences, University of Utrecht, The Netherlands
- Hudson, B.M. (1979). 'Comparison of current planning theories: Counterparts and contradictions', *Journal of the American Planning Association* 45(4): 387–398.
- Jhingan, M.L. (2011). *The Economics of Development and Planning*. Delhi: Vrinda Publications.
- Leontief, W. (1951). *The Structure of American Economy 1919–1939*. New York: IASP.
- Lindblom, C.E. (2001). *The Market System*. Yale: Yale University Press.
- Mahalanobis, P.C. (1953). 'Some observations on the process of growth of national income', *Sankhya: The Indian Journal of Statistics* 14: 307–12.
- Mannheim, K. (1940). *Man and Society in an Age of Reconstruction*. London: Routledge & Kegan Paul.
- Sager, T. (2001). 'Positive theory of planning: The social choice approach', *Environment and Planning* 33(4): 629–647.
- Shakya, R.K. (2007). 'Formulation of development plans—Planning techniques', *Administration and Management Review* 19(2): 8–17. www.nepjol.info/index.php/AMR/article/download/894/964
- Stabile, D.R. (1986). 'Veblen and the political economy of the engineer: The radical thinker and engineering leaders came to technocratic ideas at the same time', *American Journal of Economics and Sociology* 45(1): 41–52.

Stiftel, B. (2000). *Planning Theory*. Washington, DC: American Institute of Certified Planners.

2

Historical Perspectives on Development Planning in Tanzania

Adalbertus Kamanzi, Daniel Mpeta

2.1 Introduction

The inclusion of the history of development planning in this Handbook became imperative not only to provide planners with insight on what has happened in the past, but also to enable them to draw lessons from others' experiences to improve their present and future planning practices. This chapter presents the historical perspective of development planning in Tanzania, stretching from the pre-colonial era to date. The chapter begins with a section on planning in the pre-colonial societies. In the second section, planning during the colonial era is presented. The third section presents planning after independence. The fourth section presents planning in the period characterized by the Arusha Declaration of 1967. The chapter ends with the history of planning within the post-liberalization era.

2.2 Planning in pre-colonial societies

Most pre-colonial societies were comprised of various ethnic groups and fragmented chiefdoms or kingdoms which were spread all over the wide area of present-day Tanzania. Since many of these societies were characterized by regional and continental migrations and the establishment of a wide range of small and large settlements, most people were occupied with two basic livelihood activities: pastoralism and crop farming. Some societies, however—particularly those along the coast—in addition to fishing were engaged in trade activities both at a local level and over long distances with hinterland communities. Thus, rather than talking about development planning as such,

in regard to pre-colonial societies it would be better to talk of spontaneous or intuitive livelihood arrangements.

With pastoralism and crop farming, land was central; with fishing, water bodies were key. Whether land or water bodies, these were vested within traditional leaders, families, and communities, and they were controlled and managed through customary practices, which were overseen by kings, chiefs, and other traditional leaders. Access to land was linked to usage and centred on agrarian practices and expansive settlements, informed by the location of natural resources, land for grazing, farming practices, water courses, and religious practices. Whereas one can speak about development planning when we begin to refer to modern development—a concept that we can apply beginning with the colonial period—it is more a case in pre-colonial communities of undocumented livelihood arrangements than of planning.

2.3 Colonial development planning

The economic and socio-political motivations of the policies under colonial rule were founded on the desire by colonial powers to ensure both a steady flow of raw materials and primary products for exports and sustainable markets for industrial products imported from home countries. And, therefore, regulatory colonial development planning was applied to achieve the desired goals of the colonialists.

The colonial economy was dominated by agriculture and trade. There was no desire to develop a comprehensive planning that would take into consideration not only the colonial economic needs, but also the economic and basic social needs of indigenous people, needs such as literacy and education, health care and basic material wealth. The colonial economic policies, for example, discouraged indigenous industrialization but promoted export crops and mineral production to supply British factories. Colonialists introduced cash crops (e.g. sisal, coffee, cotton) which were meant for export only and not for local consumption. The colonial territory served as a ready source of cheap raw materials to feed metropolitan industries in European states, and at the same time it supported the importation of end-products because colonialists wanted outlets for their own manufactured products—in order to overcome the critical domestic problems of declining consumption and falling profit rates in Europe. Thus, indigenous people were made to produce commodities they did not consume and to consume commodities they did not produce, and this initiated and perpetuated a dependence of colonies on advanced economies. The colonial economy was planned to ensure that it

helped advance the economies of colonizing powers, while in reality the colonies continued getting poor.

In settler colonies, however, there was often a strong spatial element. In most towns and cities in Tanzania, for example, there are spaces that are termed *uzunguni* (lit. 'where white people live'). These are areas in which colonials and officers during the colonial period lived. These are rather spatially planned areas.

2.4 Planning in the post-independence period (1961–1980)

Upon attaining political independence, Tanzania, like most other independent African countries, pursued the 'independence development vision' (UNECA 2011). Tanzania, by then Tanganyika, set out to plan its future. It formulated the first national development plan, a Three-Year Development Plan that covered the planning period between 1961 and 1964. The primary objective of the plan was to fight against illiteracy, poverty, and poor health care services.

In 1964, based on the experience of the 3-year plan and aiming to entrench people-centred development on a wider and longer-term basis, a Long-Term Perspective Plan was adopted (for the period 1964–1980). This plan was to be executed through three consecutive Five-Year Development Plans in order to ensure continuity and coherence, the first one being the first Five-Year Plan (1964–1969).

One of the focuses of this plan was rural development, for the obvious reason that the country is predominantly rural. During this period, the plan promoted an improvement and transformation approach to rural development, both of which approaches were conceived by the World Bank. The improvement approach focused on promoting progressive farmers to increase their agricultural production in the hope that farmers around them would adopt the farming practices demonstrated by these progressive farmers. The transformation approach was concerned with improving agricultural production by relocating rural peoples from less to more fertile areas. This resulted in the establishment of village settlement schemes, which were considered an easy way for the government to introduce innovations among farmers.

It is unfortunate that these approaches were not successful. The progressive farmers approach ended up creating an income gap and social division between progressive farmers and other farmers. It was difficult for these other

farmers to adopt the demonstrated farming practices because they needed to have access to funds to buy farm implements, funds which they did not receive. The transformation approach failed for several reasons, among them over-ambitiousness, ignorance of the experimentation and incrementalism approach, requirements for huge amounts of money for such a poor country, and dependence on foreign sources.

Due to its failure, the village schemes of the transformation approach were replaced by ujamaa villages, under the Arusha Declaration of 1967 (discussed below). Ujamaa villages as a new approach to rural development were introduced with the aims of promoting development based on collectivization of rural agriculture, of making it easy to provide social services, and of abolishing rural capitalism. Initially, joining an ujamaa village was voluntary, although leaders were required to persuade people to join; however, by 1974 joining the villages was made a formal requirement.

Planning in the post-independence period was basically comprehensive, covering the whole economy and not just a set of projects in the public sector. This kind of planning was based on the argument that development is not a repetition of the past but brings important changes in the structure of production, and these changes to a large extent depend on each other. It was therefore necessary to attempt to plan jointly (Svendsen 1969).

Given limited and scarce resources, both in terms of manpower and capital, national planning in the post-independence period was meant to positively influence expenditure of the available meagre and limited resources to ensure maximum benefits to the poor and scattered people of Tanzania.

2.5 Arusha Declaration period (up to 1992)

The policy content in the post-independence period was largely informed by the observation that the majority of people were living in a pervasive state of poverty. Thus, to entrench people-centred development on a wider and longer-term basis, the Arusha Declaration was adopted. This declaration coherently articulated the ideological and developmental vision for the country and informed the subsequent development plans. Ujamaa na kujitegemea (socialism and self-reliance) became a guiding development philosophy, focused on elimination of poverty, ignorance, and disease through collective efforts in communal agriculture and self-reliance.

The Arusha Declaration brought to an end the ambiguity about the direction of the country's development which faced the independence leadership. It became a context and framework within which all dialogue and conceptions about socio-economic and political development were to be made. It provided a framework for the actions of both the government and the people in the country. Development of a country was to be driven by people themselves through popular participation, whereby masses of people would be mobilized for tasks which would lead to the elimination of poverty, disease, and ignorance. In an effort to effect self-reliance and people-centred development, decentralization was adopted in 1972 (Nyerere 1972) in order to give the grassroots levels (villages and local governments) power and opportunities to participate in planning and implementing decisions made by themselves.

2.6 Planning in the post-liberalization period (1992 to date)

Following the economic crisis of unprecedented depth and intensity experienced during the mid-1970s and early 1980s, Tanzania abandoned the context and framework contained in the Arusha Declaration, which had hitherto guided development planning in the country. The policy of socialism was abandoned. Policy statements and strategies ceased to reflect socialist ideology; instead, markets, prices, and incentives became the central concerns in policy making. The country switched its policies and programmes from state-led socialism to neo-liberal policies. The influence of donors, particularly of the World Bank and the International Monetary Fund (IMF), became distinctive in shaping Tanzanian development policies and their implementation, especially after the advent of Structural Adjustment Programmes (SAPs) in the mid-1980s (IMF 2009).

The Tanzania Development Vision 2025 adopted in 1999 (URT 1999) became the new country's development policy guide (a framework policy document guiding the country's national development). It outlined the country's social, economic, and political aspirations for the first quarter of the 21st century: the underlying drive is to attain so-called middle-income status by the year 2025, whereby the economy is characterized by high levels of industrialization, competitiveness, quality livelihood, and the rule of law, and has in place an educated and pro-learning society. The Tanzanian Development Vision 2025 focuses on both human development and macro-economic indicators. Various policies continue to be formulated or adopted to realize this development vision. These include the National Strategy for Growth and Reduction of Poverty (NSGRP I & II), the Five-Year Development Plan (FYDP)

2011/12–2015/16), and the ruling party manifesto. The latest development policy lead by the government of Tanzania since early 2013 is the Big Results Now (BRN). BRN is based on the Malaysian growth model of focusing on key sectors with time- and performance-based indicators.

Tanzania also responds to international development policy processes in its planning process. For example, in the context of the global fight against poverty, Tanzania adopted the Millennium Development Goals (MDGs). Again, in the context of the Heavily Indebted Poor Countries (HIPC) initiative, and with the help of the development partners, Tanzania adopted short- and medium-term Poverty Reduction Strategies (PRS) as a safety net for the poor.

2.7 Reflection on Tanzania's development planning history

As noted earlier in the introduction, this chapter does not intend to provide planners with insight into what happened in the past just for the sake of providing information; rather, it is intended to enable planners to draw lessons from the experiences of past practices. Therefore, when reading this chapter, planners are requested to use their competencies and imaginations to analyse and interpret each historical moment and discover what these may mean to their planning practices today—particularly how they are likely to hinder or facilitate planning practices. For the purpose of the present reflection, attention is drawn to three major issues emerging from the historical overview presented above.

Firstly, given the historical overview, one may conclude that planning practices in Tanzania are relatively young in comparison with the advent of the planning profession leading up to the period of World War II. This reflects the fact explained above that pre-colonial Tanzania did not have what we today call formal planning. The term used to describe this situation is undocumented livelihood arrangement, meaning that a 'planner' (if we are to use this term) and a decision maker of those days used their intuition to organize social and economic matters. In the context of colonial-era planning, the intuition approach to organizing social and economic matters seems to have continued, because, as noted above, colonial planning did not actually involve and was not felt by Tanzanians. It is plausible to assume that the intuitive organization of social and economic matters continued even after independence, because most of the planning was undertaken using foreign experts. Given this reflection, planners need to know they are dealing with a society which has little experience with formal planning and that the back-

ground of intuitive organization of social and economic matters is likely to continue haunting this society. Working with a society steeped in this background may be frustrating in many ways; it may result in poor active participation in the planning process and/or poor implementation of plans. In many cases, it may happen that formal plans coexist alongside intuitive arrangements. Worse still is when the intuitive arrangements prevail over the formal plans.

Secondly, the historical overview presented above shows that imposition of plans is not going to result in any meaningful achievements. This was clearly evident with the improvement approach, the transformation approach, and the SAPs and suchlike presented in this chapter. Therefore, today's planners need to avoid imposing their plans on society if they are to have any meaningful impact. A planner should no longer be someone that directs the economy, but someone who serves the public interest of the economy.

Thirdly, the historical overview presented above shows that planning practices are context-specific. Each historical moment presents a different planning context. This is to say that present-day planners must understand the context in which their planning takes place. Understanding the planning context is a key aspect to planning, if the plan is to have a significant impact on the society. For instance, in this era of globalization, local and global influences form the environment of today's planning context. This is a historical moment where the state's role has shifted from being a provider of services to being an enabler. In this context, planning practice has to take another shape. Helmsing (2002) suggests that in this context one has to consider what he calls 'enabling planning practice'. In his terms, the central questions concerning enabling planning practices relate to the manner in which communities and their CBOs are involved in public–community planning processes and the degree to which the outcomes of such efforts are incorporated in local government's own planning. The same applies to enterprises and their priorities. Therefore, planners planning in this context must play the role of encouraging societal actors to plan and of ensuring that these plans are reflected in area plans for coordination and effective implementation.

References

- Helmsing, A.H.J.B. (2002). 'Decentralisation, enablement, and local governance in low-income countries,' *Environment and Planning C: Government and Policy* 20: 317–340.
- IMF (2009). Tanzania: The story of an African transition. Washington, DC: IMF, African Dept.
- Nyerere, J.K. (1972). *Decentralisation*. Government Printer, Dar es Salaam.
- Svendsen, K.E. & Teisen, M. (eds) (1969). *Self-Reliant Tanzania*. Dar es Salaam: TPH.
- UNECA (2011). *Development planning in Africa. Key issues, challenges and prospects*. Paper commissioned by UNECA and presented to the 4th Joint Annual Meetings of the AU Conference of Ministers of Economy and Finance and ECA Conference of African Ministers of Finance, Planning and Economic Development: Addis Ababa, Ethiopia.
- United Republic of Tanzania (URT) (1999). *The Tanzania Development Vision 2025*. Planning Commission, Dar es Salaam.

3

Planning Systems in Tanzania

Andrew Komba, Domitilla Bashemera, Jane Mbilinyi

3.1 Introduction

The overall purpose of this chapter is to provide a description of planning systems in Tanzania. It is structured in three sections. The section which follows this introduction presents a description of planning systems practised in centrally planned, market-based, and mixed economies. Section 3.3 provides a description of the national planning system in Tanzania, including details of its process flow.

3.2 Planning systems

According to Gilbert (1976), planning and planning systems may not have meanings with which everyone agrees. Altintas (1976) relates planning systems with the prevailing political system because the meaning and systems of planning differ according to the political system in which it is implemented. Overall, the objectives of having a national planning system are to do the following:

1. Guarantee a macro-economic environment of stability, favourable to the development of the economy and to entrepreneurial and national competitiveness
2. Contribute to the reduction of regional asymmetries and social inequalities
3. Safeguard environmental equilibrium, rational use of natural resources, and the conservation of historical and cultural heritage
4. Express and harmonize the interests of economic agents, social groups, communities, and other representations of civil society
5. Promote the participation of civil society and the private sector in the definition and implementation of strategic guidelines for national development

6. Ensure efficiency and efficacy in the production of goods and public services, and in the regulatory activity of the economy by the executive power
7. Engage the mobilization efforts of human, technical, material, and financial resources for national development, guiding their rational and efficient employment
8. Gather, process, present, and analyse information on the national reality, results, and impacts of the executive power's plans, programmes, and actions.

The national planning system in Tanzania is the conceptual and normative structure for the preparation, execution, registration, monitoring, and assessment of national planning, and the regulatory instrument for fostering national development, translated into the executive's goals, objectives and strategies, plans, programmes and actions (projects and activities), and their respective results and impacts.

There are two types of development planning mechanisms: development planning and development management. While development planning involves setting up goals and providing the basis for making decisions about planning applications, development management is about the process of making decisions about planning applications and ensuring development is carried out correctly. The latter involves development control (Audit Scotland 2011).

The national planning system and national planning seek to promote the sustained, harmonious and balanced, sectoral and spatial development of the country, thereby ensuring the nation's revenue is fairly distributed, along with conservation of the environment and its citizens' standard of living. The planning system is central to achieving the Tanzania government's goal of sustainable economic growth. Based on the area of competence, the national planning system varies according to the way in which the national economy is organized. Although there are many variations between countries, at least three main categories can be identified as follows.

3.2.1 Central planning

In central planning systems, the means of production (land, water, and capital) are owned by the state. Planning covers all the areas of economic activity. Centrally planned economies are often called 'command economies' or

‘socialist economies’, indicating that the majority of decisions by individuals, firms, and cooperatives are based on centrally issued directives.

Socialist economic systems are characterized by public ownership of the means of production. The means of production such as land, capital goods, and other resources are owned by the majority of the population and controlled by a central body—usually the state. In socialist economies, planning aims at achieving some social and economic objectives for equal sharing of national income among the members of society. The government in a socialist economy sets up development targets and assists in their implementation. Thus, the direction of national development is, generally, decided by the state. Tanzania practised this type of planning system from the 1960s to late 1980s.

3.2.2 Market-based planning

In the market-based economies, the means of production are primarily privately owned. Owners of productive assets make most decisions individually, and coordination takes place through the market. While large firms and the state also exert important influences on individual decision making, development plans elaborated after numerous consultations between public and private groups inform the public on what the government intends to do on the issue, what economic development priorities have been established, and how the public and private sectors will benefit in the issue.

3.2.3 Mixed economy planning

In mixed economies, planning takes the indicative form. Economic decisions are partly guided by the private sector and partly made by state intervention. The state sector and the private sector both remain active and play their respective roles. The role of the public sector is conceived of as that of a facilitator promoting development in the country. The private sector, on the other hand, is involved in providing goods and services required for the economy to move along a path of growth.

3.3 National planning system in Tanzania

Currently, Tanzania is practising a mixed economic system, whereby economic decisions are guided partly by the private sector and partly by state intervention. The role of the public sector is to prepare the environment wherein the private sector can be involved in providing goods and services required for the economy to prosper.

There are laws, regulations, and administrative procedures which govern the planning system in Tanzania. These regulate the format, timing, and procedures, as well as the allocation of formal powers and rights in the planning system. The existing legal frameworks that guide the planning system in Tanzania are the following:

1. The Constitution of United Republic of Tanzania. Chapter 7, Articles 135–144 of the Constitution outline the provisions regarding the finances of United Republic of Tanzania (URT 1977).
2. The Public Finance Act, 2001 (as amended in 2004)
3. The Annual Finance Act (AFA)
4. The Annual Appropriation Act (AAA)
5. The Public Procurement Act, 2004
6. Local Government Finance Act No. 9 of 1982 (as amended by Miscellaneous Act No. 6 of 1999)
7. The Pay Master General's Circulars.

This set of laws establishes the general bases underpinning the national planning system and national planning, encompassing the scope of application, definition, goals, principles, instruments, bodies involved, rules, and procedures necessary for the configuration and efficacy of these mechanisms of public administration. All state authority and institutions in the United Republic of Tanzania are exercised and controlled by the government. These authorities and institutions include the ministries, departments, and agencies (MDAs), and the local government authorities (LGAs). The private sector working in the country also needs to be controlled.

3.3.1 National planning system guiding instruments

The national planning system incorporates planning instruments to promote the country's socio-economic and local development, with a time horizon in long-term plans, medium-term plans, and annual or short-term plans (Table 3.1). These time horizons need to be defined by the national develop-

ment plan and system. The current national planning system’s instruments in terms of long-term, medium-term, and short-term plans are shown in Table 3.1.

The institutions that deal with the planning system of a country need to be careful when setting up goals, objectives, and strategies in regard to time horizons (URT 2010). According to Westerlund and Sjöstrand (1981), critical analysis of data collected from different sectors supports focused plans that are logically linked to one another; without such analysis and linkage, a country can end up with a set of ‘iceberg-type’ plans that yield only invisible results.

Table 3.1
National planning system instruments

Long-term or long-range plans	Medium-term plans	Short-term or operational plans
The Tanzania Vision 2025 Sectoral policies	Tanzania Five-Year Development Plan 2011/2012–2015/2016	Annual plan/National annual budget (action plan, cash flow plan, procurement plan)
The Long-Term Perspective Plan 2011/2012–2025/2016	Strategic plan (National Strategy for Growth and Poverty Reduction 2010/2011–2014/2015 (MKUKUTA II)) The ruling party manifesto Medium-Term Expenditure Framework (MTEF)	Annual planning guideline from Ministry of Finance and Economic Affairs (MoFEA)

A long-range plan means the development of a plan aimed at achieving a policy or set of policies over a period of several years, with the assumption that there is projection or extrapolation of issues. Usually, the time horizon takes more than ten years. A medium-term plan is drawn from the long-range plan and translates how the long-range is going to be implemented. Medium-term plans adopt a three-to-five years’ time horizon. Short-term plans deal with the operations or actions that should lead to accomplishment of short-term

goals, objectives, and strategies with targets within one year's time. Short-term plans should be drawn from a medium-term plan.

3.3.2 Planning system and the process flow of planning

The national planning system in Tanzania encompasses the following types of bodies: political, technical, advisory, and participative bodies. The system's political bodies are the President of the United Republic (as holder of the executive powers) and the Parliament. The system's technical bodies are the MDAs, including the Planning Commission and the national Bank of Tanzania. The system's advisory body is the Cabinet. The system's participative bodies are the private sector and civil societies.

The Planning Commission in Tanzania is a think tank for the country's macro socio-economic development. The commission, in collaboration with the Ministry of Finance and Economic Affairs (MoFEA), prepares a panel which comprises representatives from its staff and representatives from the other sectoral ministries. The foremost function of the panel is to prepare planning and budgeting guidelines. The MoFEA is responsible for the setting of financial ceilings for development and recurrent expenditure for ministries, regions, and local governments, sending them together with the planning guidelines to the ministries, regions, and local governments, and setting and sending the timetable for plans and budget discussion to ministries, regions, and districts. After receiving the ceilings and guidelines, the MDAs and local government authorities commence the planning process at their own level.

The Cabinet, through the Minister for Finance and Economic Affairs, is responsible for presenting budgets to the Parliament for approval. The various Cabinet ministers also present their respective sectoral budgets for their MDAs for debate and approval by the legislature. The Cabinet has the responsibility of defending the budgets before the Parliament. The Planning Commission under the President's Office, as the agency for strategic thinking on the national economy, in collaboration with other advisory bodies has the role of providing advice to the government on medium- and long-term strategies for socio-economic development focusing on the larger picture of the state. The commission is also responsible for monitoring and analysing development trends and providing advice on macro and sectoral policies, as well as on broad socio-economic development issues. Consequently, the commission focuses on strategic policy analysis of issues and problems of public importance with a view to proposing appropriate solutions.

The Ministry of Finance and Economic Affairs. The MoFEA plays a central role in the planning system in the country and warrants separate mention. The MoFEA makes projections, sets ceilings for annual budget allocations, negotiates priorities with all departments, collects revenues through the Tanzania Revenue Authority (TRA), and disburses funds. The ministry also plays an important controlling function through the Accountant General, who is responsible for ensuring that all financial transactions and reporting are conducted according to the proper regulations. The MoFEA also has the function of developing regulatory policy for the country's financial sector in cooperation with the Bank of Tanzania.

The MoFEA works in collaboration with other ministers. The entry point for regional and district plans and budget proposals into the national mainstream is the Prime Minister's Office, Regional Administration and Local Government (PMO-RALG). Every region and council presents its plan and budget proposal to the PMO-RALG before a panel of representatives of the MoFEA and representatives from other sectoral ministries. The President's Office – Public Service Management (PO-PSM) is concerned with the salaries for all government workers. All the salary budgets from different government institutions are checked at this level, before being forwarded to the MoFEA for final securitization.

Other sectoral ministries submit their plans and budget proposals to the MoFEA and discuss them with the MoFEA. At this level, the function of the MoFEA is to ensure that after the process of planning, every ministry, region, and council has followed the given guidelines and ceilings, to assess how regions and districts implement their sectoral policies, and to assess how specific sectoral problems in a particular region have been addressed. Thereafter, the ministerial plans and budgets are aggregated with regional plans and budgets to form the national plan and budget.

The central government line ministries set sector-specific policy guidelines and are consulted on allocations of resources to local governments for their respective sectors. At the regional level, the Regional Secretariat (RS), headed by a Regional Administrative Secretary (RAS), acts as a linking body between the central government and LGAs in the districts and councils. The RS also facilitates dissemination of relevant information and guidelines on planning, budgeting, and implementation. At the LGA level, the district executive directors or municipal directors are responsible for overseeing budget formulation and implementation. The local heads of sector departments—that is, the Council Management Team (CMT)—provide technical inputs and are

responsible for the implementation of their respective sections of the budget, ensuring that they are passed by the legislature.

Local government planning processes will be discussed in Chapters 9 and 11 of this Handbook. For the present, the point to note is that while planning under local government (regions, districts) starts from the village level, central government plans and budgets start from the sectoral ministries themselves and their line agencies.

The Prime Minister's Office, Regional Administration and Local Government. The PMO-RALG is the entry point for regions and district plans and budget proposals into the national mainstream. Every region and council presents its plan and budget proposal to the PMO-RALG before a panel of representatives from the MoFEA and representatives from sectoral ministries. Other sectoral ministries submit and discuss their plans and budget proposals with the MoFEA. At this level, the function of the panel at the MoFEA is to ensure that after the process of planning, every ministry, region, and council has followed the given guidelines and ceilings, to assess how regions and districts implement their sectoral policies, and to assess how specific sectoral problems in a particular region have been addressed. Thereafter, the ministerial plans and budget are aggregated with regional plans and budgets to form the national plan and budget. The Parliament is an approval body.

The Budget Guidelines Committee is responsible for developing the Planning and Budget Guidelines. This committee is composed of technical representatives from the MoPE, the PO-PSM, and the PO-RALG.

In addition to contributing the majority of domestic tax revenue, the private sector plays a consultative role in the budget process. Most notably, the private sector participates actively in an annual consultation on the revenue framework, which occurs before the budget is formulated each year. Their concerns are often taken into consideration when designing or revising tax policies. The government and private sector together also have the function of providing a forum for public/private sector dialogue, with a view to reaching consensus and mutual understanding on strategic issues related to the efficient management of development resources and to the promotion of the goals of economic growth with social equity and even development.

The Parliament. National plans and budgets are submitted to the Parliament for approval, subject to discussion of budget components and acceptance by members. From that stage, planning will be ready for implementation.

The main responsibilities of Parliament in relation to the planning system are as follows: scrutinizing the budget through various standing committees; adopting or rejecting the budget in Parliament; monitoring the implementation of the budget and the performance of the MDAs; and overseeing the use of public funds.¹ Parliament does not have the power to amend the plans and budget in Tanzania or to reallocate funds. Although Parliament can refuse to adopt the plan and budget presented by the Executive, the consequences of this step are profound: the President has the constitutional power to dissolve Parliament in response.

In order to finance the plans, the state has to raise funds. In Tanzania, the TRA acts as a central body for the assessment and collection of specified revenue. It administers and enforces the laws related to such revenue and provides for related matters of revenue in Tanzania mainland and Zanzibar. The TRA became operational in July 1996, replacing the former independent Treasury Departments of Income Tax, Customs, Sales, Inland Revenue and the Institute of Tax Administration.

So far, revenue from TRA is insufficient to finance the government's budget aspirations. It is for this reason that development partners have become key players in the preparation of development plans. Development partners have made sizeable contributions of foreign aid to Tanzania's budget. They are key in the consultations that inform budget formulation, disburse funds, and monitor public spending and expenditure systems.

Wherever there are public funds, auditing is necessary to ensure proper use of these funds. In Tanzania, the Controller and Auditor General (CAG) is the Supreme Audit Institution in Tanzania. The CAG is responsible for, among other things, ensuring that the expenditure of public finances has been properly authorized and applied for the intended purposes. It should also ensure that in the economic development processes, efficiency and effectiveness have been achieved in the use of public resources. The CAG has extensive powers to summon officials and to obtain information. The wilful obstruction of the work of the CAG, or failure by any public official to provide the CAG with access to any item of information, constitutes a criminal offence.

1 Authority of Parliament 63.-(1) Act No.15 of 1984 Art.12 Act No.4 of 1992 Art.17 Act No.20 of 1992 Art.11

References

- Altintas, M. (1976). 'A systems approach to policy analysis and development planning,' *Technological Forecasting and Social Change* 72: 886–911.
- Audit Scotland (2011). *Modernizing the planning system*. Edinburgh: Audit Scotland.
http://www.audit-scotland.gov.uk/docs/central/2011/nr_110915_modernising_planning.pdf
- Gilbert, A. (ed.) (1976). *Development Planning and Spatial Structure*. London: John Wiley and Sons.
- United Republic of Tanzania (URT) (1977). *The Constitution of the United Republic of Tanzania of 1977*.
- United Republic of Tanzania (URT) (2010). *Tanzania Statistical Master Plan 2009/10–2013/14*. National Bureau of Statistics.
- Westerlund, G. & Sjöstrand, S.-E. (1981). *Organisationsmythen*. Stuttgart: Klett-Cotta.

4

Planner's Identity: Roles, Tasks, Competencies and Ethics

George Kinyashi, Tiberio Mdendemi, Jane Mbilinyi

4.1 Introduction

The planning unit in any organization has an obligation to plan, organize, coordinate, and assist the top management to have facts that help them carry out effective decisions for the achievement of the organization's goals. This chapter aims to present the identity of a planner and discuss some misconceptions often associated with perceptions and understandings of the planning profession. The chapter is organized in six main sections. After this introductory section, Section 4.2 focuses on planning as a profession. Section 4.3 presents the roles of a planner, while Section 4.4 presents the tasks of a planner. Section 4.5 provides an account of the competencies of a planner. The final section introduces the planning ethics expected to apply to all types of planners.

4.2 Planning as a profession

Planning, as is the case in any other profession, has its own speciality and uniqueness in explaining phenomena and in addressing societal challenges. Planning has five indispensable criteria that make it a profession (Fisher 1969):

1. It comprises an interrelated set of phenomena, which are more closely connected among themselves than with phenomena outside the set.
2. It has theoretical constructs that interrelate the phenomena, or at least a chance of developing them.
3. It has appropriate analytical methods that can be applied to the phenomena within the framework of the theoretical constructs to yield new insights.

4. It has the possibility that results, findings, and conclusions, sooner or later, prove useful to society.
- 5 The trained individuals in the field are able to find jobs or work for themselves in such a way that they can put to use what they have learned.

It is important, however, to recognize that the planning profession has been suffering from an identity crisis. This is mainly due to two arguments. The first argument is that the term ‘planning’ is ambiguous and difficult to define (Glasson & Marshall 2007); and the second is that at a certain point in time every human being does some planning. Based on the latter argument, therefore, the world is full of ‘planners’ (Conyers & Hills 1984), implying that anyone can plan, and whoever is involved in planning is a ‘planner’.

Despite this claim that every person is or can be a planner and that plans can be developed in the absence of a professional planner, there is a wide acknowledgement, both in the literature and in practice (Gillingwater 1975; Conyers & Hills 1984), that there is a clear difference between being a professional planner and an unprofessional planner. Professional planners have the necessary knowledge, planning theories, and competencies that enable them to execute their planning roles. Or, at least, given that the planning arena in development is one involving so many actors, a professional planner should be able to facilitate the process of bringing together the various actors for development planning and, therefore, to ensure a quality planning process.

4.3 The roles of the planner

The major role of a planner is to structure the planning processes in the sequence of the planning cycle—that is, the identification phase, analysis phase, plan design phase, implementation design phase, and monitoring and evaluation phase. In the course of carrying out this major role, a planner has to perform the following specific roles (Conyers & Hills 1984; Tanzania Planners Hand Book 1989; TU Dortmund 2012; American Planners Association (APA) (1992)):²

Theoretician role. The planner must be well-versed in appropriate theory and, as a theoretician, should act as a teacher to the public in a wide range of issues pertaining to social and economic development in their planning areas. The planner must not only be able to teach, but should also be able

2 <https://www.planning.org/ethics/ethicalprinciples.htm>

to learn from those with whom he/she engages in discussion. The planner is thus both a teacher and a student, not an authority who professes to know all the answers.

National ideology and political advocacy role. The planner should be conversant with existing macro-economic issues in their countries and the government's policies in respect of them. They should be able to interpret policy, policy guidelines, and various legislation and to draw their implications in ways that can be understood by the local community. This again requires a planner to be both teacher and student.

Advisory role. The planner should be able to advise various working groups in their planning areas and decision makers at different levels. This implies that the planner should be in possession of, and be familiar with, respective original policy documents. When it comes to activities such as annual development plans (ADPs), the planner can advise on various working groups established to prepare the ADPs. The planner is responsible for integrating the development proposals of various units in the organization and often chairs preparatory meetings and integration sessions.

Initiation role. In the area of programme and project design, the role of the planner is that of an initiator. The planner may find it necessary either to initiate ideas that lead to the identification of programmes and projects, or to seek to create the conditions and environment which can result in their identification. Most often, however, the planner assumes the role of manager and professional consultant, rendering advice to others on the design of appropriate programmes and projects.

Analyst role. The planner must be able to analyse the identified problem and come up with an objective. He/she should be able to identify who the stakeholders are, analyse their needs in relation to their existing potentials, and be able to carry out financial analysis and translate the analysed data into a plan.

Policy innovation role. Top-down planning is well established and hence well known to planners in Tanzania. As an innovator, the planner is usually required to advise on which aspects of national or nationally determined policies need modification at the regional and district level, as well as to advise on the kinds of development policies required to maximize impacts, based on careful observation of the potentials for sustainable development at the local level.

Facilitation role. As facilitator, the role of the planner is to encourage planning, both by making relevant individuals and organizations aware of the purpose and nature of planning and by providing services which are necessary for the planning process.

Animator role. The planner should act as a catalyst for the development of ideas in society by facilitating the creation of the necessary environment for development ideas to emerge from the community. The planner should encourage local communities to review their problems and to identify alternative ways in which these problems can be solved.

Coordination role. As coordinator, the role of the planner is to ensure that all those individuals, organizations, and groups which have some interest or expertise in a particular field are involved in planning activities.

Negotiation role. In this role, the planner must try to resolve conflicts between the various individuals and groups, in order to reach decisions which are in line with certain agreed goals and objectives and which are realistic in terms of prevailing conditions and resources.

Strategist role. As strategist, the planner assumes the role of consultant and coordinator when dealing with national, district, area, or organizational goals and strategies. He/she is expected to prepare and interpret development planning guidelines through the use of various planning methods and techniques. The planner should be able to think in strategic terms and to adapt guidelines to actual field situations.

Project management and implementation role. The planner is often responsible for the management and implementation of projects at the district, regional, national, and organizational level.

Budget coordination role. The planner is the coordinator of the public budgeting process. As such, the planner should be thoroughly familiar with the entire budgeting process, both development budgeting and the specific budgeting procedures used in his/her area of work.

Resource mobilization role. The planner is a bridge between resources and the achievement of organization goals. In this role, the planner's principal role is to mobilize resources from various sources.

Monitoring role. The planner is required to monitor projects and to propose measures for solving problems that may be encountered in project execution. In so doing, the planner is required to help strengthen the project cycle by advising on improved methods of project design, management, and implementation.

Evaluation role. As evaluator of programmes and projects, the planner should be comfortable in the use of various social research methods and techniques. These methods and techniques should also cover the systematic promotion of community participation.

Social justice advocacy role. As an advocate of social justice, the planner must seek to balance considerations of growth and equity in development at the district and regional levels. He/she must also be a defender of minority groups and must seek to ensure that the interests of weak and disadvantaged groups are not overridden by those of politically and economically powerful and articulate groups. The planner would argue, for example, that the interests of minorities in the development process should not be damaged in the name of democracy.

4.4 Tasks of a planner

Professional planners in a planning unit or working as independent consultants are expected to act as coordinators of other units or stakeholders in their planning areas. In the course of performing their coordination role, they are expected to execute several functions (Tanzania Planners' Handbook 1989):

1. To maintain statistical databases relevant to the organization they are working with, such as a socio-economic statistical database
2. To collect, process, analyse, interpret, and compile relevant planning data, including social and economic data
3. To have different stakeholders sitting and discussing together to ensure adequate carrying capacity for the plans concerned
4. To monitor and control plan implementation through periodic reviews and appraisals
5. To advise other units and stakeholders in the organizations they are working for on how to prepare various projects and plans
6. To assist leaders in other units in the identification, evaluation, and formulation of development projects
7. To verify and consolidate annual development plans and budgets
8. To prepare annual action plans for the release of funds

9. To request funds on the basis of implementation reports
10. To prepare and consolidate quarterly and annual physical and financial implementation reports.

4.5 Competencies of a planner

Although the planning profession is dynamic and has diverse specializations, it is still possible to identify the competencies that any type of planner should possess. Thus, in order to discharge their duties, planners of all specializations are expected to possess the following competencies (Conyers & Hills 1984; TU Dortmund 2012; American Planners Association online):

1. Ability to identify and mobilize resources for implementation of plans
2. Ability to collect, process and analyse, interpret and compile social and economic data
3. Have a good command of various planning, moderation, and conflict resolution techniques
4. Ability to distinguish different planning approaches from ideologies
5. Ability to critically appraise political tendencies within the internal and external environment of their planning areas
6. Ability to analyse demographic information to discern trends in population, employment, and health
7. Knowledge of plan-making and project evaluation
8. Mastery of techniques for involving a wide range of people in making decisions
9. Understanding of local, regional, and national programmes and processes
10. Understanding of the social and environmental impact of planning decisions on communities
11. Ability to work with the public and articulate planning issues to a wide variety of audiences
12. Understanding of the interaction among the economy, transportation, health and human services, and land use regulations
13. Mastery of computer applications and software relevant to their specializations
14. Mastery of the arts of coordination and decision making
15. Ability to communicate, inter alia, through presentations
16. Ability to prepare planning documents and perform routine monitoring and evaluation
17. Ability to guide decision makers and chart out the technicalities of what the decision makers have decided.

4.6 Planning ethics

The planning process exists to serve the interests of citizens, on the one hand; and in most cases, planning issues involve a conflict of interests owing to many private interests. These call for the highest standards of fairness and honesty among those involved in the planning process. An ethical professional planner should act as follows (American Planners Association 1992):

1. Demonstrate integrity, knowledge, and professionalism and ensure checks and balances in data collected
2. Not perform a deliberately wrongful act which affects adversely the planning process; avoid deeds that may lead to improper decisions
3. Participate in continuing professional education; accurately represent the qualifications, views, and findings of colleagues; contribute time and effort to groups lacking adequate planning resources
4. Accurately represent their qualifications to practice planning as well as their education and affiliations and treat fairly and comment responsibly on the professional views of colleagues and members of other professions
5. Share the results of experience and research which contribute to the body of planning knowledge and systematically and critically analyse ethical issues in the practice of planning
6. Examine the applicability of planning theories, methods, and standards to the facts and analysis of each particular situation and not accept the applicability of a customary solution without first establishing its appropriateness to the situation
7. Contribute time and information to the development of students, interns, beginning practitioners, and other colleagues.

4.7 General remarks

Although the planning profession has had a crisis of identity related to the ambiguity and difficulty of its definitions and the rationale for its existence, it is a profession with precise roles, tasks, competencies, and even ethical frameworks. It is necessary for the steering of change, which is something that requires looking to the future. The understanding of the roles, tasks, competencies, and ethics of planners should enable planners and development stakeholders to distinguish the planning profession from other professions—and hence recognize its position and importance in society.

References

- American Planners Association (APA) (1992). *Ethical Principles in Planning*. Available at <https://www.planning.org/ethics/ethicalprinciples.htm> [Accessed 23 May 2017]
- Conyers, D. & Hills, P. (1984). *An Introduction to Development Planning in the Developing World*. Chichester: John Wiley and Sons.
- Fisher, J.L. (1969). 'Regional planning: Determining the public interest', in: M.M. Hufschmidt, *Regional Planning Challenges and Prospects*. Praeger Special Studies in US Economic and Social Development.
- Glasson, J. & Marshall, T. (2007). *Regional Planning*. London: Routledge Taylor & Francis Group.
- TU Dortmund (2012). *SPRING Programme: Modules and Courses at a Glance*. Germany: TU Dortmund University.
- Van Raay, H., Dolman, A. & Kazi, C. (eds) (1989). *Tanzania Planners' Handbook: A Guide for Regional and Rural Development Planning*. The Hague: ISS.

5

Societal Actors in Development Planning

Adalbertus Kamanzi, Emmanuel Nyankweli, Emmanuel Hauli

5.1 Introduction

This chapter aims to present the role of societal actors (SAs) in development planning. SAs are stakeholders in planning who have traditionally been referred to as non-state actors. They are, essentially, people or groups of people or organizations that are not part of the government or government agencies. Since their existence is not dependent on the existence of the state, the label used for them in this chapter is SAs. From the moment when Tanzania became independent, development planning has tended to be participatory; but although much has been said about the role of the state in facilitating participation, little has been said about SAs. Lack of insight into the role of SAs is a limitation in harnessing and enhancing their potential for development planners, whose impact goes beyond the local to the national and international levels.

Following this introduction, the chapter continues with a section that clarifies who SAs are. The chapter proceeds with a section about the development roles of SAs. Section 5.4 deals with SAs and development planning. In the Section 5.5, we address the strategy for engaging SAs. The final section presents a recapitulation of the discussion.

5.2 Societal actors

An actor is person or a group of people who are participant in certain action(s) or processes. In development planning, actors are stakeholders. These are people and/or organizations who, in one way or the other, affect or are affected by development interventions. In a way, therefore, such people and/

or groups become strategic; and for this reason, they need to be incorporated in development planning.

SAs exist as a result of attempts to satisfy perceived needs that are apparently not taken care of by the government and cannot be satisfied by a single family unit. From this angle, therefore, SAs contribute to filling gaps that the government cannot or does not take care of.

5.2.1 State actors versus societal actors

There is a need to distinguish between ‘state’ and ‘societal’ actors. Table 5.1 summarizes the characteristics of each type, under the categories of organization, funding, and governance and accountability.

While the term ‘state actors’ refers to ‘public,’ that is, government organs, SAs refers to ‘private’ individuals or organizations, that is, stakeholders who are not part of the government organs. The *modus operandi* of SAs is propelled by a number of factors:

1. Plurality: The diversity of SAs illustrates their plurality in terms of activities and objective and also in terms of their numbers.
2. Trust and solidarity: The basis for the formation of many SAs is the existence of trust and solidarity brought by mutual dependence.
3. Voluntarism: Voluntary membership and participation is one of the core characteristics and principles of many SAs. Individuals volunteer their time, energy, and resources because of the perceived benefits of whatever they do in the SAs.
4. Autonomy: SAs value the freedom to set their own agenda, within the boundaries of their specific historical, political, and socio-economic contexts.

Table 5.1
Characteristics of state and societal actors

Features	State actors	Societal actors
Organization	<ul style="list-style-type: none"> • Public bodies; formally, units of national or sub-national governments • Multi-lateral and bilateral donors (i.e. intergovernmental bodies or agencies) • Service providers contracted by, or grantees of, the above 	<ul style="list-style-type: none"> • Formal organizations such as international and national NGOs • Private sector organizations • Religious organizations • Informal community bodies and groups
Funding	<ul style="list-style-type: none"> • National budget (through general revenues or direct budget support from donors) • Earmarked revenue through user contributions (i.e. social security remittances) • External donor programme financing through grants/loans 	<ul style="list-style-type: none"> • Charitable donations • Members' contributions • Grants from benevolent individuals and organizations • Remittances from diaspora
Governance and accountability	<ul style="list-style-type: none"> • Political oversight and accountability through elected assembly and ministerial delegated authority • National audit • Ministry/agency/local government policy and administrative oversight • Programme implementation and financial reporting under funding agreements 	<ul style="list-style-type: none"> • Corporate by-laws • Financial reporting requirements under corporate law • Members' representation and monitoring • Reports to sponsors, beneficiaries, community members • Peer pressure

Source: Adapted from PASGR (2012: 12)

5.2.2 Societal actor categories

It is important to note three important key SAs in development planning: civil society organizations, development partners, and the media.

5.2.2.1 *Civil society organizations*

Civil society organizations refers to non-governmental organizations and institutions that manifest the interests and will of citizens. Such organizations and institutions can be considered as individuals and organizations in a society which are independent of the government. They are referred to as the 'third sector' of society, distinct from the government and business sectors.

Civil society has an important role in development planning. It is critical in building voice and accountability, in providing humanitarian assistance and services, and in promoting awareness and understanding of development. Civil society is often the way for citizens to bring effective pressure to bear on government to have their needs addressed.

5.2.2.2 *Private sector*

Traditional government and state planning to achieve improved social and economic development can no longer keep pace with prevailing conditions. As a result, private sector participation to fill the gap is increasingly welcomed. The private sector includes individuals or businesses that have the possibility to create economic opportunities. This is very important in setting a context in which individuals create their own solutions. Such economic opportunity is a combination of factors that enables individuals to manage their assets in ways that generate incomes and options. The private sector can achieve this in two related and often complementary approaches: by building inclusive business models, and by implementing complementary strategies (Harvard University 2007).

Inclusive business models involve local people in corporate value chains—as employees, entrepreneurs, suppliers, distributors, franchisees, retailers, customers, or sources of innovation—which have the potential to become financially viable. One may speak of four business inclusion relationships selling products that increase the income or assets of locals, such as finance and

information and communication technology (ICT): supplier relationships, distribution relationships, franchise models, and network enterprise models.

The private sector can also implement complementary strategies to enhance the commercial viability and economic opportunity impact of inclusive business models. These strategies include developing human capital (e.g. through training programmes), building institutional capacity (e.g. in NGOs, governments, local businesses, and business associations), and shaping public policy. In some cases these strategies are funded through business development and operating budgets, but in many situations they are supported by corporate philanthropy and social investment or by cooperative funding arrangements with foundations and development agencies. It is also common to see companies implement these complementary strategies in a stand-alone fashion, sometimes with significant impact and scale.

It is important to note that the distinction between inclusive business models and complementary strategies is not a case of either/or. All of these strategies are needed, often simultaneously. They can be carried out by different organizations or by the same one. But they are all important. In cognizance of this, planners—through the enablement planning practices discussed in this Handbook—are encouraged to harness these opportunities offered by the private sector.

The private sector provides day-to-day services; they usually supply the demand side of the population and also of the government. They know what is locally needed; they can induce demand; they know where to get what is required. Moreover, this is a sector that is networked not only locally, but also nationally and globally.

In addition to companies and/or other business entities, one of the crucial actors in the private sector is the Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA), which is tasked with facilitating private sector development in Tanzania by providing demand-driven advocacy, business information, linkages, and business development services. The TCCIA serves and supports the business community, stimulates commercial, industrial, and agricultural growth, honours and acknowledges new business developments, mediates in commercial disputes, disseminates business information, promotes local businesses, and plans events and fund-raising activities. For this reason—if required—it may operate as an interlocutor of the government.

5.2.2.3 *Development partners*

Development partners refers to what have traditionally been known as donors. The concept of development partners attempts to go beyond a framework of one side being active in providing aid and the other side passive in receiving aid, to a framework of relations between both active donors and active aid recipients. Both the aid giver and receiver become active stakeholders in the development arena. This term suggests the shift from donor domination to donor engagement.

Development partners for Tanzania have historical bases. The first base is related to the colonial legacy. Tanzania acquired partners from Germany and the United Kingdom, as these were the first colonials. Another base is related to ideological affinity. With the arising of a socialist political economy in Tanzania, partners tended to be socialist countries—for instance, Russia and China. Since the development of capitalist ideology in Tanzania, however, partners have tended to be from Western Europe and the United States of America. Currently, with the on-going globalization forces, the choice of partners is more linked to political, technological, social, and economic benefits. It is for this reason that partners vary greatly and come from non-specific geographical zones. They can come from any continent, provided they are assessed as in some way useful.

The largest role of development partners is in terms of development facilitation. This is in terms of financing development projects, sharing experiences, and capacity building. Although development partners all have their own focus, from a national planning perspective it is most appreciated when they have their facilitation activities harmonized with the prevailing national policies, and these activities are subject to continuous discussion during the planning process.

5.2.2.4 *Media*

Media refers to collective communication outlets and to the tools to store and deliver information and data. They can be print media in the form of newspapers, magazines, billboards, catalogues, handouts, brochures, newsletters, etc. or electronic media in the form of Facebook, Twitter, Instagram, television, radio, e-mail, search engines, etc.

The largest role of the media in development is to channel information and to form platforms for opinion and debate. It is via information flows that policy issues and perceptions of development can be influenced, positively and/or negatively. With an adequate flow of information, decision-making processes and the prevailing macro-economic, political, and juridical frameworks are enhanced and made comprehensible to the population.

5.3 Development roles of societal actors

SAs have a variety of development roles. These can be summarized into finance, insurance, advocacy, social protection, commerce, and communications roles.

1. **Finance:** In this role, SAs deal with mechanisms that enable individuals, businesses, and organizations to save and mobilize small amounts of money to raise capital for small and medium-size investments.
2. **Insurance:** This role deals with mechanisms that enable individuals, businesses, and organizations to save and mobilize small amounts of money to mitigate future risk.
3. **Advocacy:** Some SAs deal with advocating for different rights and policy issues.
4. **Social protection:** A number of SAs deal with preventive, protective, promotive, and transformative services in order to alleviate people's vulnerabilities.
5. **Commerce:** Some SAs deal with the activities of buying and selling of people's goods, especially agricultural and craft goods.
6. **Communications:** Some SAs, particularly the media, have the role of communicating and storing information and data.

An SA can deal with one or more or all of these roles. It will depend on the core functions of the SA. All these roles are very important in development planning. They are, in fact, roles that address development issues. Actors behind such roles cannot, in any way, be ignored in development planning processes.

5.4 Societal actors and development planning

In this section, which links SAs and development planning, we present the concept of 'public-private partnerships' (PPPs). The idea is that for development planning to take place, there is a requirement for the key partners in

development—public and private partners—to work together. This kind of cooperation is captured in what has been termed PPPs.

There are many definitions of partnership. However, the following definition from Caplan *et al.* (2007: 1) seems to capture what most definitions focus upon:

Partnerships involve two or more organizations that enter into a collaborative arrangement based on: 1) synergistic goals and opportunities that address particular issues or deliver specified tasks that single organizations cannot accomplish on their own as effectively, and 2) situations where individual organizations cannot purchase the appropriate resources or competencies purely through a market transaction.

What is central to any definition of partnership is the issue of ‘collaboration’, which takes place between public and private sector organizations. There is an important pooling together of resources (financial, human, technical, and information) from public and private sources to achieve a commonly agreed social goal.

In PPPs, the advantages to involving SAs in development planning can include the following processes:

1. Strengthening accountability and transparency of decision making
2. Raising public awareness and knowledge on specific policy and development issues
3. Improving active involvement of citizens in the democratic process and promoting good governance
4. Improving the quality and legitimacy of decisions by ensuring that the views of the poor and marginalized are taken into account in policy and programme decision making
5. Promoting local innovative ideas and solutions to local problems
6. Building trust between government officials and the citizens they serve
7. Creating acceptance and public consensus / local ownership of policies and development programmes
8. Enhancing learning for both state officials and leaders of SAs
9. Improving cost-efficiency.

There are good examples of institutions in Tanzania that have set the ground for PPPs. For example, when President Benjamin Mkapa was president of Tanzania, he introduced the Tanzania National Business Council in 2002. This council has aimed at providing a forum for public/private sector dialogue in order to improve the business environment in the country. The

membership of this council is 50% public and 50% private, with the President of the United Republic of Tanzania as Chair, and the Vice Chair held by the Chairperson of the Tanzania Private Sector Foundation. In this council, issues of investment affecting domestic and foreign investors are addressed through respective round-table meetings, with cabinet ministers attending, at which the government's service delivery is called to account.

What is critically important for a partnership that brings about dialogue and true engagement is the internal power of private and/or civil society. The TC-CIA is an influential body, with a clear vision, mission, and objectives, and it has followers. It is for this reason that the TCCIA can negotiate with the government concerning processes in dealing with investment issues. Similarly, civil society needs internal power in order to deal with the government. For example, the *Mtandao wa Vikundi vya Wakulima Tanzania* (MVIWATA)—the Network of Farmers' Organizations in Tanzania—has several times been invited by the Ministry of Agriculture to hold policy discussions. This is because the MVIWATA is focused on agricultural issues and is linked together in a network throughout the country.

5.5 Strategy for engaging societal actors

The strategy for engaging SAs refers to the steps any development planner should engage in to ensure all SAs who are strategic for a particular development plan participate usefully. Given the potential influence and impact of SAs, it is often best to ensure the choice of a wide scope of SAs during all stages of development planning. This will cater to the inclusion of their interests and concerns, and to their different potential roles in development. In the engagement model, it is necessary to undertake the following steps:

1. Articulate the objectives of the development plan being worked upon:
 - a. What is the title/name of the development plan?
 - b. What is the main objective of the development plan?
 - c. What are the specific objectives of the development plan?

2. Identify the key SAs for every objective:
 - a. Who are the likely development partners to be involved?
 - b. Who are the likely civil society members to be involved?
 - c. Who are the likely media members to be involved?
 - d. For each likely member, give a score between 1 and 5 for likelihood to participate (1 = low likelihood; 5 = very high likelihood).

3. Identify the interests, concerns, and potential development roles of each SA for each objective:
 - a. What are the interests for every SA?
 - b. What are the concerns for every SA?
 - c. What are the potential development roles?

4. Carry out an 'opportunities and obstacles' assessment for each SA on every objective:
 - a. What are the likely opportunities that each SA comes within the plan?
 - b. What are the obstacles to each SA coming within the plan?
 - c. For each likely opportunity, give a score between 1 and 5 (1 = low likelihood; 5 = very high likelihood).
 - d. Rank the opportunities according to the scores.
 - e. For each likely obstacle to occur, give a score between -1 and -5. (-1 = low likelihood; -5 = very high likelihood).
 - f. Rank the obstacles according to the scores.

5. Establish the potential influence of each SA on every objective:
 - a. Between -1 and -5, what is the level of the 'power over' (a negative and controlling power wielded in a win-lose relationship)?
 - b. Between 1 and 5, what is the level of the 'power with' (a collective strength based on mutual support, solidarity, and collaboration)?
 - c. Between 1 and 5, what is the level of the 'power to' (a generative or productive power)?
 - d. Between 1 and 5, what is the level of the 'power within' (the spiritual strength and uniqueness a person has for his/her self-worth, self-knowledge)?
 - e. Between 1 and 5, what is the level of influence at the local level?
 - f. Between 1 and 5, what is the level of influence at the national level?
 - g. Between 1 and 5, what is the level of influence at the international level?

6. Establish the best ways of engaging each SA on every objective:
 - a. Enumerate the best ways each SA can be engaged.
 - b. For each best way, give a score between 1 and 5.
 - c. Rank the best ways according to the scores.

7. Establish the possibility for participation of each SA on every objective:
 - a. Between 1 and 5, what is the likelihood that the SA participates in the financial role?

- b. Between 1 and 5, what is the likelihood that the SA participates in the insurance role?
 - c. Between 1 and 5, what is the likelihood that the SA participates in the advocacy role?
 - d. Between 1 and 5, what is the likelihood that the SA participates in the social protection role?
 - e. Between 1 and 5, what is the likelihood that the SA participates in the commerce role?
 - f. Between 1 and 5, what is the likelihood that the SA participates in the communications role?
8. Negotiate with the SA on the form of engagement for an objective:
- a. What are the overall scores for each SA?
 - b. What are the specific scores on each objective for each SA?
 - c. What are the best ways to communicate with the SA for an engagement in development planning?
 - d. In order of likelihood to work best, rank the communication strategies to the SA.
 - e. Use the first two or three best-ranked strategies.
9. Once the SA has accepted engagement, prepare together the monitoring, evaluation, and feedback mechanisms.

5.6 Chapter recapitulation

The chapter has presented the role of SAs in development planning. It has clarified the identity of SAs, their development roles, and their centrality in development planning. Due to the strategic importance of SAs, a strategy to engage SAs in development planning has been proposed. It suffices to say that it is impossible for meaningful development planning to take place without the participation of SAs.

References

- Caplan, K., Gomme, J., Mugabi, J. & Stott, L. (2007). *Assessing partnership performance: Understanding the drivers for success, building partnerships for development*. www.bpdws.org
- Harvard University (2007). *The role of the private sector in expanding economic opportunity through collaborative action*. A leadership dialogue. <http://www.hks.harvard.edu>

edu/mrcbg/CSRI /publications/report29HarvardEODialogueSummary20071018.pdf [Accessed 17 October 2015].

PASGR (2012). Features, governance characteristics and policy implications of non-state actors: Research framework paper: Features, governance characteristics and policy implications of non-state social protection in Africa. Nairobi: PASGR.

6

Planning and Demography

Domitilla Bashemera, Tiberio Mdendemi

6.1 Introduction

Demographic concerns are among the most complex and controversial issues. They are complex because, in a broad sense, population relates to all the development efforts undertaken by a society—that is to say, humans are at the centre of development. Population affects and is influenced by a host of intertwining factors, including economic growth, food production, environment, urbanization and housing, education, health care, politics, religion, culture, and communications. In order to address the complexity of these demographic concerns, data are required to facilitate monitoring of the dynamics influenced by fertility, mortality, and migration. Population policy and other related development policies are necessary to ensure the provision of goods and services to a growing population.

The aim of this chapter is to show how planning is linked to demography and to establish that planners need to know about human demography. The chapter is intended to enable planners to grasp various concepts related to population, population data sources and their use, population dynamics, demographic transition, and integration of population variables in development planning, and to understand how to perform population projections and formulate population policies. The ultimate aim is to enable planners to fulfil their planning role in such a way that human beings are brought to the centre of development. In Section 6.2, there is a presentation of definitions related to demography. Section 6.3 presents some demographic data issues. Section 6.4 presents issues related to population dynamics. Section 6.5 concerns demographic transition, and Section 6.6 concerns population projection. Section 6.7 looks at the integration of demography in development planning. In the penultimate section, the National Population Policy is presented, and the chapter ends with a section that advises on how to formulate good population policy.

6.2 Defining demography

Demography can be defined as the study of human populations, including their composition, distribution, density, growth, and other characteristics, as well as the causes and consequences of changes in these factors. Demography is generally defined as the scientific study of human population and its dynamics, focusing attention on three readily available human phenomena: (a) changes in a population size (growth or decline); (b) composition of a population; and (c) distribution of a population in space. Consequently, demography deals with fertility, mortality, and migration. These processes are continually at work within a population and determine its size, composition, and distribution.

According to Van De Walle (1982), demography can be understood as

a set of techniques by which data collected in censuses, surveys and vital registration systems about age, sex, births, deaths, migrations, marriages and so on are described, summarized and manipulated.

These two definitions, one referring to demography as a scientific study and the other as a set of techniques, define demography in a narrow sense. In a broad sense, demography encompasses both the study and the techniques to deal with issues of fertility, mortality, and migration from a variety of different viewpoints, including sociological, economic, and anthropological. As such, therefore, demography is inherently multi-disciplinary, and it is often referred to as ‘population studies’—a term which also includes the treatment of relations between demographic phenomena and social, economic, and political phenomena (Colombia University online). It is for this reason that Van den Walle (1982) characterizes demography as a scientific study of human populations, primarily with respect to their size, their structure, and their development.

6.3 Demographic data

Demographic data are important in providing a factual basis for decisions on matters of public policy and action concerning social and economic affairs. These data can be processed to indicate present and future requirements of the population in terms of the types and extent of social needs of the society, such as health, education, and employment. The major sources of demographic data include census, registration of vital events, sample surveys, and

ad hoc demographic studies. For the purposes of this chapter, we present census and registration of vital events.

6.3.1 Population census

A population census is defined as an operation that produces at regular intervals an official counting (or benchmark) of the population in a region of a country and in its smallest geographical sub-regions (e.g. districts, wards, villages, and/or streets), together with information on a selected number of demographic and social characteristics of the total population. This operation includes the process of collecting (through enumeration or registered-based information) and analysing the information. Individual information is aggregated, evaluated, and disseminated in terms of demographic, economic, and social data (UN 2010).

Table 6.1 below is an example of demographic indicators from the Demographic Health Survey of 2010 and the Population and Housing Census of 2012 for Tanzania.

Table 6.1
Demographic indicators from population and housing censuses

Indicator	Tanzania	Mainland	Zanzibar
Fertility			
Child/Woman ratio	0.7	0.7	0.7
*Mortality			
Total life expectancy	56	56	60
Life expectancy at birth – male	54	54	58
Life expectancy at birth – female	57	57	62
*Under-five mortality (per 1,000 live births)	153	154	144
*Infant mortality (per 1,000 live births)	95	95	89
Vital rate			
Growth rate percentage	2.9	3.0	2.6
*Annual birth and death			
Birth	1,674,943	1,645,917	49,026
Death	555,975	543,445	12,530

Population			
Sex ratio (males per 100 females)	95	95	94
Urban (percentage)	29.6	29.1	46.3
Rural	70.4	70.9	53.7
Population density per sq km	51	49	530

Source: 2010 Demographic Health Surveys and 2012 Population and Housing Census

Note: *Projected figures based on 2002 Population and Housing Census

Data such as those presented in Table 6.1 may be useful for planning and implementation of economic and social development policies, administrative activity, or scientific research; they provide reliable and detailed information on the size, distribution, and composition of the population. The population census is a primary source of these basic benchmark statistics, covering not only the settled population but also homeless persons and nomadic groups. Data from population censuses may, at times, be presented and analysed in terms of statistics for a wide variety of geographical units, ranging from the country as a whole to individual small localities.

There are two techniques for conducting census: *de jure* and *de facto*. *De jure* involves the counting of people according to the permanent place of location or residence. The advantages of *de jure* include providing a permanent picture of a community and more realistic and useful statistics. The disadvantages include omissions from the count: a household member who is temporarily away from home may be missed from the count unless the enumerator ensures that nobody is omitted. Some individuals may be counted twice. Information collected regarding persons away from home is often incomplete or incorrect.

A *de facto* census refers to the technique of counting persons where they are present at the time of the census. A *de facto* population census technique consists of five elements:

1. Visitor population
2. Homeless population
3. Seasonal population (amenity-seeking population, and migrant workers and their families)
4. Portion of the daytime population that consists of residents from elsewhere
5. *De jure* population that is 'present'

One reason for using these five categories is that they correspond roughly to the kinds of estimates (and projections) that are desired for de facto populations (Swanson & Tayman 2012). The advantage of a de facto census is that there is less chance of the omission of persons from the count. The disadvantages are that it is difficult to obtain information regarding persons in transit. These are persons who are travelling, for example, and have left their area of permanent residence but have not yet reached their area of destination during the census day. This provides an incorrect picture of the population in a community. Important statistics are therefore usually distorted in areas with high migration.

6.3.2 Registration of vital events (statistics)

The main source of vital statistics is civil registration, which is the continuous, permanent, compulsory, and universal recording of the occurrence and characteristics of vital events pertaining to the population, as provided through decree or regulation in accordance with the legal requirements in each country.³ Vital statistics, for example, about births, deaths, and marriages enable rates of population growth to be calculated. However, they are much less informative than national censuses. In developing countries where illiteracy rates are high and communications are poor, the problems of recording births and deaths are immense, not only in rural populations but also even in urban areas. However, efforts are being made to improve the collection of these data in many countries. For example, Tanzania has recently introduced electronic registration of its citizens, in which vital information is captured electronically.

6.4 Population dynamics

Population dynamics is the study of changes in population size and structure over time. Three major factors determine the population of a defined area and its growth over time: births (fertility), deaths (mortality), and migration (immigration and emigration). The balance among these three factors determines whether a population increases, remains stationary, or decreases in number. The relation between births and deaths is referred to as natural population increase (natural population growth). When the net effect of mi-

³ www.unstats.un.org/demographic/product

gration is added to natural increase, this is referred to as total increase (total growth).

In addition to this concept of population dynamics, three other concepts are crucial: population structure, dependence ratio, and population pyramid.

6.4.1 Population structure

Apart from the total size, the most important demographic characteristic of a population is its population structure. Population structure refers to the composition of the population in terms of age, sex, occupation, religion, educational status, geographical distribution, and socio-economic status. The structure of a population is influenced or affected by births, deaths, and migration, and by their pre-disposing factors. The age structure of a population affects a nation's key socio-economic issues. Countries with young populations (high percentage under age 15) need to invest more in schools, while countries with older populations (high percentage age 65 and over) need to invest more in the health sector. The age structure can also be used to help predict potential political issues. For example, the rapid growth of a young adult population unable to find employment can lead to unrest (CIA 2014).

The age–sex structure determines potential for future growth of specific age groups, as well as of the total population. For this reason, the age structure has significant government policy implications. Table 6.2 shows the case of Tanzania's population structure, where 44.6% of the population are at the age of 1–4 years old and 19.5% are at the age of 15–24 years old. In total, 64.1% of Tanzania's population is between the age of 0–4 and 15–24 years old. Planners need to understand the policy implications of such a population structure. As noted above, planning in a situation like this will require considerations of schools and jobs to accommodate the growing number of young population. A population of young people needs a sufficient number of schools and, later, jobs to accommodate them. Countries with a large proportion of older people must develop retirement systems and medical facilities to serve their aging population. Therefore, as a population ages its needs change—for instance, from childcare to schools, and from 'childcare jobs' to 'elderly-care jobs'; it also requires change in types of housing and medical care. The type of education required to fulfil these needs calls for pro-active planning.

Table 6.2

Tanzania's population structure as per 2014 population estimates

Age group	Male	Female	Total	Total %
0-4	11,173,655	10,962,186	22,135,841	44.6
15-24	4,838,216	4,841,338	9,679,554	19.5
25-54	7,340,129	7,289,483	14,629,612	29.5
55-64	745,214	985,524	1,730,738	3.5
65 years and over	629,483	833,910	1,463,393	2.9
total	24,726,697	24,912,441	49,639,38	100

Source: CIA (2014)

6.4.2 Dependence ratio

Dependent people are usually those under the age of 15 and over the age of 64. The productive part of the population comprises the population between the ages of 15 and 64. Dependency is usually expressed as a percentage:

$$(Total)Dependency\ ratio = \frac{(number\ of\ people\ aged\ 0-14\ and\ those\ aged\ 65\ and\ over)}{number\ of\ people\ aged\ 15-64} \times 100$$

As the ratio increases, there may be an increased burden on the productive part of the population to maintain the upbringing and pensions of the economically dependent. This results in direct impacts on financial expenditures on things such as social security, as well as many indirect consequences.

The (total) dependency ratio can be broken down into the child dependency ratio and the aged dependency ratio (IOM 2008; APHEO 2011):

$$Child\ dependency\ ratio = \frac{number\ of\ people\ aged\ 0-14}{number\ of\ people\ aged\ 15-64} \times 100$$

$$Aged\ dependency\ ratio = \frac{number\ of\ people\ 65\ and\ over}{number\ of\ people\ aged\ 15-64} \times 100$$

6.4.3 Population pyramid

Population pyramids illustrate graphically the effects of the three factors that influence population. The overall shape of the pyramid indicates the potential for future growth. Population pyramids present the population of an area or country in terms of its composition by age and sex at a given point in time. The series of horizontal bars in a pyramid represent the percentage contributions of each age and sex group (often of 5-year age group intervals) in the population.

A glance at a population pyramid can tell a great deal about the population in question. One can easily see whether a population is young or old. By convention, males are shown on the left and females on the right, young persons at the bottom and elderly at the top of the pyramid (Figure 6.1). The ratio or percentage of the various age groups in a population determines the current reproductive status of the population and indicates what may be expected in the future. The shape of the pyramid reflects the major influences on births and deaths, plus any change due to migration over three or four generations preceding the date of the pyramid.

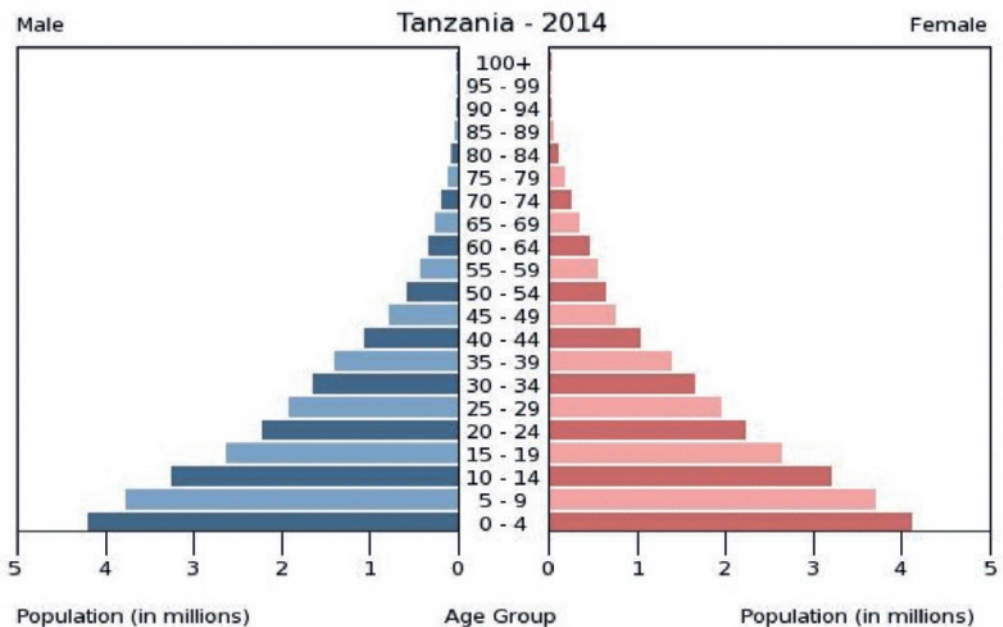


Figure 6.1
Tanzania population pyramid

6.5 Demographic transition

According to Thomas Malthus (1798), population growth should be limited, given the available scarce resources. So why is the world's population growing so rapidly in the regions with the fewest resources? In part, this puzzle can be explained by the demographic transition theory, which is a model describing the transition from high birth and death rates to low birth and death rates that occurs as part of the economic development of a country. This transition can be broken down into five stages (Figure 6.2).

Stage 1: Countries have high birth and death rates. At this stage, both rates are high, the population grows slowly, and the population also tends to be very young: many people are born but few live very long. Reasons for high death rate are high incidence of disease, poor nutrition, famine, and poor levels of hygiene. Children are considered to be an economic benefit to families, reinforcing high birth rates. Children contribute to the household economy by carrying water and firewood, caring for their younger siblings, cleaning, cooking, and working in fields. With few educational opportunities, raising children costs little more than feeding them. As they become adults, children become major contributors to the family income and become the primary form of insurance for adults in old age.

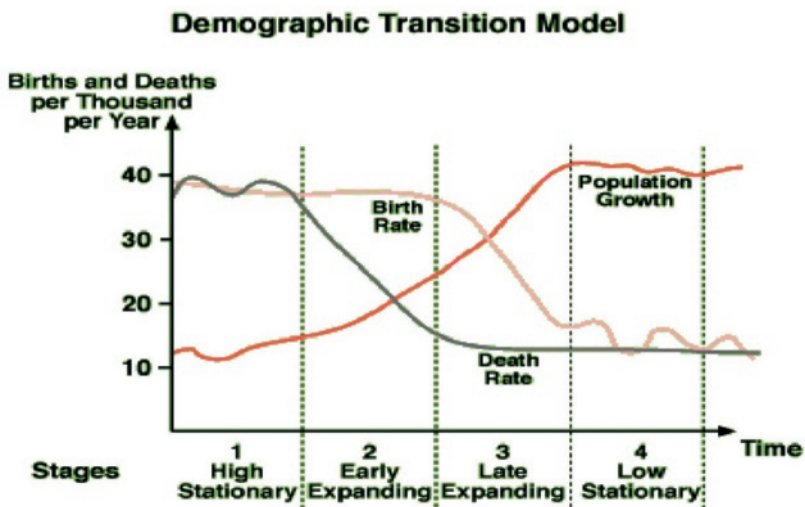


Figure 6.2
Demographic transition Model

Stage 2: High birth rate but falling death rate. The total population begins to expand rapidly because of improved public health, better nutrition, and lower child mortality. At this stage, birth rates fall and eventually balance the lower death rates. Falling birth rates coincide with many other social and economic changes, such as better access to contraception, higher wages, urbanization, commercialization of agriculture, a reduction in the value of children's work, and greater parental investment in the education of children. Increasing female literacy and employment lower the uncritical acceptance of childbearing and motherhood as measures of the status of women.

As birth rates fall, the age structure of the population changes again. Families have fewer children to support, decreasing the youth dependency ratio. But as people live longer, the population as a whole grows older, creating a higher rate of old-age dependency. During the period between the decline in youth dependency and rise in old-age dependency, there is a demographic window of opportunity called the demographic dividend: the population has fewer dependants (young and old) and a higher proportion of working-age adults, yielding increased economic growth. This phenomenon can further the correlation between demographic transition and economic development.

Stage 3: Falling birth rate and continuing falling death rate. The population growth slows down. Reasons for falling birth rate include preferences for smaller families (they cost less), changes in social trends and fashions, rise in materialism (e.g. one would rather spend money on expensive goods than pay for rearing more children), and lower infant mortality rate.

Stage 4: Low fluctuating, low birth rate, and low death rate. The population growth is small and fertility continues to fall. There are changes in personal life styles, and more women are in the work force; therefore fewer couples have children (they would rather advance their careers first).

Stage 5: Death rate slightly exceeds the birth rate. This stage, which is not depicted in Figure 6.2, causes population decline. This stage has been recognized only recently, and there are very few countries that are considered to be in Stage 5. Reasons for low birth rate include a rise in individualism, greater financial independence of women, lack of resources for future generations, and increase in non-traditional lifestyles.

6.6 Population projection

Development plans are designed to cater for future needs of the present and future population. As a result, the importance of future population estimates for countries attempting to plan their economic and social development cannot be overemphasized. There are numerous possible methods for calculating future population estimates. This section presents three of these methods which are considered useful for development planning (UN online).

Mathematical method. This method estimates the future size of a population by taking the number of individuals as determined at a more or less recent date in the past and by applying to it an assumed rate of increase, as a function of time. The rate may be derived from observations on the past growth of the population itself or by analogy with rates observed in other populations in similar circumstances. The calculations can be carried out directly with reference to the net rate of population growth; or the assumed birth rates, death rates, and rates of immigration and emigration may be calculated separately and added to obtain the rate of growth for each future period. The method is called 'mathematical' because emphasis is placed upon the formulation of equations to express the rates as functions of time, instead of on particular factors which may influence the trend during any specific period.

Economic method: Population growth can seldom, if ever, be expected to be completely independent of changing economic circumstances. Mortality and fertility are responsive to economic conditions. The same is true of migration: immigrants are attracted to areas of economic opportunity, while emigrants depart from areas where opportunities are more restricted. A projection by the 'economic' method is most obviously appropriate for an area subject to easy, unrestricted in-migration and out-migration. For example, take a situation where an important new industry is being established which will dominate the economy of an area. The assumed future capacity of this industry to absorb labour is then the primary determinant of population growth. To this amount of labour, a certain multiple must be added to represent dependants, as well as the additional workers in subsidiary industries (trade, services, etc.) who will be required in the expanding community.

Component method: The component method of population projection estimation is usually understood to consist in the separate projection of numbers of males and females in each age group of the population. Separate projections for each of several ethnic or linguistic groups, for urban and rural populations, or for any other segments into which the population can be divided,

may also be regarded as component projections. It is most convenient to project the population by time-intervals equal to the age-intervals into which the population has been divided. Thus, if the population is subdivided by 5-year groups of ages, the projection can most easily be made for 5-year intervals of time—that is, for the end of a 5-year period. Component projections of a population with respect to characteristics other than sex and age do not require any departure from the basic method. The procedures for the projection of any one population segment can very well be identical to those for the projection of the combined population.

To conclude the presentation on projection methods, it is argued that instead of looking for increased technology, planners are advised to make good use of the existing technology for making population projections. Several software programmes exist at various costs. Recently, USAID, through its health policy initiative project, has launched a Spectrum Software which, among other facilities, may be useful for population project and planning purposes. This software can be accessed for free by searching online for 'Spectrum' (for detailed explanations of the software, one may wish to refer to http://data.unaids.org/pub/Manual/2007/demproj_2007en.pdf)

6.7 Integration of demography in development planning

There is a close relationship between population growth and development. In the short run, the effects of population growth may appear marginal, but such growth sets into motion a cumulative process whose adverse impact on various facets of development may turn out to be very significant in the medium and long terms. This is because population variables influence the development and the welfare of individuals, families, and communities at the micro level, and the district, region, and nation as a whole at the macro level.

The effects and responses to population pressure interact at all these levels. Rapid population growth in situations of low economic growth tends to increase outlays on consumption, drawing resources away from saving for productive investment, and, therefore, it tends to retard growth in national output through slow capital formation. The strains caused by rapid population growth are felt most acutely and visibly in the public budgets for health, education, and other human resource development sectors.

Population and development influence one another. The influence may be positive or negative, depending on other factors and conditions. In the case

of Tanzania, the aforementioned demographic factors interact and create the following problems—at least in the short term:

1. The rapidly growing young population demands an increase in expenditure directed at social services such as education, health, water, and housing.
2. The rapidly growing labour force demands heavy investments in human resource development as well as development strategies which ensure future job creation opportunities.
3. Rapid population growth in the context of poverty reduces the possibility of attaining sustainable economic growth.

Therefore, development objectives should be specified in concrete, quantitative targets as socio-economic and demographic outcomes. For example, a principal objective may be to raise the overall level of employment. Educated youth unemployment may be another problem area such that a development objective may be to raise the growth of employment of teenagers. The success of such targeted goals to raise the activity rates of vulnerable social and demographic groups will enhance the goal of equal distribution of income. If demographic variables and outcomes are to be integrated in the planning process, a 5-year development planning time horizon should be employed. The integration process must entail a planning approach whereby a long-term perspective plan is first formulated which takes full account of broadly defined socio-economic and demographic interrelationships (as in Figure 6.2) and then formulates short- to medium-term plans consistent with this overall long-term perspective. Short to medium gains can then be assessed in terms of their long-term impact on the likely attainment of the development objectives.

The demographic processes of fertility, mortality, and migration determine the size, structure, and spatial distribution of the population (Table 6.3). The resulting demographic outcomes in turn affect the operation of socio-economic processes and help to determine the level of savings, investment, land and labour utilization, productivity, level of consumption of goods and services, public expenditure, and the amount of international trade and finance. For example, where fertility is high and population growth rapid, the resulting high rate of dependency is likely to lead to low savings and investment, particularly in more productive sectors, which will be shut out by the need to invest in social sectors. Population pressure on land and a rapidly growing

labour force imply low land and labour productivity and low wages. These, in turn, will help to determine the nature of the country's comparative advantage in labour-intensive goods for export and its need to import essential capital goods and equipment (Herrin *et al.* 1986).

Table 6.3

Integration of population variables in developing planning

<p>Population and related policies</p>	<p>1. Population process</p> <ul style="list-style-type: none"> • Fertility • Mortality • Migration • Urbanization 	<p>2. Population outcomes</p> <ul style="list-style-type: none"> • Population size and growth • Age-sex structure • Spatial distribution 	<p>Desired socio-economic demographic outcomes</p>
<p>Economic and social policies</p>	<p>3. Social economic development process</p> <ul style="list-style-type: none"> • Consumption of goods and services (food, health, education, housing, etc.) • Savings and investment • Human capital investment (labour) • Physical capital utilization (land, capital, technology) 	<p>4. Social economic development outcomes</p> <ul style="list-style-type: none"> • Income/income distribution • Employment • Educational status • Health/nutritional status • Environmental quality, etc. 	<p>Development objectives</p>

Source: Modified from Herri *et al.* (1989)

These socio-economic processes determine the socio-economic outcomes in terms of the level and type of output of goods and services, the level of remuneration and employment, education enrolments, health and nutrition status, environmental quality, and so on. And the circle is completed by these socio-economic outcomes in turn affecting and determining the basic demo-

graphic processes where we started. For example, low female education and participation in the modern urban sector of the economy suggest women's roles may remain traditional in some contexts, a situation conducive to continuing high fertility and low female status in society.

The identification and implementation of the set of development policies which affect the development outcome are quite important. Thus, policies must be formulated and implemented in a comprehensive and consistent, and not isolated, manner. Policies pursued in isolation will reduce the chances of achieving a country's overall long-term development objectives. For example, policies to reduce mortality 40 or more years ago were successful in the short term, yet resulted in rapid population growth in the decades that followed. This made it difficult for governments to meet the social needs for more schools, teachers, hospitals, drugs, and medical personnel, thus making the early gains in life expectancy and mortality reduction difficult to sustain over the longer term. Post-independence industrialization policies focused new activities in the capital cities of Africa, leading to continued urban migration, squatter settlements, growing urban unemployment and underemployment, and concomitant social problems.

The identification and implementation of the set of development policies which affect the development outcome are quite important. Thus, policies must be formulated and implemented in a comprehensive and consistent, and not isolated, manner. Policies pursued in isolation will reduce the chances of achieving a country's overall long-term development objectives. For example, policies to reduce mortality 40 or more years ago were successful in the short term, yet resulted in rapid population growth in the decades that followed. This made it difficult for governments to meet the social needs for more schools, teachers, hospitals, drugs, and medical personnel, thus making the early gains in life expectancy and mortality reduction difficult to sustain over the longer term. Post-independence industrialization policies focused new activities in the capital cities of Africa, leading to continued urban migration, squatter settlements, growing urban unemployment and underemployment, and concomitant social problems.

In planning, these issues are frequently encountered, particularly the issue of rural-urban migration that results in a breakdown of traditional values which have yet to be replaced by an appropriate set of modern values.

6.8 The National Population Policy

Tanzania adopted the National Population Policy in 1992. The principal objective of the population policy is to reinforce national development through harmonizing population trends with the development of other national resources in order to improve the quality of life of Tanzanians. This had to be achieved through making population issues the basis of national development planning.

As a consequence, Tanzania's planning system had to make population a key element in socio-economic development planning, through the integration of population variables (fertility, mortality, and migration) in development plans. In this context, integration means including in development plans measures to achieve development objectives through programmes and actions that will influence demographic variables within a given period. The envisaged planning institutional structure had the capacity to coordinate and to evaluate the national population policy programme of implementation (URT 1995). Furthermore, in June 1999, the government unveiled a new development vision known as the Tanzania Development Vision 2025.

The revised National Population Policy (2006) has the goal of coordinating and influencing other policies, strategies, and programmes that ensure sustainable development of the population and promote gender equality and the empowerment of women. The policy is implemented through a multi-sectoral and multi-dimensional, integrated approach. In this regard, the government collaborates with NGOs, the private sector, communities, and various agencies in implementing the policy. Indeed, individuals, political parties, and other organized groups in civil society are expected to play an active role to ensure the attainment of policy goals and objectives. The policy, therefore, sets out guidelines for addressing population issues in an integrated manner. It thus recognizes the linkages between population dynamics and quality of life on the one hand, and environmental protection and sustainable development on the other. Its implementation should provide a new dimension to development programmes by ensuring that population issues are appropriately addressed

Tanzania's population policy is silent on the number of children a couple should have. Some cultures and religions in Tanzania are sceptical on the issue of limiting the number of children. There are beliefs that counting children may cause death, and there are religious concerns that the world has to be filled. Therefore, the policy is careful to not infringe on people's beliefs

and concerns. However, one thing must be noted: the successful implementation of a population policy depends very much on other sectoral policies. For example, the employment policy recognizes, for the purposes of benefits, only four children for employed people. This implies that it is only employees, who are basically few in number, who are restricted with the number of children they should have.

6.9 Formulating a population policy

This section is intended to orient practically a development planner if he/she is thinking of developing a population policy in a particular area together with other stakeholders. There are two important things bear in mind: the qualities of a good population policy, and following clear steps in the formulation of a population policy.

6.9.1 Qualities of a good population policy

A good population policy requires a number of elements. It should aim to do the following:

1. Have clearly defined objectives and strategies in order to be effectively implemented
2. Ensure that the commitment of all actors in a society, the strengthening of legislative action in population and development, the strengthening of institutional mechanisms, and the availability of services are considered important factors for the successful implementation of population and development programmes
3. Involve fully the public and private sectors and the population at grass roots level in the preparation of the policy
4. Pay sufficient attention to the emerging demographic threats such as HIV/AIDS and the impacts of wars and civil strife. Different stakeholders should be made aware of such demographic threats in terms of their causes and possible consequences so that they can think of including mitigation measures in the policies.

6.9.2 Steps in population policy formulation

According to Ebot and Addo (1994), the following sequence of activities is considered to cover the principal steps in arriving at a population policy:

1. Set up appropriate institutional capabilities for the formulation, monitoring, evaluation, and review of population policy
2. Derive estimates and a projection of demographic characteristics and, in particular, translate the projection into socio-economic development indices. In Tanzania, for example, such projections can be found in the data from the National Bureau of Statistics (NBS), the Demographic Health Surveys (DHS), and census-derived reports.
3. Sensitize policy makers, civil and opinion leaders, and a cross-section of the population as to the consequences of the prevailing and projected demographic situation for the national, social, and economic development capabilities, using seminars, workshops, televised debates, or round-table discussions
4. Set up sectoral committees to study and review population issues related to their respective sectors, and draft sectoral population strategies to address these problems as necessary.
5. Constitute a population policy drafting committee to synthesize sectoral contributions into a draft population policy, containing preliminary specific targets on the various aspects of prevalent demographic situations to be responded to and/or influenced
6. Carry out sensitization activities on the draft policy with a view to subjecting the draft to a thorough critique by a cross-section of the population
7. Assess policy options on the draft policy and those proposed by the population vis-à-vis the overall socio-economic development strategy and within resource constraints
8. Incorporate feasible policy options into the draft policy and adopt them as goals
9. Operationalize the national population policy into action-oriented programmes
10. Proceed with implementation of programmes
11. Monitor and evaluate the programmes over time to assess differences between the actual and desired situation, and initiate adjustments accordingly in the programmes, to enhance attainment of the desired national goals.

Just as these are the steps to be followed when preparing a national population policy, similar steps can be followed in order to formulate a territorial

or community population policy. Every policy in Tanzania is housed somewhere. In the ministries, for example, there is a policy director in charge of policies in the respective ministry. As policies exist in even lower-level institutions, an office can be identified that should ensure that the policy is monitored and evaluated. For the formulation, task forces or committees are always created in order to take care of the different policy processes. A policy will always be formulated in a number of drafts and each draft discussed. Once a definite policy is arrived at, it can be approved by the jurisdiction in which it will operate.

Generally speaking, links among population, health, and the environment, for example, are acknowledged in national-level policies and development strategies, even though most development efforts continue to employ a traditional sectoral approach, aligned with the division of government services and institutional structures (Thaxton 2007). There are quite a number of sectoral strategies developed in Tanzania that attempt in one way or another to deal with population issues. Examples are the Third National Multi-Sectoral Strategic Framework for HIV and AIDS (2013/14–2017/18); the Livestock Sector Development Strategy of 2010; and the National Strategy for Growth and Reduction of Poverty.

6.10 General remarks

The main argument in this chapter has been that population is a target and means of development programmes. The vital role that population plays in development planning is quite challenging as a result of population's dynamism through fertility, mortality, and migration issues. Therefore, this chapter has provided an avenue for planners to grasp the ability to examine population dynamics in their planning areas, emphasizing the need to have accurate, up-to-date, and reliable sources of demographic data.

The effectiveness of the integration of population and development depends very much on committed personnel with an interest in the integration of population variables in development planning so as to capture population dynamism. Population policy is a development-leading policy, as people are the target and means in development planning. This being the case, development policies and strategies must be developed to ensure a balance between population growth and social and economic development. It suffices to say that population is the main focus of development programmes and should, therefore, be mainstreamed in planning processes.

References

- Association of Public Health Epidemiologists on Ontario (APHEO) (2011). *Dependency Ratio*. Ontario: Apheo.
- Central Intelligence Agency of America (CIA) (2014). *The World Fact Book*. <https://www.cia.gov/library/publications/the-world-factbook/>
- Columbia University (online). Demography and population studies: Mailman School of Public Health, Department of Population and Family Health. http://healthandrights.ccnmtl.columbia.edu/demography/demography_and_population_studies.html [Accessed 25 April 2015].
- Ebot, E. & Addo, N. (1994). National development planning and population policies in Africa. *PHRD Training Manual Series*, No. 2. Dakar, Senegal.
- Herrin, A.N., Pardoko, H., Ann, T.B., & Hongladarom, C. (1986). 'Integrating population in development planning', *Asian-Pacific Population Journal* 1(1): 49–74.
- International Organization for Migration (IOM) (2008). *World Migration 2008: Managing Labour Mobility in the Evolving Global Economy*. Hammersmith Press.
- Malthus, T. (1798). *An Essay on the Principle of Population*. London: Johnson.
- Swanson, D.A. & Tayman, J. (2012). *On Estimating a De Facto Population and Its Components*. San Diego: University of San Diego.
- Thaxton, M. (2007). Integrating population, health and environment in Tanzania. *Policy Brief in PRB's 'Making the Link' Series*.
- United Nations (UN) (2010). *Conference of European statisticians' recommendation for the 2010 Census Population and housing*. United Nations, New York and Geneva.
- United Republic of Tanzania (URT) (1995). *National programme for the implementation of the National Population Policy*. Tanzania, Dar es Salaam: Planning Commission.
- Van de Walle, E. (1982). *Multilingual demographic dictionary*. Belgium <http://www.poline.org/node/395049> [Accessed 25 July 2017].

PART II

Regional (micro)Development Planning in Tanzania

Regional (micro) Development Planning in Tanzania

In the processes of local area development, the collaborative efforts of various development actors—ranging from public to private, civil society, and other community actors—are very important. In places where these actors collaborate, economic development is expected to improve faster than where they work in isolation. This requires a kind of decentralization that goes beyond local decentralization to governance. This kind of decentralization will enable respective local areas to improve their territorial competitiveness and enhance people’s livelihoods, resulting in more territorial economic development. To achieve this, Tanzania planners should reflect this in their planning practices and understand the need to accept a paradigm shift from traditional government (purely technocratic) planning to practical governance (multi-actors inclusive) planning.

It is with this background that Part II of this Handbook is written to enable planners see where they stand and assess themselves in the changing context. This part focuses on five issues, the first two of which present a typical government planning process. This has been done deliberately—not to ignore that the role of the government has changed, but to acknowledge that such planning processes are more or less still practised in Tanzania. This will also help planners to see for themselves how far they stand from the reality and what a radical change they need to undergo. The first issue deals with the centrality of regional development planning, and here the concepts of region, regional development, and regional planning processes are explained. The second issue concerns planning at the local government level. This involves a presentation on institutional and legal frameworks for planning and budgeting and on issues to do with data collection systems and challenges. The third issue of critical importance presented in this part is local government and its relation to local economic development. The fourth issue discusses territorial livelihood and development. The fifth issue is how to finance local area development. Not only the context of investment and local economic development is crucial, but also the planning processes and funding options for public investment, together with the framework for planning and financing business development for local economic development.

7

Regional Development and Planning

George Kinyashi, Jane Mbilinyi, Africanus Sarwatt

7.1 Introduction

Regional development planning is considered a way of understanding the spatial process of development and as stimulating nation-wide development. This type of planning has gained popularity among governments of many developing countries since the 1960s. A presentation of some aspects of this type of planning will facilitate understanding of the way it is operationalized and hence improve the planning process and outcomes.

This chapter aims to elaborate the basic tenets of regional development and regional planning. The chapter underscores the distinction between regional planning and other kinds of planning. It is structured into five sections. After this introductory section, there follows a section on regional planning concepts, theories, and models for regional growth. Section 7.3 addresses regional development and planning. Section 7.4 presents methods and techniques for regional analysis and planning, and the concluding section presents an account of the regional planning process.

7.2 Concepts, theories, and models for regional growth

7.2.1 Region

The term 'region' does not have a straightforward definition, due to the wide use of the term in everyday life by every one of us. In many cases, the term 'region' is confused with the term 'area'. However, it is worth noting that an 'area' is an earth surface arbitrarily separated or subdivided into segments of various sizes, and such kinds of earth surface differ significantly from the

kind of space we call a 'region.' An earth surface is a region only if it is separated or delineated in terms of certain criteria.

A region can be viewed as an organic entity, and just as parts of an organism interact, regions are interrelated parts of a country, natural units, and self-contained in terms of geographical advantages, natural resources, soil conditions, and natural and man-made transportation routes (Hilberseimer 1949: 89). There is also a conviction that if a nation is considered to be a system, then regions are interacting sub-systems which are more or less integrated into the main system (Hilhorst 1990).

A region can be classified as 'a formal or a functional region.' A formal region refers to 'a geographical area which is uniform or homogeneous in terms of selected criteria,' and a functional region can be defined as 'a geographical area which displays a certain functional coherence, an interdependence of parts when defined on the basis of certain criteria. It is sometimes referred to as a nodal or polarized region and composed of heterogeneous units, such as cities, towns and villages' (Glasson 1978, cited in Kinyashi 2014). In the framework of these two classifications of a region, it is possible to identify several types of regions: administrative regions, which refers to regions delineated on the basis of administrative criteria; problem regions, which refers to places brought together because they are faced by similar problems; and ecological regions, which refers to regions defined by considerations of recurring pattern of ecosystems, associated with characteristic combinations of soil and landforms that characterize the regions. Others types are political regions and economic regions, which refer to regions defined by political and economic agreements, respectively.

Whether a certain type of region is classified as formal or functional depends on the criteria used to delimit it. For instance, if an administrative region is delimited based on homogeneous criteria, it will fall under the formal region classification; if otherwise delimited, it will fall under the functional region classification. One thing to note is that when an administrative region is large, the possibility to encompass heterogeneous units is greater. This suggests that even if a region is not primarily delineated on a functional basis, the number and nature of units brought together in such a region are likely to determine its functionality.

Of all the classes and types of regions, planners are interested in the type of region known as a planning region. This type of region is defined in a framework determined by formal and functional region categories, either in

combination or in isolation. A planning region is defined as ‘a geographical region suitable for the designing and implementation of development plans that deal with regional problems’ (Glasson 1978).

Hilhorst (1990) considers a region as (a) an operational tool in the hands of government, and (b) an analytical tool in the minds of scientists. As an analytical tool, the concept of region assumes that regional activities cluster in space, that decision makers seek each others’ proximity, and that the interaction of groups, organizations, and individuals related to regional activities shows a pattern that is regular enough to permit its observation.

That said, a region is an intellectual concept, an entity for the purpose of thought, created by the selection of certain features that are relevant to an area of interest or problem and by the disregard of all features that are considered to be irrelevant (Kinyashi 2014).

However, planners ought to recognize the fact that the definition of a region was important in the era in which regional development programmes were centralized and top-down, and when LGAs were not properly organized and given a mandate for developing their respective jurisdictions. Hence, for a top-down development programme the geographical delineation was an important activity. Nowadays, with LGAs properly installed and with a territorial development mandate for their jurisdiction, the question of delineating regions has become of secondary importance. It acquires a new focus in so-called landscape approaches which attempt to integrate and examine the different and competing uses of a determined territory—for example, water use for agriculture, urban areas, recreation, and nature reserves.

7.2.2 Theories and models for regional growth

A theory is a set of accepted facts that attempts to provide a rational explanation of causal relationships among a group of observed phenomenon; on the other hand, a model is a simplified version of an aspect of the real world. Both theories and models are aimed at facilitating understanding of the real world and at predicting events on the basis of past observations. Therefore, planners’ understanding of theories and models will improve their understanding of the socio-economic and environmental processes of their planning regions, and this understanding will place planners in a better position to structure and evaluate the development options available to them during the preparation of plans. There exists a considerable number of planning the-

ories, some of which have been presented in Chapter 1 of this Handbook. In this sub-section, we present those theories and models that are considered to have a close relationship with regional development. It should be readily apparent to anyone applying these theories that there are areas of overlap among many of them, thus pointing to the need for integration of theories when it comes to application.

7.2.2.1 Growth pole theory

The core idea of the growth pole theory is that economic development does not happen in the same way over an entire region; rather, it begins in a specific point known as a growth pole.

This growth pole is often characterized by a key industry around which linked industries develop, mainly through direct and indirect effects. The direct effects of this pole are created when the key industry boosts or stimulates investment in facilities that enable the key industry to succeed; that is to say, if a growth in production in the key industry stimulates production in the industries supplying it, then that industry has direct effects—known as backward linkages. Another direct effect is created when investment in the key industry encourages investment in subsequent stages of production; that is to say, when the availability of the output of the key industry makes the production of industries using that output possible, or when it provides goods and services to its customers, that industry is said to have direct effects—known as forward linkages. The indirect effects of a growth pole can involve the demand for goods and services by people employed by the key and linked industries, thereby supporting the development and expansion of economic activities such as retail businesses. The expansion of this key industry implies the expansion of output, employment, and related investments, as well as new technologies and new industrial sectors. In a way, a growth pole refers to a central location of economic activity, a point where economic growth starts and then spreads to surrounding areas, or an urban location where economic activity ignites growth and then spreads a better quality of life to the urban periphery.

The pre-condition for a growth pole to function is the existence of clusters of industries and agglomeration economies. Clusters are geographical concentrations of interconnected companies and institutions in a particular economic space. The expected impacts of growth pole development are increased investment (both public and private), increased job opportunities

and hence increased employment, increased construction of infrastructure, and an equalizing of the distribution of wealth and hence bringing about of economic growth and development.

A planner using this theory should, among other things, identify one or two poles proved to have potential for igniting growth to the rest of the region. Such criteria as location advantage, service centrality, evidence of agglomeration economies, infrastructure availability, and resources endowment are important considerations in the identification of such poles. Having identified these pole(s), planners should collect information on what is likely to be a key industry in these pole(s), and they should strive to identify an industry which has the greatest total number of linkages. Afterwards, their task will be to encourage or promote investment in such key industries.

Having done all this, planners are reminded that the key assumption of the growth pole theory with regard to regional development is that once investment is undertaken at the pole, development will overflow or trickle down to other parts of the region. This assumption has been heavily criticized because evidence has in fact proved the contrary: in many cases, the backward and forward linkages expected to boost economies of other parts of the region have turned into what is popularly known as the backwash effect. Therefore, planners applying this theory must be aware of this possible effect.

7.2.2.2 Cumulative causation theory

This theory asserts that in the context of 'cumulative causation', initial conditions determine the economic growth of regions in a self-sustained and incremental way (Kinyashi 2014). The theory further argues that increasing returns to scale produce clustering of economic activity within those regions that are first to industrialize. The process of growth tends to feed on itself through a process of cumulative causation. Although the regions that are not developed offer the advantage of low-wage labour to the region with a cluster of industries, these benefits tend to be offset by the agglomeration economies found in the regions with industries.

This theory holds the same assumption as that of growth pole theory: it assumes that the lagging-behind regions may benefit from growth of the regions with industries through 'spread' effects, resulting from the diffusion of innovations into a 'lagging' region and the growing export markets for lagging-region products. The difference between the two theories is that while

growth pole theory best operates at a micro-region level, the cumulative causation theory explains the situation at macro-region level. Cumulative causation theory considers the world as a system and countries as interrelated sub-systems (regions) integrated into the system.

Therefore, planners working under the conditions specified by the cumulative causation theory in lagging-behind regions are forced to promote export linkages with assumed market availability in the industrialized regions. Planners in such situations should take the same precautions as those working with growth pole theory, because in most cases the assumed benefits of the linkages between lagging-behind regions and industrialized regions tend to be offset by the backwash effects resulting from the flow of capital and labour from the lagging region into the industrialized region. As a result, regional economic inequalities will be the outcome. This implies that if the market is left to itself, there will be no positive trickle-down effects from advanced to poor regions; instead, there will be backwash effects. In a way, the theory advocates for strong government intervention to counteract the normal tendency of the capitalist system to create inequalities.

7.2.2.3 *Central place theory*

The main concern of the central place theory is to explain the reasons behind the distribution patterns, size, and number of cities and towns around the world. It is not a regional growth theory as such, but its explanations are useful in the planning of a region. This is because its explanations provide a framework by which the patterns, sizes, and number of cities and towns in a certain country can be studied. The theory argues that places are arranged in a hierarchical order based on their size and the goods and services they offer. Places that offer goods which are replenished frequently—such as food and other routine household items—are known in the theory as central places of low order; while those places that offer specialized items that are bought less often—such as automobiles, fine jewellery, and household appliances—are known as central places of high order.

The main assumptions of this theory are that no barriers impede people's movement to the central place; that people will always purchase goods from the closest central place that offers the goods for sale; and that whenever demand for a certain product is high, it will be offered in the closest central place—such that when demand drops, people have to travel to the high-order central place to purchase it. In addition, the 'threshold' is an important

concept in the theory; this is the minimum number of people needed for a central place business or activity to remain active and prosperous (Briney online).

The idea that low-order central places offer goods which are replenished frequently implies that because these items are purchased regularly, small businesses in small towns (low-order central places) can survive since people will buy frequently at the closer locations instead of going into the city (high-order places). The idea that high-order central places provide specialized goods implies that although such goods are bought less often, businesses selling these items can survive because high-order central places contain the threshold population required to support them.

Planners can benefit from this theory when they are assigned to advise public or private investment in their regions. They may encourage or discourage investment in a certain sub-region if they are satisfied that a threshold of concern has not been fulfilled.

7.2.2.4 *Export base model*

The main tenet of this model is that regional growth in local political, economic, and social institutions is largely determined by a region's response to exogenous world demand. This response produces growth in both the economic base, or export sector, and the 'residential' or non-basic sector, which exists only to serve the basic sector. The model seem to suggest that regions need not necessarily industrialize to grow, since a region's exports may consist of either manufactured goods, service-based goods, or agricultural goods. As regions grow, their economies become more diversified due to increases in local production to serve increasing local per capita incomes and the emergence of new industries serving export markets (North 1955). With the increasing diversity of regional export bases and the mobility of factors of production, production will tend to disperse across regions over time, and per capita incomes will tend towards interregional convergence.

Planners using this model are advised to promote export in sectors that have the greatest number of linkages with economic activities found in their regions. However, they need to be cautioned against the model's shortcomings, which include its overemphasis on exports (which in this case become a factor exogenous to the region); its assumption of perfect elasticity of supply (which may not be true in all cases); the possibilities for a region to be forced

to export raw material having low value (such that it may take a very long time for a region to benefit from the exchange); and the fact that the model ignores internal factors (such as local entrepreneurial activity and government development programmes).

7.2.2.5 *Lewis's model*

Lewis's model is based on the assumption that many lagging-behind regions have dual economies, with both a traditional agricultural sector and a modern industrial sector. The agricultural sector is assumed to be subsistent in nature, characterized by low productivity, low incomes, low savings, and relative underemployment. On the other hand, the industrial sector is assumed to be technologically advanced, with high levels of investment operating in an urban environment.

The model suggests that the modern industrial sector will attract labour from the agricultural sector. Since the level of labour productivity is so low in the agricultural sector, people migrating from this sector are assumed to have zero impact on agricultural production; instead, they will earn increased incomes and thus generate more savings to make funds available for entrepreneurs to invest. The model also assumes that the income generated by the industrial sector will be saved and re-invested to establish new industries, which will absorb more surplus labour from the agricultural sector. The ultimate assumption of this model is that the income from the industrial sector will trickle down throughout the regional economy.

Planners applying this model are supposed to view rural–urban migration as a positive phenomenon and thus prepare appropriate mechanisms to accommodate rural migrants in the industrial areas. However, they must be aware of the pitfalls of the model, which include the fact that it is not always true that the productivity of labour in the agricultural sector is zero. This is because during planting and harvesting, the labour requirement is critical to this sector. In addition, the assumption that there will be a constant demand for labour by the industrial sector is a fallacy, because technological advancement has in many cases resulted in reduced requirements for labour. Furthermore, rural–urban migration is usually greater than the industrial sector can provide jobs for. Finally, the assumption that trickle-down effects will occur is by no means guaranteed. This is because industrial owners and labour may decide to spend their income instead of saving it; and in such a situation, funds for investment and growth will not be readily available.

7.3 Regional development and planning

7.3.1 Regional development

Regional development has several dimensions, including social, political, cultural, physical, and economic development. Our focus in this sub-section is regional economic development, which is defined as the capacity of a region to produce and sell goods and services, and thus the capacity of its inhabitants to earn income (Polese 2007: 32-33). This is a process in which local governments or community-based organizations are engaged to stimulate or maintain business activities and/or employment (Blakely 1994, cited in Kinyashi 2014). Regional disparity exists when there are differences between regions in their capacity to provide earned income opportunities to their inhabitants or maintain business activities and/or employment. As a result, regional economic development policies always seek to reduce such disparities by finding ways to promote development in lagging-behind regions.

7.3.2 Regional planning

Regional planning is a type of planning that deals with designing placement of infrastructure and other elements across a region to facilitate functional interrelationships between internally homogeneous but mutually dissimilar sub-units. A planning region may include several towns, cities, or even parts of different countries. The keys to regional planning are the multi-sector, integration, and functional relationships between the sub-units of the region. The focus is to ensure that regional potentials are unleashed and that problems requiring regional attention are addressed. Having said this, planners need to note that just as we have distinguished a region from an area (refer to Section 7.2.1), regional development planning differs significantly from area development planning. While the boundaries of the planning region are determined by flow of people, goods, capital, information, and decisions, area development schemes do not deal with regions as defined by most regional planners.

Regional development planning, as planners tend to understand this term, is planning for the development of areas of human organization based on functional interrelationships between internally homogeneous but mutually dissimilar sub-areas. On the other hand, in area development planning, ho-

mogenous areas are usually 'carved out' of particular regions on the grounds that conditions and problems, such as street children, warrant a separate action programme. Although such 'amputations' can be of major assistance in addressing problems, planners working with such an approach cannot claim to have practised regional development planning. Regional planners must be aware of this shortfall, or else area development may stand in the way of regional planning proper. It suffices to say that area development and regional development are complementary, and both are important in a mature planning system (Van Raay *et al.* 1989: 466). However, a problem arises when area development planning is taken as a substitute for regional development planning.

7.4 Methods and techniques for regional analysis

Planners analyse regions to improve their understanding of socio-economic and environmental processes in order to structure and evaluate the development options that always exist in the preparation of plans. Many of the methods and techniques presented in this section already appear in the first version of the Tanzania Planners' Handbook; however, a few modifications have been introduced to make them clearer.

7.4.1 The geographic data matrix

The geographic data matrix is a basic regional statistical compendium which provides insight into a regional structure and its transformation. Compiling such a geographic data matrix, whereby each column represents a particular characteristic and each row a location or an area, should be considered the minimum for the region or district concerned. Once available, it will facilitate techniques intended, for example, to expose and understand intra-regional discrepancies and disparities (e.g. a meaningful comparison of locations becomes possible through selecting a number of indices indicative of development or lack thereof, and comparing these indices with what obtains outside the region or district through inter-regional analysis). Such comparisons may assist planners at the intermediate level(s) to better justify their case for support and allocations from higher levels of decision making.

In the preparation of the geographic data matrix, which is a kind of spatial analysis, the initial emphasis may be either thematic or holistic in orientation. Thematic spatial investigations will examine one particular trait (e.g.

soil) or a group of related variables (e.g. soil, rainfall, and cropping) in terms of their distribution over space. Holistic spatial analysis, on the other hand, aims at exposing the range of characteristics which determines the nature and distinct identity of places and areas. For planning, the two are mutually enriching and should evolve together.

7.4.2 Ecological complex analysis

Of considerable assistance to attempts at improving on the relevance, consistency, and coherence of analytical endeavours for (micro-)regional planning is an analysis of the human ecology of a community, be it a village, town, or region (Figure 7.1).

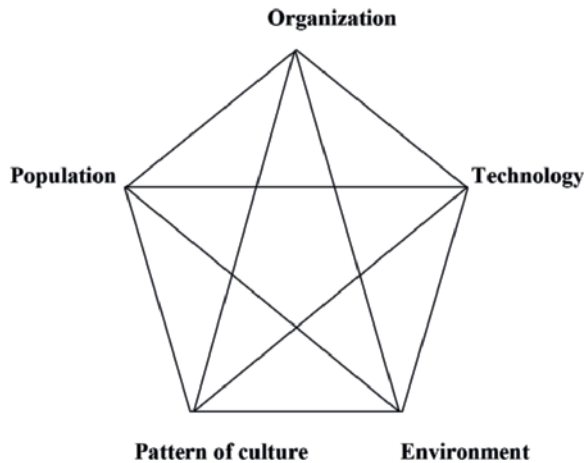


Figure 7.1
The ecological complex: Components and interrelationships

In this figure, Population refers to the number, density, age–sex composition, and activity structure of the group(s) of occupations. Environment refers to the natural attributes of the habitat which forms the natural resource base of the occupants, and to the man-made physical environment (i.e. the physical structure) which has over time been created to accommodate human occupancy. Technology refers to the knowledge and material means available to take advantage of resources. Pattern of culture refers to a specific whole of beliefs, knowledge, values, norms, ideology, customs, and practices. Organi-

zation refers to the social, political, administrative, and economic structures that have emerged to arrange for the efficient running of systems of local occupancies and their integration into systems of a larger scale. Accordingly, the general heading encompasses both a micro- and macro-dimension. As suggested by the figure, the five components are all linked together. They are interrelated in such a manner that a change in any one of them may affect all others and is likely to produce tendencies towards an overall adaptation. As would be expected, such change may or may not result in the restoration of a balance. It can thus be said that this specific ecological complex model presupposes a dynamic equilibrium.

The model provides for continual flux and tension, and in its application to planning something important is implied: the overall pattern of transformation, as constituted by a range of re-adjustments in response to internal and external changes, is unlikely to proceed haphazardly and chaotically. The ecological complex, as it is here perceived as a planning aid, thus has the attributes of being structured and dynamic in its functioning and of being open to external influences.

A final merit of this model relates to its possibilities as a unifying framework for interdisciplinary efforts. It is common knowledge that man, society, culture, and environment should be viewed in conjunction; they affect each other intimately and evolve together. However, the rigorous conventional separation into many specialized fields of study has tended to render any one of them in isolation incapable of grasping fully the complexity of a given situation. The ecological complex model attempts to break through this unfortunate fragmentation of efforts in a logical and comprehensive fashion. As such, it is believed to possess considerable scope as a methodological guide to a functionally integrated analysis of present reality, a guide that can be readily adapted to planning needs.

7.4.3 Homogeneity analysis

Homogeneity analysis refers to the process of delineating a region based on homogeneous criteria. A homogeneous region is understood as an area that is sufficiently uniform to permit generalization. At the same time, a homogeneous region is sufficiently different from the surrounding areas to justify its becoming separate. A focal or functional region is defined in terms of dissimilar elements which are united in having a common focus on an area of hu-

man organization on the grounds of the focal (functional) interrelationships between internally homogeneous but mutually dissimilar sub-areas.

Both forms of delineation, homogenous and focal, are essential. However, focal delineation has a greater operational value for regional planning. By defining spatial patterns of human organization and interaction, the spatial spheres of action and the vertical relations between levels may at once be identified. Planning regions, provinces, administrative districts, school districts, and so on are pertinent examples.

Although a district planner's responsibility relates to a basic administrative unit, attention needs always to be paid to the internal differences and variations that are implied. Any district is far from homogeneous. Because of this variation, prescriptions are likely to affect the constituent parts in quite different ways. The more the internal heterogeneity, the more the district must be treated as an aggregate of smaller units. Significantly, a district can be homogeneous in certain terms (e.g. use of Swahili), but quite heterogeneous from other points of view (e.g. population density, land use). Further regionalization of the district is necessary to identify sub-units which are similar regarding certain variables. The choice of variables depends on the clarification the analysis sets out to produce.

Depending on the number of variables involved, the level of complexity of the regionalization process will vary, ranging from plotting the values of the observations at different locations all the way to multivariate techniques, such as cluster analysis.

7.4.4 Functionality analysis

Based as it partly is on politico-administrative criteria, the 'raw material' for regionalization is to some extent pre-defined. But there is more. Any district accommodates many villages, a few towns, and perhaps one or two small or intermediate-size cities. Besides the size of these settlements, what other differences can be considered relevant to the description of the spatial structure? We know from experience that the size of settlements is somehow related to the economic activities that are performed within them (e.g. manufacturing) or in their hinterland (e.g. agricultural production). Other functional characteristics that differentiate settlements from each other include services. There are several methods that can be used to identify settlement structures and their hierarchies. A useful common technique derived from

Guttman's (1950) scalogram provides a first-hand classification of settlements and an indication of their level in the hierarchy of functions.

7.4.5 Settlement typology analysis

Because of specialized developments that have gained momentum in recent times, a classification of urban settlements is usually required that goes beyond central place analysis and makes allowance for the complete range of urban functions. A fairly simple method is to employ letter symbols for the various types of economic and social activities, such as the following:

Ma	=	Manufacturing	RT	=	Retail Trade
T	=	Transportation	Mi	=	Mining
E	=	Education	Me	=	Medical
R	=	Recreation	F	=	Financial Services

Subsequently, the employment statistics for each activity are examined and the three leading categories are listed. A refinement can be obtained by considering the differentials from the national or regional averages. By selecting the most positive differentials, the distractive economic activities within the urban system as a whole can be shown. The standard deviation may also be employed for this purpose.

If a settlement's employment in retail trade, for example, is equal to the regional average plus the standard deviation, then retail trade is not listed as a distinctive feature for that particular city. But if it exceeds the regional average plus the standard deviation, then it qualifies for inclusion in the list of major categories. The procedure is then as follows: Suppose the standard deviation is 3 and the city exceeds the regional average by two standard deviations, then that city is classified as RT2 (retail trade). A city that exceeds the average deviation in no activity by so much as a single deviation would be characterized as D (diversified).

7.4.6 Rank-Size Analysis

It is a well-known fact that the higher the size category, the lower the number of settlements in that category. This has prompted some scholars to formulate

the rank-size hypothesis or rule. According to this, a city will assume a size roughly equal to the population of the largest city divided by the city's rank in the region. If the rank-size rule holds exactly, the population of, for example, the fourth-ranking city is one-quarter of the population of the first-ranking city. We could express this by the following formula:

$$P_x = \frac{P_y}{R_x}$$

where

P_x = the population of the city ranked x

P_y = the population of the largest city

R_x = rank of city x

This basic formula is often modified by a constant (b) to allow variations from the basic rank-size rule. For example:

$$P_x = \frac{P_y}{(b)R_x}$$

Thus, when the largest city (the so-called primate city) has a population of 1,000,000 and $b = 0.5$, we can expect the fourth-largest city to be 500,000. If b is raised to 1.0, then the population of the fourth city will be smaller: 250,000.

Clearly, when the population of central places is documented more adequately than the rank (as is often the case in rural areas in the developing world), the formula reads:

$$R_x = \frac{P_y}{P_x}$$

Although this rank-size hypothesis oversimplifies the matter, it is obvious that the number of functions and the population size of a central place are related. The number of service functions found in a central place increases with the size of the central place, but at a decreasing rate. To appreciate this, reference should be made to the threshold concept. The threshold can be defined as the minimum number of people or level of demand required to support one establishment of a functional type. Obviously, it takes many more

people to support an additional establishment of the same functional type than it does to support the first. This is because the threshold value indicates the minimum number of people it takes to support one establishment, and therefore the establishment can handle more than this minimum number. A technique for determining the threshold values for particular functions is the construction of a scatter diagram, as this provides a method for estimating the average value of a set of data obtained from several places.

7.4.7 Settlement pattern analysis

Settlement pattern analysis concerns the spatial distribution of settlements. In the study of settlements over wide areas, traces become difficult to use, and it is often impossible to analyse the scatter of settlements by inspection alone. It becomes imperative to devise some means of quantitative analysis of the settlement pattern. Planners have long concerned themselves with the problem of evolving formulae for this purpose. In considering dispersion and concentration of settlements, a number of variables have to be considered. These include the following:

1. Number of settlements
2. Number of houses in each settlement
3. Size of the population in each settlement
4. Area of the region served by each settlement
5. Distance between settlements

No one formula has ever been satisfactorily devised which will take all these variables into consideration; but a number of indices, in which two or three variables are involved, may be used to map certain distributional aspects. A selection of these indices that seem to hold promise for areas where data are at best deficient may be briefly considered here.

Since information about number of inhabitants and houses is often yielded by census returns, the average size of settlements as determined by inhabitants or houses may be obtained from the formula:

$$\frac{\text{Number of inhabitants or houses in selected area}}{\text{Number of settlements in selected area}}$$

Obviously, this index says little about dispersion or concentration. Results may even be misleading. Some idea of settlement dispersion may be deduced from the formula:

$$I = \frac{S}{H}$$

Others have argued that concentration of settlements is a function of the number of houses in each settlement (H/S) and of the number of settlements in a given area (A/S). Considering both functions, the index of concentration (C) is obtained:

$$C = \frac{H}{S} \times \frac{A}{S} = \frac{HA}{S^2}$$

It has been shown that settlement concentration can also be derived from settlement traces that have been gridded with a network of 25 sq km. Two formulae present themselves:

(a) Mean value of concentration:

$$\frac{As}{S}$$

where

As = area occupied by the settlements in sq km

S = number of settlements

(b) Coefficient of concentration:

$$\frac{A}{As}$$

where

A = area of one square (25 sq km)

As = area occupied by settlements (including gardens)

All these measures have the serious shortcoming that the crucial aspect of the patterns of settlement (i.e. the distance between settlements) is not touched upon. The best measure of dispersion between settlements—or, for that matter, between all sorts of elements (farmhouses)—is their distance from one another.

7.4.8 Network analysis

Central places should be readily accessible. Since functions are concerned which serve a population well beyond the limits of the city, the network of external linkages becomes very important. In addition to opening up the direct rural surroundings, these external linkages also embrace central places of different rank in the central place hierarchy.

Network analysis scrutinizes the physical system of routes between places (nodes) along which movement can take place. Two common and related concepts in network analysis are accessibility and connectivity. They express the ease with which a location may be reached from other locations and therefore summarize the relative opportunities for contact and interaction. Therefore, both accessibility and connectivity can be used as important measures for the efficiency of central place systems and have accordingly been awarded a central role in much classical and modern location analysis.

A simple measure of accessibility is the accessibility index, which for any selected node represents the sum of distances from it to all other nodes. Distance can be measured in kilometres, cost (cost-distance), time (time-distance) or any other relevant term. The sum of the accessibility indices for all nodes (taken as it stands or divided by the number of nodes) provides a measure of the overall accessibility within the network/area. The resulting index is called the dispersal index; the smaller the index, the more accessible places are to each other.

The concept of connectivity measures the degree to which the nodes of a network are directly connected to each other. More generally, it indicates the degree of internal connection in a transport network. The higher the ratio between links and nodes, the greater the connectivity and accessibility within the network. A relatively simple technique to assess connectivity in a transport network is the beta index. It is calculated as follows:

$$\text{Beta index} = \frac{L}{N}$$

where

L = number of routes or links

N = number of nodes or places in the regional system

This index then expresses in a numerical form the ratio between routes and places. A score below unity indicates that considerable detours may be required to go from one centre to another. When the index equals unity, this still may be so but to a lesser extent. Values above unity indicate a progressively more dense and complex network.

7.4.9 Measurement of area and distance

In regional analysis it is often essential to measure the area under investigation with a fair degree of accuracy, particularly so since we often have to concern ourselves with non-administrative units. In this case, the use of Geographical Information System (GIS) software is recommended.

7.4.10 Spatial interaction analysis

Spatial interaction analysis studies the relationship between points in space in terms of the movement of commodities, goods, people, information, etc. between the points (spatial flow studies). It emphasizes the interdependence of places and areas. Spatial interaction falls off with distance. One of the simplest and most common ways of describing curves that relate flows and distance is as follows:

$$F = aD^{-b}$$

where

F = the flow

D = the distance

a, b = constants

Spatial analysts are especially interested in the value of the constant b. Low b values indicate a curve with a gentle slope with flows extending over a wide area, whereas high b values indicate a sharp decrease with distance so that flows are confined to a limited area. Research findings have shown b values ranging from as low as 0.4 to as high as 3.3. The mean value for all the studies was just below 2.0. This figure would suggest the following:

$$F = aD^{-2}$$

That is, spatial interaction apparently falls off inversely with the square of distance. For example, the size of a flow at 20 km is likely to be only one-quarter that at 10 km. This inverse-square relationship is analogous to that used by physicists in estimating gravitational attraction. The universal law of gravitation states that two bodies in the universe attract each other with a force directly proportional to the product of their masses and inversely proportional to the square of their distance. These principles of mass and distance and their relation have been applied by regional analysts in spatial interaction analysis and spatial flow studies—for example, in the field of demarcating trade areas and consumer markets and predicting flows between places and regions.

Gravity model to estimate flows: Gravity analysis, sometimes referred to as the population potential of a point/location, indicates the proximity of points within a certain area to the aggregate population of that area. This measure has found wide application in evaluating locations from the viewpoint of access to consumer markets. It is calculated as follows:

$$G = n \sum_{j=i} (P_j / d_{ij})$$

where

G = gravity or population potential of point i

P_j = population of point j

d_{ij} = distance between points i and j

n = number of points in the area

The population potential of point i is calculated by taking for all other points the population divided by their distances to point i and then summing up all these ratios. In a nutshell, this indicates that trade between two cities is a function of their size and the distance between them.

7.4.11 Natural replacement measurement

Current demographic changes are most readily assessed by comparison of the crude birth rate (expressed as the number of children born per 1,000 of the population) and crude death rate (the number of deaths per 1,000 of the population). This is not a very useful index, however, because variations in the age and sex structure are not taken into account. Excess of births over deaths is also a deceptive measure of replacement. Many countries with a surplus of births over deaths may not actually be replacing their populations.

For example, it may happen that a population increase is being maintained merely because older people are surviving longer.

Population replacement can be effectively measured only if a whole generation is put to the following test: Are fertility and mortality in a population such that a generation, permanently subject to them, could during its own lifetime produce enough children to replace itself? Preferably, such a test should be devised to consider only female births. If a generation of mothers is successful in producing exactly the same number of mothers in the second generation, then it could be said to be exactly replacing itself.

7.4.12 Population density measurement

Density is a useful concept because it expresses the number of people in terms of unit of land (square miles, square kilometres, or any other measurement unit). It provides a quantitative expression of the man–environment relationship. The simple or crude density rate especially is very popular—that is, the total population of an area, province, country, or continent as related to its surface. It is, of course, convenient to have such overall densities at hand since they give an indication of the distribution which is readily understandable to anyone. From the regional planning point of view, however, such densities are not very meaningful. Overall densities are an average of extremes, and extremes reflect different sets of physical and cultural conditions. Generally, the larger the area, the less accurate the impression created by these crude figures.

7.4.13 Other methods and techniques

Other methods and techniques which are useful in regional analysis include the following:

1. Population and population density projection
2. The Lorenz curve
3. Location quotient
4. The coefficient of localization
5. Carrying capacity
6. Potential matrix.

Worth mentioning here also are methods and techniques which planners may use in planning. These include the following:

1. Problem tree
2. Objective tree
3. Stakeholders analysis
4. Sieve analysis
5. Threshold analysis
6. Compatibility/conflict matrix
7. Planning balance sheet
8. Goal achievement matrix
9. Delphi method
10. Scenario writing.

7.5 Regional development planning processes

Regional development planning, just like other types of planning, has three main phases (Rodgers 1984): Phase I is situation analysis, which consists of data collection and preliminary analysis. It culminates in an interim report that spells out a preliminary development strategy and project ideas for stakeholders or decision makers to consider. Phase II is plan design, which involves project formulation and preparation of the action plan. Phase III is the planning for implementation, monitoring, and evaluation; this phase focuses on preparing a detailed operational plan and setting a monitoring and evaluation framework.

Details on how each of these three phases is operationalized follow below.

7.5.1 Phase I: Situation analysis

In conducting situation analysis, planners are expected to perform data collection, conduct natural resources survey, perform data integration, focus on areas with highest development potential, identify and resolve conflicts, conduct an inventory of existing plans and projects, identify new project ideas, and prepare a preliminary regional development strategy.

7.5.1.1 *Data collection*

In the process of collecting data, planners must ensure the following:

1. Data answer specific questions about development potential and problems, as well as generate project ideas.
2. Data collection is undertaken in conjunction with existing national institutions, where possible.
3. Participatory data collection tools are incorporated to draw on the practical experience of the local population.
4. Project ideas are identified during data collection. This is because project opportunities identified during fieldwork and checked with local people are more likely to fit local conditions than projects identified subsequently through data interpretation.
5. Description is kept to a minimum, and analysis is emphasized. This is because descriptive writing is easier than analysis, especially analysis involving several disciplines, but far less useful to decision makers.

7.5.1.2 *The natural resources survey*

The survey is conducted in recognition of the fact that a realistic assessment of the resource base is fundamental to any development planning effort. Therefore, resource survey specialists should be involved in this exercise. With the use of modern satellite imagery and Remote Sensing techniques, this specialty should be requested to produce maps with an analysis with reasonable accuracy of, inter alia, geology, geomorphology, soils, natural vegetation, and land uses.

7.5.1.3 *Data integration*

Due to its multi-spectrum nature, regional development planning requires data of various types. This means that different experts need to be involved. With such involvement, the data collected need to be integrated from the very beginning of the exercise to avoid confusion along the way. Some data integration techniques include the following:

1. Specifying in the terms of reference for each professional not only the problems to be addressed but also the other team professionals with whom cooperation will be necessary
2. Ensuring that all professionals know what their colleagues are doing and why

3. Using maps to synthesize the final products of sectoral investigations
4. Using specialists from integrative disciplines such as regional planning as team leaders
5. Using matrixes and other forms of systems analysis to illustrate significant points of development interaction within a region.

7.5.1.4 *Focus on areas with highest development potential*

The general approach to an area depends on its size:

1. In very large areas that are physically, socially, and economically diverse, delineate 'programme regions' for immediate development. To diagnose the region and identify its distinctive sub-regions, two kinds of criteria are used: government objectives and priorities for the study area (including export production targets, employment goals, and the like); and a profile of the region's productive capacity, employment levels, social services, and other definitive characteristics.
2. In smaller regions with variable potential, determine priority areas initially on the basis of physical characteristics.

7.5.1.5 *Identification and resolution of conflicts*

A fundamental message aspect of analysis is that environmental issues must be dealt with as early as possible during planning to avoid unnecessary conflict in the development process. In order to deal with these issues, planners must:

1. Look for interactions within and among ecosystems.
2. As part of the modelling exercise, identify the natural goods, services, and hazards of each major ecosystem.
3. Include even the smallest interest groups' concerns in the analysis.
4. Resolve conflicts through project coordination, negotiation between parties, and third-party mediation.
5. Seek a strategy that will promote an equitable and just distribution of the costs and benefits of development. A plan or strategy that does not do this merely postpones conflicts.
6. Take a neutral view of potential conflicts in resource use but highlight the conflicts so as to facilitate decisions.

7.5.1.6 *Inventory of existing plans and projects*

It is impossible that there has never existed any plan in the planning region; therefore, during the analysis phase, the planning team must take account not only of what exists on the ground but also of what is already planned. The development context of a region is as important as its resources and population dynamics. Making an inventory of existing plans and projects is exceedingly important, but it can be overwhelming. Some tips on how to avoid problems include the following:

1. Identify all significant development plans and projects in the region, no matter what agency—public or private—is involved, but collect detailed information only about those that serve or contradict the proposed development objectives.
2. Organize planned projects in a time sequence and avoid including projects that fall outside the time horizon of the study.
3. Be sure to identify projects with high-level political support that have already gained momentum.

7.5.1.7 *Identification of new project ideas*

A key objective of Phase I is to identify new project ideas based on the analysis of socio-economic development needs and development potentials. Project ideas need not be comprehensive at the outset, since only a few will eventually be selected for full-scale elaboration during Phase II. Some practical guidelines for project identification include the following:

1. Compare information on natural resource development potential with existing uses of resources to identify project ideas.
2. Analyse population growth and projected demands for economic goods and services as new project ideas are generated. Particular care should be taken to project needs for social services.
3. Interview local people during field studies in Phase I as a means of identifying new project ideas.
4. Determine which needs are being partially or fully satisfied by available natural goods and services, and how. Projects that improve or protect these amenities may be significant for the development of the region.
5. Identify a small number of projects suitable for immediate implementation. Such projects should be pushed forward to implementation long before the study is complete.
6. Involve the private sector early on to facilitate prompt action on promising investment projects.

7.5.1.8 *The preliminary regional development strategy*

Phase I concludes with a formal report that is usually published in limited quantities. The report contains the results of the development diagnosis, the preliminary regional development strategy or options, and abbreviated descriptions of the projects required to implement the strategy. Some practical guidelines for a preliminary strategy are as follows:

1. Present alternative development strategies. Phase I involves careful analyses of socio-economic conditions, as well as surveys of physical and human resources. Alternative development strategies become evident when all these variables are analysed. Therefore, at least three alternatives—each with a different level of investment—should be presented.
2. Carefully link the preliminary development strategy to national goals and priorities. The national goal of integrating regions should be given particular attention in formulating a strategy for a region.
3. Include in the preliminary strategy only those sectors and sub-regions that have significant problems or potentials for development and for which development action has a reasonable possibility of success. The strategy should provide the basis for concentrating effort and should avoid the comprehensiveness of some forms of traditional development planning.
4. Express initial strategies succinctly and clearly. When the strategy is clearly described and agency responsibilities are clearly spelled out, decisions by government or stakeholders will be greatly facilitated.
5. Allow government agencies or stakeholders adequate time to evaluate the proposed strategy and projects.

7.5.2 Phase II: Plan design

In designing a plan, planners are expected to formulate projects based on criteria, develop clusters of projects, and develop an action plan.

7.5.2.1 *Project formulation criteria*

Since not all projects identified in Phase I will be fully formulated in Phase II, there is a need to develop some considerations to guide project selection. A few practical considerations are as follows:

1. Consider the probable source of financing for each project from the outset—whether it will be a government agency, the private sector, or an international lending agency.

2. When private sector financing is contemplated, identify possible investors early. Taking this step can substantially reduce the later costs of project preparation. With government knowledge and participation, private sector interests can be consulted from the outset and persuaded to shoulder part or all of the costs of investment project formulation.
3. When a government agency will be involved in implementation, invite it to join in project formulation.
4. Perform stakeholder analysis and consult the intended beneficiaries of development projects early in project formulation so as to avoid some unpleasant surprises later. Support from landowners and other intended beneficiaries may be critical to later implementation efforts.
5. Give special attention to projects that make use of technologies and practices already being utilized in the development region. Projects based on both are likely to be implemented promptly and with relatively predictable results.
6. Formulate the projects that governments have designated as high priority.

7.5.2.2 Developing clusters of projects

Although development activity is the goal of regional development planning, the planning process itself focuses largely on the identification and formulation of clusters of coordinated and mutually reinforcing development projects. Clusters of interrelated projects can, for example, connect agricultural-production and forestry-development projects to roads, telecommunications, and other infrastructure projects aimed at linking producers to markets. Nowadays, these projects need not all be financed from the government budget but may be financed by private sector sources or by public-private partnerships.

Similarly, clusters of projects can link production to health and education projects and other basic services. Industrial and agro-industrial processing projects in the clusters can guarantee that an area does not merely export raw materials. The key to successful integrated development is coordination and timing. More specific actions to take are the following:

1. Where appropriate, keep development areas or zones small enough to permit the formulation of clusters of projects for integrated regional development.
2. In clusters of projects, balance investments in production, infrastructure, and social services. Production projects should generate the wealth required to support the social services.

3. Ensure that the overall benefits of a cluster of projects justify the costs. If some projects have a marginal internal rate of return, others in the cluster must compensate.

7.5.2.3 *The action plan*

The action plan is the framework and rationale for the projects that are finally recommended. It contains an investment timetable that shows the interrelated projects over time and in relation to supporting activities. Policy recommendations constitute an important part of this plan. In the preparation of an action plan, one needs to do the following:

1. Prepare action plans that contain both a set of projects and programmes and a short-term investment programme with a timetable that clearly shows the sequence of actions required for efficient implementation. Timing of the execution of interrelated projects is particularly critical.
2. Include project maps that show the physical location of all recommended projects within the region. Such maps are very useful for illustrating the spatial strategy of the action plan.
3. During preparation of the action plan, evaluate each proposed project or action in terms of its physical resources and its economic, social, cultural, administrative/institutional, and spatial implications.
4. Evaluate the set or clusters of proposed projects using the same approach as above. In the process of producing this combined evaluation, project modifications that will strengthen the impact or mitigate undesirable effects of the cluster as a whole often suggest themselves.
5. Create a project-evaluation framework that will help decision makers analyse the action plan. Since decision makers have different interests and orientations, action plans should contain evaluation tools that reveal and appeal to these interests.
6. Examine the conclusions drawn from the analysis of the region for their applicability to other areas.

7.5.2.4 *The final report*

The final report, although not the end goal of regional planning, is a key product. Usually it should contain a summary of the analysis phase and a presentation of the proposed strategy and the action plan (Phase II), with the set of recommended projects in abbreviated form. Some tips on report writing include the following:

1. Keep the final report short. Use annexes for detailed sectoral reports if they are required.
2. Use maps to present important data, analyses, and conclusions. Well-prepared maps can portray a large quantity of information and sharply reduce the amount of text.
3. Produce Phase I reports to force the early integration of data and present well-reasoned preliminary conclusions.
4. Produce ample quantities of the final report.

7.5.3 Phase III: Plan for implementation, monitoring and evaluation

Important considerations in Phase III include the following:

1. Soliciting funds for a project's implementation
2. Project appraisal by potential financial agencies of decision makers
3. Establishing implementation, management, organizational, monitoring, and evaluation procedures
4. Establishing a mechanism to keep the project clusters from falling apart. A constant battle in regional development is that against the tendency of carefully integrated project clusters to fall apart. Usually, when the planning authority is decentralized or weak, sectoral agencies tend to pay scant attention to the grand design and select projects that meet narrow, preconceived needs.

7.5.4 Role of regional planner in a planning team

A regional planner has a number of roles to fulfil:

1. Coordinate professionals' activities as specified in the work plan, staying alert to the potential need to modify the plan as a result of delays and other factors.
2. Promote the exchange of ideas and information among team members.
3. Resist sectoral, academic, and other one-dimensional points of view.
4. Develop a thorough understanding of the political factors influencing the study, but stop short of playing out a political agenda.
5. Encourage and lead negotiations between proponents of conflicting proposals or activities.
6. Coordinate the team's work with the objectives, goals, and activities of other agencies and groups working in the region.

7.6 Conclusion

In this chapter, four issues have been discussed: the concepts, theories, and models for regional growth; regional development and planning; methods and techniques for regional analysis and planning; and the regional planning process. The main aim has been to elaborate the basic tenets of regional development and regional planning—in particular, how regional planning differs from other kinds of planning.

References

- Glasson, J. (1978). *An Introduction to Regional Planning*. London: Hutchinson & Co. Publishers Ltd.
- Guttman, L.A. (1950). 'The basis for scalogram analysis', in: S.A. Stouffer, L.A. Guttman & E.A. Schuman, *Measurement and Prediction. Volume 4 of Studies in Social Psychology in World War II*. Princeton: Princeton University Press.
- Hilberseimer, L. (1949). *The New Regional Pattern: Industries and Gardens, Workshops and Farms*. Chicago: Paul Theobald & Co.
- Hilhorst, J.G. (1990). *Regional Studies and Rural Development*. Avebury: Brookfield.
- Isard, W. (1975). *Introduction to Regional Science*. Cambridge, MA: MIT Press.
- Kinyashi, G. (2014). Traditional work ethic in a changing context: Rationale and implications for regional development in Tanzania: Available at <https://eldorado.tu-dortmund.de/handle/2003/33796> [Accessed 2 May 2015].
- North, D.C. (1955). 'Location theory and regional economic growth', *Journal of Political Economy* 63(3): 243–258.
- Polese, M. (2007). 'From regional development to local development: On the life, death, and rebirth of regional science as policy relevant science', in: D. Plane, L. Mann, K. Button & P. Nijkamp (eds) *Regional Planning*. UK: Edward Elgar Publishing Limited.
- Rodgers, K.P. (1984). *Integrated Regional Development Planning: Guidelines and Case Studies from OAS Experience*. Washington, DC: Department of Regional Development Secretariat for Economic and Social Affairs Organization of American States.
- Van Raay, H., Dolman, A. & Kazi, C. (eds) (1989). *Tanzania Planners' Handbook: A Guide for Regional and Rural Development Planning*. The Hague: ISS.

8

Planning at Local Government Level

Israel B. Katega, Andrew Komba, Aisha Mjegere, Gulliver Simime

8.1 Introduction

In Tanzania, planning at the local government level can be traced back to when Local Government Authorities (LGAs) were established during the years of German and then British rule. From independence to date, the country has gone through several reviews and re-establishments of planning, with some changes based on identified weaknesses in planning. Currently, Tanzania's local government system is based on political devolution and decentralization of functions and finances within the framework of a unitary state. Local government is responsible for facilitating socio-economic development and public service provision within the area of jurisdiction and, in addition, for the facilitation of the maintenance of law and order (Local Government Reform (URT 1998)).

This chapter aims to present the processes involved in planning at local government level. The chapter presents in the second section issues regarding the local government structure. In the third section, there is a presentation on functions of local government, followed by section four on local planning approaches. The fifth section, which presents local government data collection systems and challenges, is followed by a section on local government planning processes and the budget cycle. The chapter ends with a summary.

8.2 Local government structure

8.2.1 Local government legal framework

The structure, function, and management of LGAs in Tanzania can be traced back to the colonial era. The current local government system was designed according to the British model of local government. This is a system that operates under the principle of decentralization by devolution, which usually refers to the transfer of responsibilities for services to the district or municipal councils, which in turn elect their own councils and raise their own revenues. However, in practice, decentralization by devolution in Tanzania operates in a semi-autonomous manner.

LGAs in mainland Tanzania derive their mandates from the Constitution of the United Republic of Tanzania (URT 1977). Article 245(1) of the Constitution establishes LGAs in each region, district, urban area, and village in the United Republic, which should be of the type and designation prescribed by law to be enacted by Parliament in Mainland Tanzania or by the House of Representatives in Zanzibar. LGAs in Zanzibar are guided by the Zanzibar Constitution of 2006. Chapter 12 Article 128(1) of the Zanzibar Constitution states that there should be LGAs for every region, district, and area.

The consequences of the two constitutions (United Republic of Tanzania, and Zanzibar) are that LGAs in mainland Tanzania and Zanzibar have been given a mandate to exist and autonomy as prescribed by law. In Tanzania mainland, the existence of local government formations is prescribed by a corpus of laws enacted in 1982. These laws include the Local Government (District Authorities) Act No. 7 of 1982, which explains the formation of District Authorities; the Local Government (Urban Authorities) Act No. 8 of 1982, which explains the formation of Urban Authorities; the Local Government Finances Act No. 9 of 1982, which explains the legal framework for LGA finances; the Local Government Service Act No. 10 of 1982, which explains the type and scope of services to be provided by LGAs; and the Local Government Negotiating Machinery Act No. 11 of 1982, which indicates the mandate and procedures for negotiations within LGAs' area of jurisdiction.

There are two types of local authorities in both Tanzania mainland and Zanzibar: urban authorities (cities, and municipal and town councils), and rural authorities (district councils). The latter type incorporates small towns (township authorities), as well as village councils. The councils operate in

hierarchical order. A district council goes down through a ward, under which exist village governments and finally hamlets (vitongoji), in which the chairperson, some elected persons from the villagers, and the village technocrats form a village council. An urban council runs down through a municipality (if the top structure is a city), under which exist the wards, then the street (mtaa) government. There are no village government structures in urban authorities, though structurally there are urban authorities in which there are areas with village characteristics. District councils coordinate the activities of the township authorities and village councils, which are accountable to the district for all revenues collected and received for day-to-day administration. The village and township councils have responsibility for formulating plans for their areas. Urban councils have the role of coordinating activities in their areas of jurisdiction. In Zanzibar, urban authorities are composed of town councils and municipalities, while rural authorities are composed of district councils. In practice, the local governments fail to practise autonomy due to the central government's presence in planning and implementation processes.

In both urban and rural locations, there are a number of democratic bodies to debate local development needs. In the rural areas, kitongoji is the smallest unit of a village, followed by the village assembly. In the urban areas, the mtaa/street is the smallest unit, followed by the ward development committee. At the LGA level, there is the full council meeting, which involves ward councillors, special seat councillors (women), parliamentarians representing constituents in the council, and the head of council administration. Figure 8.1 shows the structure of local government in Tanzania mainland.

8.2.1.1 District council

District councils were established under Section 5 of the Local Government Act of 1982. Each urban and district local authority functions under the council. The council is the supreme elective structure which formulates and approves by-laws, plans and budgets, and various development programmes. It is an embodiment of the people's development aspirations and needs. It is made up of councillors who are elected by the citizens residing in the wards. The council, as a body that promotes representative democracy, brings people's development concerns, views, and dissatisfactions for discussion and settlement. For the purposes of effectiveness management, the council functions through a system of committees responsible for finance and planning, administration and establishment, social services, economic services, and

education. Actual implementation of the policies passed by the council lies with the administrative staff functioning under the local authority director.

Local Government Structure

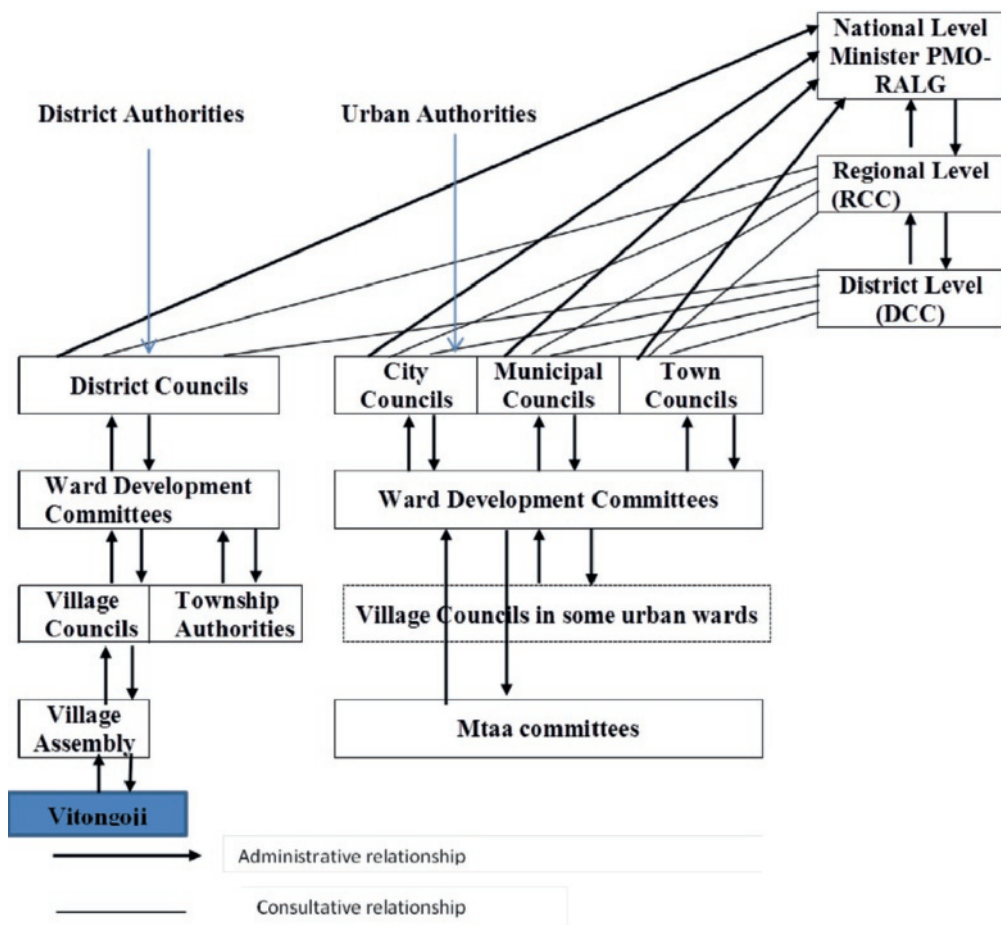


Figure 8.1
Local government structure in Tanzania

8.2.1.2 Ward development committee

The ward development committee (WDC) was established by Section 31 of the Local Government Act (1982a). It is responsible for ensuring the implementation of the decisions and policies of the district council, and of development schemes which relate to the functions of ward development. Among

other functions, the WDC has the function of (a) promoting the establishment and development of cooperative enterprises and activities within the ward; (b) initiating or formulating any task, venture, or enterprise designed to ensure the welfare and well-being of the residents of the ward; (c) supervising and coordinating the implementation of projects and programmes of the district council within the ward; (d) planning and coordinating the activities of, and rendering assistance and advice to, the residents of the ward engaged in any activity or industry of any kind; and (e) formulating and submitting to the village councils or to the district council the proposals for the making of by-laws in relation to the affairs of the ward. Development of the ward includes a scheme or programme related to (a) agricultural or pastoral development; (b) construction of roads or public highways; (c) construction of works or buildings for the social welfare of the inhabitants of the ward; (d) establishment of any industry; or (e) construction of any work of public utility.

The WDC is composed of the ward councillor, who is the chairperson; the elected member of the district council representing the ward; public officers seconded to the ward; chairpersons of all village councils within the ward; the ward executive officer (WEO), who is the secretary; village executive officers (VEOs) of all village councils within the ward; and all village managers, if any, within the ward. No policy making takes place at the ward level. The WDC meets every month to review the development status in the ward.

8.2.1.3 Village/street (*mtaa*) government

The village and *mtaa* governments are mandated under sections 14(1)–(5) and 22(1)–(3) of the Local Government Establishment Acts No. 7 and 8 of 1982 (1982a, 1982b), respectively. The village government functions under a village assembly, in which all village residents of 18 years old or above have the mandate to formulate and approve by-laws and policies for the development of their respective villages. The assembly works under a chairperson who is elected by the residents. The chairperson is administratively assisted by the VEO in terms of planning and executing approved policies. Like the local authority council, the *mtaa*/village assembly works through a system of sector committees, each of which deals with a specific functional area—such as safety and security, education, health care, environment, women and children, and water and sanitation. Villagers or members of the community, in collaboration with VEOs, are responsible for managing the implementation of plans and programmes in their areas of jurisdiction.

8.2.1.4 Hamlet (*kitongoji*)

The most important intended links between the local government and the residents of a given area are the *kitongoji*, through village development committees (VDCs) in the rural areas and urban *mtaa* committees, which are designed to mobilize citizen participation in local development. Priorities for local service delivery and development projects are brought to the *mtaa* committees for discussion before being forwarded to the WDC. In the rural areas, proposals reach the WDC via the village council. In addition to the above, citizen participation in local government decision making is encouraged by the amendments to the Local Government (District Authorities) Act 1982, which provide for councils to organize public hearings for people to question political leaders and government staff. Councils have also been empowered to establish special kinds of service boards, which are open to all citizens in the area and provide an opportunity to influence service provision. Participatory budget-making has also become a means to increase resident participation.

8.3 Functions of local government

As stated in the Local Government Act (1982) (1982a, 1982b), the basic functions of the local government are:

1. Maintaining law, order, and good governance
2. Promoting economic and social welfare of the people within their areas of jurisdiction
3. Ensuring effective and equitable delivery of qualitative and quantitative services to the people within their areas of jurisdiction.

In addition to the basic functions, all local governments are charged with seven other functions and duties, as follows:

1. Formulating, coordinating, and supervising of the implementation of all plans for economic, industrial, and social development in their areas of jurisdiction
2. Monitoring and controlling the performance of duties and functions of the council and its staff
3. Ensuring the collection and proper utilization of the revenues of the council
4. Making by-laws applicable throughout their areas of jurisdiction and considering and improving by-laws made by village councils within their areas of jurisdiction

5. Ensuring, regulating, and coordinating development plans, projects, and programmes of villages and township authorities within their areas of jurisdiction
6. Regulating and monitoring the collection and utilization of revenue of village councils and township authorities
7. Subject to the laws in force, performing all such acts and things as may be done by a people's government.

8.4 Local government planning approaches

The extent of community involvement in decision making during planning, implementation, monitoring, and evaluation of a plan distinguishes the top-down from the bottom-up approach. In Tanzania, the planning process can be top-down, bottom-up, or a mixture of the two.

8.4.1 Top-down and bottom-up approaches

The top-down approach is the predominant and most common development planning approach. This approach has dominated in planning cycles for a long time, not only in Tanzania but also in many other parts of the world. This has been the case for both government- and donor-funded programmes. Generally, one of the main reasons for this predominance of the top-down planning approach is that it is seen to allow rapid, large-scale spending of budgets in accordance with pre-established timetables. Also, it gives government planners, donors, and bureaucrats an illusory feeling of control and efficiency. On the other hand, the bottom-up approach refers to participatory planning, where planning ideas, projects, and action plans start from the people.

Procedurally, the top-down approach in national planning begins with the issuing of the national planning and budgeting guidelines by central to local government. These guidelines are stated in a review of the performance of the previous financial year and recapitulate sector policies and areas which are in accordance with the overarching priorities of the existing national strategy—for example, the National Strategy for Growth and Poverty Reduction (MKUKUTA) and Vision 2025. The guidelines are prepared by the Ministry of Finance (MoF), with close involvement of PMO-RALG. Along with the national guidelines, PMO-RALG also issues planning and budgeting guidelines for LGAs. The guidelines from PMO-RALG are circulated to all LGAs,

informing them to start planning and budgeting. The LGAs are supposed to translate the LGA guidelines into simple language and forward them to village councils and WDCs within their jurisdictions. In practice, the national guidelines and budget ceilings are not received until late in the process. Consequently, to initiate the planning processes, some LGAs use indicative budget figures from the previous fiscal year and direct officials at lower levels (i.e. WEOs and VEOs) to use the previous year's ceiling to prepare budgets for the next year (REPOA 2010).

The procedures for bottom-up planning dictate that planning begins with the preparation of community plans—namely, village development plans (VDPs) in rural LGAs and ward development plans (WDPs) in urban LGAs—based on priorities identified by citizens through an Opportunities and Obstacles to Development (O&OD) planning approach. To ensure that the views of all social groups are reflected in the plan, community members are expected to be organized in groups based on gender, age, and social status. In addition, primary data to inform the plan must be collected by community members themselves using participatory tools. The draft plan is then presented to the village council for prioritization and budgeting before final submission to the village assembly for approval, as stipulated by law.

The practice, however, may be different. For example, the study by REPOA (2010) found that in Kibebe village in Iringa District Council, the preparation of village plans begins at the sub-village level (*kitongoji*), where planning issues are raised through a series of meetings. There are seven sub-villages (*vitongoji*) in Kibebe, the population in each sub-village population is divided into three groups (the elderly, women, and youth), and planning meetings are held for each of these groups. Proposals emanating from sub-village planning meetings are presented to a sub-village committee meeting. This 5-person committee is tasked to discuss the proposed sub-village proposals with representatives from the three population groups. Thereafter, the plans are forwarded to the village council, which consists of the village chairperson, the VEO, the heads of the sub-villages, and 15 elected members. In total, 25 members make up the village council, and at least one-third of the members are women. The village council collates, scrutinizes, and rationalizes the list of projects/activities, which thereafter are submitted to the WDC as village plans. Although this single village may not be representative of how bottom-up planning is practised in the country, still it gives an indication that bottom-up planning is likely to be practised differently by different villages.

8.4.2 Participatory rural appraisal

Participatory rural appraisal (PRA) is another approach that planners at the local level can use during planning. This refers to the process in which the target groups participate in data collection and analysis and in the translation of these data into plans with the aim of solving problems. This is intended to enable local people to conduct their own situation analysis and often to plan and to take action on issues that are noticed during the situational analysis. The main concern of PRA is that the community's multiple perspectives are represented in the analysis and that the community itself takes the lead in situation analysis and finding solutions. Outsiders may participate as facilitators, but they should not dictate the process. In PRA, a number of different tools are used to gather and analyse information. Since PRA is a well-established approach and has been in use for a long time, details of how to apply this approach can be found in many sources. As for this Handbook, it is enough to say that planners are encouraged to consider PRA as a useful approach when planning using a bottom-up approach.

There are different typologies of participation (Table 8.1). The level of participation can determine the sustainability of the implemented plan in the given locality.

In the planning processes, interactive participation and self-mobilization are more encouraged because there is the possibility of sustainability.

Table 8.1

Typologies of participation in planning

Typology	Characteristics
Manipulative participation	People participate by simple presence
Passive participation	People participate by being told what has been decided or has already happened. Information belongs only to external professional
Participation by consultation	People participate by being consulted or by answering questions. There is no room for shared decision making between stakeholders and professionals. People's needs and priorities may be ignored, as there is no guarantee that people's views are considered
Participation for material incentives	People participate in 'work for food' arrangements. They may also participate for cash or other materials incentives. The activities and the participation end when the material incentive ends
Functional participation	Participation is seen by the external agencies as a means to achieve project goals, especially reduced costs. People may participate by forming groups to meet predetermined project objectives
Interactive participation	People participate in joint analysis, which leads to action plans and the formation or strengthening of local groups or institutions that determine how available resources are used. Learning methods are used to seek multiple viewpoints
Self-mobilization	People participate by taking initiatives independent of external institutions. They develop contacts with external institutions for resources and technical advice but retain control over how resources are used

8.4.3 Opportunities and obstacles to development

The O&OD approach is another participatory approach which is well established and has been in use by local governments in Tanzania since 2001. This approach is an official participatory planning framework for local authorities in the country. Like other participatory approaches, O&OD is based on PRA. The main feature distinguishing O&OD from PRA is the entry point.

The O&OD approach starts with opportunities rather than obstacles, in order to invigorate the need to look for home-grown solutions to obstacles/

challenges to development in the locality; hence, this promotes ownership and instils a sense of self-reliance in the respective community. It operates within the structures of LGAs and in line with overall national plans and budgets, and it is multi-sectoral in approach.

The PO-RALG has developed O&OD operational manuals for both urban processes and rural processes. We therefore do not need to provide details on the operationalization of this approach in this Handbook. Instead, planners are asked to make good use of the PO-RALG manual (PMO-RALG 2007), depending on which part of the country they are doing the planning in.

8.4.4 Sectoral planning

Sectoral planning is the process that involves detailed situation analyses of the sectors, but it focuses more on how to move to future objectives. Sectoral planning addresses various concerns arising within sectors. Such concerns may include better governance and improved public administration, services delivery, public works, and natural resources management. In Part III of this Handbook, several sectors have been explained, and an effort has been made to show how planning of these sectors can be conducted. To understand how a sectoral planning approach can be operationalized, therefore, we refer you to this later part of the Handbook.

8.4.5 Strategic planning

Strategic planning is a long-term, iterative, and future-oriented process of assessment, goal-setting, and decision making that maps an explicit path between the present and a vision of the future. It includes formulation of objectives and strategies for accomplishment of an organization's goals. The strategies are charted in clearly defined outcomes and outputs, which provide feedback that permits organization performance to influence future planning, resource allocation, and operational decisions (Young 2003).

The strategic planning approach is in use by all local governments in Tanzania. It is another approach which is well established, with sufficient guidelines for planners to refer to. One of the useful guides is that developed by the United Republic of Tanzania in 2005, known as Medium-Term Strategic Planning and Budgeting Manual. This manual is said to have been prepared in order to assist institutions (including local governments) to plan, monitor,

evaluate, and report. The present Handbook does not provide any details on how strategic plans are prepared; hence, planners are requested to refer to such manuals as indicated herein.

8.5 Data collection systems and challenges

8.5.1 Local government data collection systems

The government of Tanzania embarked on a transition to so-called e-government in the 1990s. This involved the introduction of management information systems (MIS) at different levels of government. These efforts were based on the fact that local governments face increasing demands for data for planning purposes from a variety of stakeholders, especially from central government and sector ministries and development partners (URT 2004). A number of information systems have been developed, and others are being developed or are envisaged as part of future development of MIS for PMO-RALG and LGAs. These systems include Local Government Monitoring Database (LGMD), Local Government Planning and Reporting Database (PlanRep2), Integrated Financial Management System (IFMS), and Procurement Management Information System (PMIS). Others are sectoral information systems (SIS), such as the Education Management Information System (EMIS), District Roads Maintenance System (DROMAS), Health Management Information System (D-HMIS), and the By-Laws Database. Respective ministries have developed operational manuals for each of these systems, whose details are beyond the scope of this Handbook but which are summarized below.

8.5.2 Local Government Monitoring Database

The LGMD is a computer programme specifically designed for the LGAs, regional government, PMO-RALG, and other stakeholders to support integrated planning of social services delivery by LGAs, including monitoring and evaluation of the decentralization-by-devolution policy. The system was intended to capture critical data from sectors within a council and to enable processing, analysis, managing, and reporting. All these functions are supposed to be performed within the council's planning office with the help of statisticians. Each sector is normally looked after by a sector supervisor, who in turn supervises the data providers. The WEO normally acts as a sector su-

pervisor for village/mtaa data providers (i.e. VEOs and mtaa chairpersons), the district health officer for health facilities, the district education officer for primary schools, and so on. Data providers are those who, once a year, provide data for the system by entering it on specially printed data collection forms. Actual data entry is the responsibility of the LGMD co-coordinator.

The LGMD is a specially designed database for collecting information routinely from villages, mtaa, wards, districts, and the pro-poor sectors—health, agriculture, education, water, roads, and lands. It can run on most computers and can also operate on a local area network. The LGMD can be used in conjunction with the Tanzania Socio-Economic Database (TSED) or social economic profile of the region or district.

The LGMD supports the process of data collection from village level, and the data can be consolidated at ward, district, regional, and national level. Therefore, the LGMD can perform the following tasks:

1. Provide service delivery data
2. Provide routine data for national poverty monitoring
3. Allow data from villages, wards, schools, health facilities, agricultural extension officers, and district officials to be entered
4. Collect non-health, HIV/AIDS information on a quarterly basis
5. Automatically calculate a core set of standard indicators which show developments in key poverty-related sectors
6. Display aggregated data at district level and facilitate 'drill down' to see data at lower service delivery levels
7. Produce a variety of analytical reports in the form of 'league tables', graphs, and district/ward profiles
8. Automatically export data to the TSED to produce statistical maps.

The database can be operated in either English or Swahili and enables users to:

1. Print special forms for collecting data from villages, wards, the LGA, and service delivery facilities
2. Enter the data from the completed forms into the computer
3. Automatically check for obvious errors
4. Print feedback forms for data providers
5. Produce various reports, graphs, and comparative tables of standard indicators for data providers and data users
6. Produce a computer file of new data to forward by e-mail or diskette/flash disk to the regional secretariat and PO-RALG in Dodoma
7. Pass indicator data to TSED v3 if installed.

8.5.3 Planning and Reporting Database

The Local Government Planning and Reporting Database (PlanRep2) is a specially designed database for assisting local authorities in planning, budgeting, and projecting revenue from all sources, and in tracking funds received, physical implementation, and expenditure. The software is designed to incorporate the Strategic Plan (Medium-Term Expenditure Framework), revenue projection, budgets, and funds received, and to track expenditure and physical implementation. The system is designed to gather information for budgeting and resources allocation processes. It captures budgeting resources required by an LGA, including recurrent and development budget, personal emolument, and other charges, such as fuel, furniture, stationery, equipment, and transport. Data are consolidated at the department level under supervision of the planning/economic department. The consolidated data are then submitted to the regional office and finally to MoFEA and PMO-RALG for processing, analysis, and reporting. The software imports and exports data from and to the Epicor accounting system (IFMS), as used in LGAs. The system caters for councils utilizing the Epicor accounting system, as well as for those with a manual accounting system. PlanRep2 operates not only at every local authority, but also at each regional secretariat and PMO-RALG headquarters. It was designed by PMO-RALG and the Ministry of Finance to enable all local authorities to do the following:

1. Create a performance budget framework of objectives, targets, and activities. The first objective in every council is to improve services and reduce HIV/AIDS infections.
2. Link any target to an MKUKUTA cluster strategy (MKUKUTA is the national strategy for growth and poverty reduction)
3. Link each activity with a person responsible
4. Calculate projected revenue from formula-based and other grants from central government, own sources, the community, and development partners
5. Allocate conditional projected revenue to performance budget targets
6. Allocate unconditional projected revenue to local authority departments and sections
7. Enter budgets for personal emoluments, other charges, and development projects
8. Export budget information to the Ministry of Finance and PMO-RALG
9. Enter expenditure from a manual or electronic accounting system (Epicor)
10. Enter actual start and finish dates, together with reasons for delays

11. Enter reports on physical implementation of development targets: fit for purpose, value for money, judicial compliance, and adherence to policy
12. Produce a wide range of core and supplementary printouts containing useful information for various stakeholders.

8.5.4 Integrated Financial Management System (IFMS)

Epicor-based IFMS is the accountancy software used for management of central and local governments in Tanzania. Operationalization demands the system administrator to enter a strategic plan as components of the Performance Budget Framework (PBFM)—that is, objectives, targets, activities, and inputs. This function can be performed simultaneously by different departments and later imported to the ‘master’ PlanRep2, in which the software associates indicators with objectives and targets with a MKUKUTA cluster strategy. The system offers unique features for government operations and management of finances:

1. Treasury management to ensure funding to ministries and agencies are within approved budget
2. Single Treasury account to centralize and consolidate government payments and receipts
3. Funds management with central banks
4. Commitment control to ensure commitments and expenditure are within approved funding and budgets
5. Budget management to ensure all budget changes are controlled and monitored
6. Global suppliers management to ensure suppliers database is shared across the entire government
7. Extensive electronic reporting.

The system has the ability to generate financial reports based on real-time data and to international reporting standards; it can also support strategic decision making and help minimize reporting errors. Epicor has played a critical role in expenditure control to help minimize overspending, enhancement of security, accuracy, reliability, effectiveness, and availability of government financial information.

8.5.5 Procurement Management Information System (PMIS)

The PMIS is a system that was developed in 2008 to assist LGAs in checking and monitoring procurement activities in the country. The system facilitates procuring entities to submit online various information, including procurement plans and reports on the status of their implementation.

8.5.6 Education Management Information System (EMIS)

The EMIS integrates all information related to educational planning and management activities which is available from schools, wards, districts, regions, and the nation at large. The organization of EMIS involves collection, processing, storage, retrieval, analysis, and dissemination of data. It provides an efficient process in executing the core functions of policy formulation, monitoring and evaluation, and standards setting, providing regulatory frameworks and coordination and optimization of resource use through improved access to and use of EMIS at all levels of education.

The data and information required for the EMIS fall into six categories:

1. Baseline education statistics and demographics: students by age, gender, grade; teachers; textbooks; type of schools; and so on.
2. Human resource information: teaching staff, non-teaching staff, their qualifications, experience, status, service records, and career development records
3. Infrastructure and assets data: classroom, furniture, school area, other facilities and assets
4. Performance measures data: results of national examinations and local examination, repetition rates, transition
5. Financial management information: cash flow of school finances, audit reports, expenditure reports, implementation of school plans and school contributions
6. Studies, research, information materials, results of school inspections, documents, and education policies, acts, and regulations.

8.5.7 District Roads Maintenance System (DROMAS)

The DROMAS is a computerized tool to assist council engineers in the collection and analysis of data on road inventory and condition and the prioritization for planning improvement and maintenance works. It is based

on a series of standard forms and a computer-based system for storing and analysing the data. The system also includes a module for mapping the road network.

8.5.8 Health Management Information System (D-HMIS)

The Health Management Information System (D-HMIS) aims to improve the ability to collect, store, and analyse accurate health data and hence support the integrated planning process. Implementation of D-HMIS also aims to increase data accuracy and effectiveness of intervention, increase accountability, and improve tracking of health trends in districts.

8.5.9 By-Law Database

The By-Law Database is designed for use by local authorities, regional secretariats, sector ministries, the Attorney General, the Government Editor, and PMO-RALG to create new by-laws. All systems in place are supposed to produce various financial and non-financial reports that can support integrated planning.

8.5.10 Challenges of data collection systems

According to REPOA (2010), there are quite a number of challenges facing the data collection systems in the LGAs:

1. Many required reports for the systems not produced yet, thereby hampering integrated planning processes at local and national levels
2. Limited institutional capacity and update on computerized systems to meet the growing demands of local governments and other stakeholders
3. Lack of coordination of these computerized systems to allow production of aggregate reports
4. Lack of skilled personnel (information technology experts) in all LGAs
5. Lack of training for users of these systems
6. Capacity for analysis of collected data hampered by design of information system by central ministries on whose behalf data is collected
7. Being victims of vendor locked systems (vendors supply systems which only they can maintain).

8.6 Local government planning process and budgeting cycle

Local government's planning process and budgeting cycle is governed by a number of policies and laws. The legal basis for the LGAs planning and budgeting in Tanzania is determined from the village level up to the LGA level. The laws which prescribe planning and budgeting at LGA level are as follows:

8.6.1 The URT Constitution of 1977 and Zanzibar Constitution of 2006

The Constitution of the United Republic of Tanzania (URT 1977) outlines the legislative functions and roles of various bodies involved in the management of public finances. These bodies include Parliament (the Legislature), the President (the Executive), and the Controller and Auditor General (CAG). On the other hand, the Zanzibar Constitution (RGZ 1985) empowers the minister responsible for finance to submit a bill for authorization to the House of Representatives at the beginning of every financial year.

8.6.2 The Public Finance Act No. 6 of 2001

The Public Finance Act No. 6 of 2001 is applicable to both the United Republic of Tanzania Government and the Zanzibar Revolutionary Government. It empowers the minister responsible for finance to estimate and cause to be prepared and laid before the National Assembly a budget before the commencement of each financial year (URT 2001). The Act also indicates that the minister should address (a) estimates of the revenues, expenditure and financing requirements for the government of Tanzania for that year; and (b) for each vote on expenditure, a statement of the classes of outputs expected to be provided from that vote during the year and the performance criteria to be met providing those outputs.

8.6.3 The Finance Act

The annually adjusted Finance Act empowers the Minister for Finance and Economic Affairs to raise money by imposing taxes, levies, fees, and charges to mobilize funds to finance the budget. This act also applies in Zanzibar on union-related sources of revenues, such as customs.

8.6.4 The Annual Appropriation Act (AAA) 2005

The Annual Appropriation Act (AAA) empowers the Minister for Finance and Economic Affairs to draw money from the Consolidated Fund and allocate it to various votes. It also provides powers for reallocation of funds between votes. The Act also gives the power to the Minister of Finance to borrow. It states that ‘the powers conferred upon the Minister by this section shall be in addition to the powers of the Minister under the Government Loans, Guarantees and Grants Act, 1974’. The Act provides a mandate to the minister responsible for finance to allocate money to the Zanzibar govern

8.6.5 The Public Procurement Act 2004

The URT Public Procurement Act of 2004 sets out rules and procedures for the procurement or purchasing of goods and services. This Act replaced the Public Procurement Act of 2001 in order to improve the regulation of public procurement by establishing the public procurement regulatory authority, tender boards, principles and methods of purchasing goods and services, and dispute settlement. In Zanzibar, the Zanzibar Public Procurement and Disposal of Public Assets Act (2005) applies to all procurement and disposal of public assets undertaken by a procuring and disposing entity, except where it is provided otherwise by Act.

8.6.6 Local Government Finance Act No. 9 of 1982

The Local Government Finance Act (1982) was amended by the Miscellaneous Act No. 6 of 1999. The amended Act stipulates the requirements and procedures to be followed by mainland LGAs in preparing annual estimates of revenues and expenditures. The Zanzibar Local Authority Act of 2014 guides the LGAs in Zanzibar. The Zanzibar Local Authority Act stipulates the structure and procedures for planning and budgeting at local level.

In practice, there are two interlinked approaches to planning in the local government system, the bottom-up approach and top-down. Budgeting involves the determination of resources and their use for planned and prioritized activities for attainment of local government objectives. In essence, all LGAs are supposed to prepare three sets of plans: the strategic plan, Medium-Term Expenditure Framework (MTEF) plan, and annual plan.

The MTEF is a major planning and budgeting tool with a 3-year time horizon. This is a process and an approach to planning and budgeting based on clearly defined performance targets drawn from the strategic plan. This approach enables LGAs to link resources to the attainment of specific objectives drawn from MKUKUTA clusters which are linked to local authority strategic objectives. The MTEF tool is augmented with other instruments, including the Strategic Budget Allocation System (SBAS), Epicor-based IFMS, LGMD, and Local Government Planning and Reporting (PlanRep2). The following section explains Tanzania's institutional structure for LGAs' planning and budgeting.

8.6.7 National Budget Guidelines Committee (BGC)

The macro-economic review is facilitated by the Budget Guidelines Committee (BGC), which is charged with responsibility for preparing the annual Budget Guidelines. This committee is composed of officers from the Ministry of Planning and Finance; the President's Office – Planning Commission (PO-PC); the Prime Minister's Office – Regional Administration and Local Government (PMO-RALG); and the President's Office – Public Service Management (PO-PSM). The BGC has the role to set the annual planning and the Budget Guidelines for the medium-term fiscal period, which is normally three years.

8.6.8 Regional and district structures and functions

There are three main district structures, with the following functions:

1. **Regional Consultative Council (RCC):** Among other roles, the RCC has the role to advise and coordinate plans and budgets from LGAs. The chairperson of RCC is the regional commissioner. Other members include the regional administrative secretary, who is the secretary of the RCC; district commissioners and local authority directors; mayors and district council chairpersons; and heads of government ministries, departments, and agencies (MDAs) within the region. Other members to be invited by the chairperson will include civil organizations (NGOs, CBOs), representative of the business community, leaders of religious organizations, and prominent persons in the region.
2. **Inter-LGA Planning and Budgeting Committee:** Prior to the RCC there is the inter-local government budget committee, which is responsible for budget scrutiny and formulation. The committee is composed of planning

officers and heads of departments from LGAs and is chaired by the Regional Administrative Secretary (RAS).

3. District Consultative Council (DCC): Among other functions, the DCC has the role of advising and guiding the planning and budgeting from LGAs. The DCC is chaired by the district commissioner, and the district administrative secretary is the secretary. Other members are LGA executive directors and heads of departments. Other members invited by the chairperson include ward councillors, civil organizations (NGOs, CBOs), representatives of the business community, leaders of religious organizations, and prominent persons in the district.

8.6.9 LGAs structures and functions

The LGA structures comprise a council assembly and number of standing committees:

1. Council Assembly (full council): As provided for by the enabling legislation (Acts No. 7 and 8 of 1982), the councillors, who are representatives of the people, own the councils. Full councils are responsible for discussion and approval of a council's plans and budgets.
2. Standing committees: Before plans and budgets are forwarded to the full council, they are discussed in standing committees. Standing committees consist of members elected by the council, which decides the number of committees and specifies the mandate of these committees. There are two main types of committees at council level: standing/sectoral committees, and ad hoc committees (REPOA 2008). With respect to standing/sectoral committees, the members of the committees must be members of the council and are elected by the council. LGA Act No. 6 of 1999, Section 13 provides for the formation of three standing committees in the district council. These standing committees are the following: (a) The Finance, Administration and Planning Committee; (b) The Education, Health and Water Committee; and (c) The Economic Affairs, Works and Environment Committee.

8.6.10 Ward structures and functions

Ward Development Committee: The ward councillor chairs the planning and budgeting committee at this level, and village or mtaa chairpersons and village executive officers are the members. The WEO is the secretary of the committee, while other members are invited. The invited members may in-

clude NGOs, CBOs, religious and traditional leaders, and experts from various sectors.

8.6.11 Village structures and functions

With respect to planning and budgeting, there are two major organs of governance at the village level: the village assembly, and the village council. The village assembly is composed of all adult members resident in the village. The village assembly elects village councils of not less than 15 and not more than 25 members, headed by an elected chairperson. The VEO is the secretary of the committee. Other members are invited and may include NGOs, CBOs, religious and traditional leaders, and experts from various sectors. The village assembly has ultimate legislative and executive powers to discuss and approve village plans and budgets, which are vested in the village council.

In urban LGAs, there are mitaa instead of villages. The functions of mitaa are similar to those of villages. The only difference is that mitaa do not have the mandate to approve budgets. This is done at the ward level. The institutional frameworks for planning and budgeting at LGA level in Tanzania are summarized in Figure 8.2.

8.7 Conclusion

This chapter has been written with the aim of enabling planners to understand the processes and legal environment in which planning and budgeting are conducted at the local government level. Issues related to local government institutional frameworks and the functions of various structures of local government were among the key concerns of this chapter. Also, there has been an elaboration of local government planning approaches and the data collection systems operated and manned by local authorities in Tanzania.

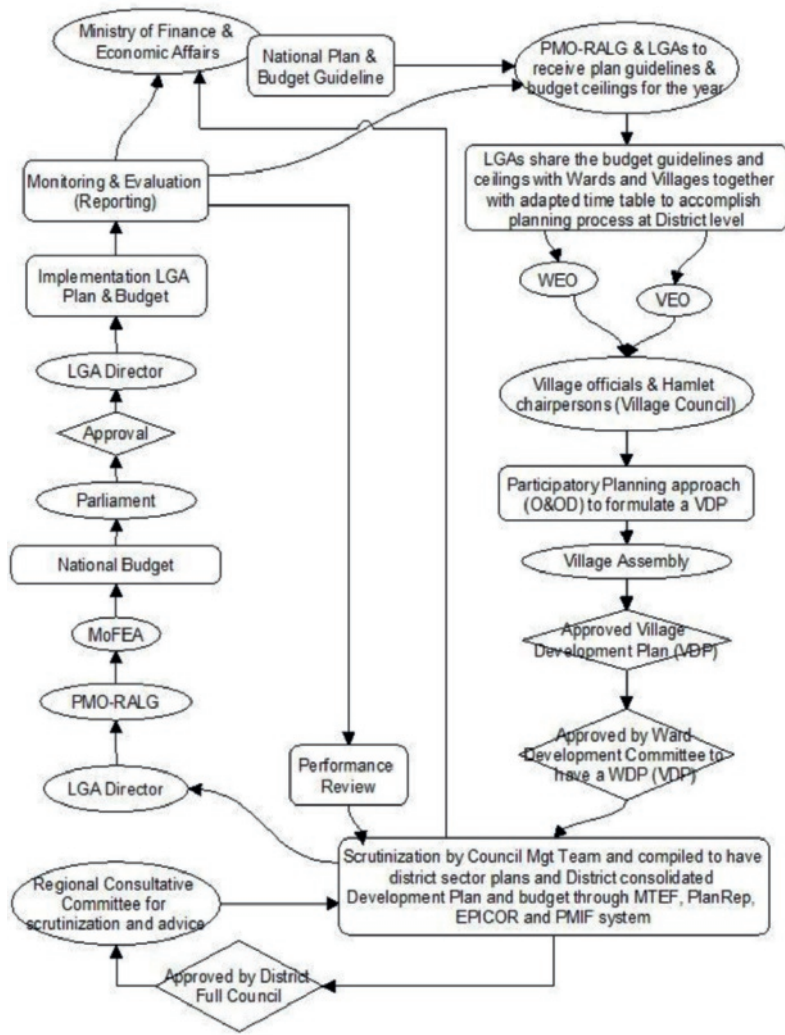


Figure 8.2
Institutional frameworks for planning and budgeting
 Source: Authors' consolidation

References

- PMO-RALG (2007). *The Opportunities and Obstacles to Development—A Community Participatory Planning Methodology. Training Manual*, Dodoma: PMO-RALG.
- Research on Poverty Alleviation (REPOA) (2008). *The Oversight Processes of Local Councils in Tanzania*. Research on Poverty Alleviation (REPOA), Dar es Salaam.
- Research on Poverty Alleviation Report (REPOA) (2010). *Planning in Local Government Authorities in Tanzania: Bottom-up meets top-down*. p. 5
- Revolutionary Government of Zanzibar (RGZ) (1985). *The Constitution of Zanzibar*. College of Education Press, Zanzibar.
- United Republic of Tanzania (URT) (1977). *The Constitution of Tanzania of 1977*, Dar es Salaam.
- United Republic of Tanzania (URT) (1982a). *The Local Government (Urban Authorities) Act, 1982*
- United Republic of Tanzania (URT) (1982b). *Local Government (District Authorities) Act, 1982*
- United Republic of Tanzania (URT) (1998). *Local Government Reform Program*. Dar es Salaam
- United Republic of Tanzania (URT) (2001). *Opportunities and obstacles for development. Operational manuals*. PMO-RALG.
- United Republic of Tanzania (URT) (2004). *Information and communication technology (ICT) Education Management Information System (EMIS) Development Plan*, DSM.
- United Republic of Tanzania (URT) (mimeo). *President Office Regional Administration and Local Government: History of Local Government in Tanzania*, p. 2.
- Young, R.D. (2003). *Perspectives on Strategic Planning in the Public Sector*. Institute for Public Service and Policy Research, University of South Carolina.

9

Local Government and Local Economic Development

Andrew Komba, Jane Mbilinyi, George Kinyashi

9.1 Introduction

The previous chapters in this part of the Handbook focus on planning processes and structures as they are in a public sector. This was done purposely because this tradition is more or less in practice. In this chapter a different way of planning is introduced to reflect the changing context. This is to help planners understand that changes in the planning context are real and should be reflected in the way they make their plans. This being the case, the chapter is written with the aim of outlining the new role of local government, especially in the way it can promote local economic development (LED).

The chapter is structured in six sections. Following this introductory section, the second section focuses on a presentation of local government as an enabler. The third section dwells on the concept of LED, and the fourth covers some specific categories of LED initiatives. The fifth section presents the steps one needs to go through in an effort to promote LED. This is followed by Section 9.6, on the challenges involved in promoting LED.

9.2 Local government as an enabler

9.2.1 Perspectives on the changing role of government

LED is more likely to thrive in the context of an enabling government than when the government does not play this role. Before we present a definition of enabling government, we provide an account of perspectives on govern-

ment's role. The changing role of the government has been acknowledged by many. Helmsing (2002) in his 'Decentralization, enablement and local governance in low-income countries' has provided a good account, from which the presentation in this section has borrowed considerably.

In his account, Helmsing talks of two governments—central and local government—and states that decentralization of responsibility from central government has become a central issue in development and in the development debate. The earlier waves of decentralization were restricted to the organization of the public sector, with the concern being to transfer responsibilities and powers to public organizations, in different forms and formats. In such cases, the central question of decentralization was to what extent does decentralization of powers of public decision making and financing from the central to local government lead to better delivery of services? There are many arguments supporting the thesis that decentralization has led to better service delivery; and given the realities on the ground, there has been a growing scepticism and re-appraisal of the ability of public administrators and politicians to manage service delivery to the public in general and to targeted public services in particular—because, in many cases, programmes for the poor are 'hijacked' by the better-off.

This scepticism has resulted in a second wave of decentralization, which in fact has been questioning the social-political legitimacy of the state in society. Much of this quest has been donor-driven and was introduced in relation to policy conditionalities of structural adjustment programmes and in the name of 'good governance'. At this time, the capacity of more-or-less democratically elected politicians to reveal and decide on collective preferences, and of public officials to articulate collective demands in a centralized state setting, has come under discussion and scrutiny. The dominant idea has been to advocate that instead of operating through a centralized state system, a mix of public, private, and NGO and community-based organizations (CBOs) provide a best fit for collective demand identification. Moreover, following the trend that basic services have been predominantly provided as public services, during this second wave of decentralization there has been a demand that public goals should be achieved through non-public means. Therefore, in the final analysis, the need to press the state to shift its traditional role does not lie only with public sector problems but also arises from the fact that other modalities of delivery of services have become more viable and attractive alternatives. This is to say that not only is the 'hollowing out' of the state caused by public failure, but also there is both a demand and supply side to the story.

The third wave of decentralization is more complex. The main question has shifted from whether local governments can do the same job better where central governments have failed, to a much broader picture which takes account of the changing context. This time decentralization has ceased to be a local government affair and has turned into a local governance issue. Local governance may be described as structures and processes of societal decision making at the local level. Within the new governance thinking, there has been a re-appreciation of government and its shifting roles have gradually been clarified. A central concept of this new role of government in general, and local government in particular, is the role of government as an ‘enabler’. Rather than engage in direct intervention and deliver services, public and otherwise, government is to facilitate and regulate the framework in which other societal actors can make their most effective contribution. This new role poses new demands on governments. The question is not so much more or less government but a qualitatively different government. It is based on this background that the concept of government as an enabler has emerged.

9.2.2 The enabling approach of government

The enabling approach of government was first pronounced by the United Nations Centre for Human Settlements (UNCHS) in 1988 and soon picked up by the World Bank in the 1990s. The finding that although governments in developing countries had been providing shelter to urban dwellers, most of them were still living in slum and squatter settlements, pushed the UNCHS to maintain that governments ought to concentrate less on direct intervention and more on the creation of incentives and facilitating measures—so as to enable housing and other urban services to be provided by households themselves, community organizations, NGOs, and the private sector.

If this happens, UNCHS is of the opinion that the full potential of all the actors in shelter production and improvement will be mobilized (UNCHS 1990, in Helmsing 2001). In this way, the enabling role of the government

does not lie in the direct provision of housing, nor in state administered housing projects, but rather in facilitating and regulating the overall framework within which other actors can make their most effective contribution. (UNCHS 1991, in Helmsing 2001)

The World Bank conception of enabling government is tied to market efficiency and the role of the private sector as the main force of development.

The emphasis is that ‘the state should let markets work where they can, and to step in promptly and effectively where they cannot’ (World Bank 1991).

What the UNCHS and World Bank conceptions mean is that governments should create legal, regulatory, and financial frameworks or institutional arrangements in which private enterprises, households, and community groups can play an increasing role in meeting basic service needs. This means that the elimination or mitigation of market failures continues to be a government’s concern and thus a key feature of government’s enabling role. But just as governments should regulate to overcome market failures, they must also avoid intervening in ways that disrupt markets. An effective enabling strategy addresses market failures directly and deals with underlying causes rather than with symptoms such as insufficient and inadequate housing (Helmsing 2001).

From these conceptions Helmsing further points out four key issues with regard to the government–society relationship. The first is that enablement entails different relationships between government and its policy subjects: the private sector consisting of firms and the community consisting of individuals and households. Depending on which client group one refers to, one speaks of market enablement and community enablement, respectively. While in both cases government is to facilitate and intervene directly only under certain circumstances, the structure, functions, and processes are apparently sufficiently distinct so as to separate the two. Secondly, enablement involves substantive policy shifts. Government is asked to do different things and do these better, rather than simply reducing its interaction with firms and communities. Thirdly, enablement involves important changes in institutional arrangements, with a greater involvement of civic society, through which public policies are initiated, formulated, and implemented. This applies not only to the manner in which government relates to the private sector, communities, and NGOs, but also to the manner in which components and levels of government relate to each other (e.g. central and local governments). Fourthly, enablement involves an intra-organizational change dimension. Partly stemming from its own advocates as much as influenced by the ‘good governance’ debates, better and more transparent local government management and planning styles are called for.

In the next section we will see that LED has to do with the participation of various societal actors, to release their energy to achieve development. It is apparent, therefore, that an enabling government is an imperative ingredient for LED.

9.3 Local economic development (LED)

Economic development is defined as both a noun and a verb. As a noun, it is an outcome, equated with a better quality of life for citizens. Ultimately, that means a more vibrant social and cultural milieu, financial security, and physical health and well-being, as well as a sustainable environment (Helmsing & Egziabher 2005). According to Meyer-Stamer (2008), economic development is the ability of a locality to generate high or rising incomes and improve the livelihoods of the people living there.

The World Bank (2004) defines LED as a process by which the public, business, and non-governmental sector partners work collectively to create better conditions for economic growth and employment generation, with the aim of building the economic capacity of a local area to improve its economic future and the quality of life for all. It comprises a deliberate intervention focusing on local rather than national economic activity in a specific area, where 'local' can range in size from a small neighbourhood to a town or city over time (Agrawal & Gibson 1999).

LED, therefore, increases local wealth programmes that expand from specific business activities exported outside the local economy, substitutes imports for locally produced goods, increases productivity levels, and better utilizes under-utilized local resources such as the local unemployed (Bartik 2003). It focuses on broad programmes on business attraction and retention, technology, and land usage targeting with the greatest potential positive impact on the local economy. Initiatives towards LED through promoting local economic activities encourage local participation and consensus building to determine economic activity requirements for the local community, aimed to strengthen their performance in terms of attaining sustainable income generation (Luger 2007).

According to Rodríguez-Pose (2008), the concept of LED is based on promoting local initiatives as the strategies that respond to local needs and conditions. As such, there is no single model of how to implement LED or of what strategies and actions to adopt, as the efficiency and effectiveness of local development is influenced by local government processes.

LED theory explores the actors, structures, and processes of local regional growth as these exist and take place within a particular defined territory (Gomez & Helmsing 2008). Types of LED theories can be distinguished from one another. They can be due to severe market failure, or an unwillingness

to participate in capitalist market-driven development, or a lack of essential capabilities or assets, or motivation, or a search for alternative, humane, and environmentally responsible lifestyles (Gomez & Helmsing 2008).

For the purposes of the present discussion, Helmsing's (2003) definition of LED is adopted. LED is defined as a process in which partnerships between local governments, community and civic groups, and the private sector are established to manage existing resources to create jobs and stimulate the economy of a well-defined area. The definition emphasizes local control over the potentials of the human, institutional, physical, and natural resources of an area.

9.4 Local economic development initiatives

LED initiatives are actions necessary to improve a local economy. Initiatives for LED can be broadly categorized into three groups (Helmsing 2003): community economic development, enterprise development, and locality development initiatives.

9.4.1 Community economic development

Community economic development initiatives (CEDI) are founded in the idea that both rural and urban poor depend on livelihood strategies to survive. Thus, the essence of these initiatives is to facilitate household diversification of economic activity as the principal way to improve livelihood and reduce poverty and vulnerability. The initiatives call for new approaches which recognize that self-employment and household-based economic activity are the predominant forms of livelihood rather than wage employment. A planner engaging in CEDI should strive to meet a least five aims of community economic development:

1. To stimulate a sense of community
2. To promote self-help and empowerment
3. To contribute to the generation of self-employment
4. To improve living and working conditions in settlements
5. To create public and community services.

9.4.1.1 *Components of community economic programmes*

Some of the concrete actions that a planner engaged in CEDI needs to take are the following:

1. *Creating local safety nets.* Safety nets are instrumental in enabling the poor to withstand economic shocks of various kinds. Therefore, creating local safety nets and reducing insecurity are fundamental for creating better conditions for LED. One of the examples of safety nets is financial safety nets, which can be created through the formation of savings and credit groups to meet income emergencies.
2. *Improving housing and upgrading settlements.* Settlement upgrading usually involves a package of activities. One is improving the design of a settlement by creating space for basic services, such as water, sanitation, roads, and community facilities for health and education, as well as by improving homesteads and housing quality. It has been increasingly realized that settlement upgrading should allow for home-based economic activities and incorporate provisions for small-enterprise plots. Such provisions will help the poor residence to maintain and establish livelihood strategies necessary for their well-being.
3. *Delivering basic services.* The increasing recognition that public services can also be delivered by the non-public sector has led to the need for making decisions on which components of service can be privatized and which should not. At stake with the community economic development approach is that when privatizing, there should be careful examination of which services can be performed by community groups or enterprises and which will continue to require public sector direct responsibility.
4. *Stimulating community economy.* Households act in the local economy in three ways: as consumers, micro-entrepreneurs, and workers. They act individually and as organized groups that have a community of interest—for example, as workers' unions and producer associations. Due to their vulnerability, poor people are weak market parties. Their very limited and insecure resource base causes low productivity. This, often in combination with intense competition, yields very low incomes and makes poor people vulnerable to unequal market exchanges. This therefore implies that policies aimed to increase the reliance on markets to allocate resources and to provide goods and services may put poor people at more and greater risks. Market regulatory policies should therefore also 'level the playing field' for the poor and their enterprises.

9.4.2 Enterprise development initiatives

This is the second category of LED, which consists of initiatives that directly target and involve enterprises and enterprise clusters. Unlike CEDI, this category is premised on specialization and overcoming obstacles towards specialization in a market context.

Clustering and specialization may contribute to the emergence of agglomeration economies. These are advantages that accrue to local producers, which arise from geographical concentration, such as specialized labour and inputs and knowledge spill-overs. Once a cluster has come into existence, a new phase of LED may set in— that of ‘active collective efficiency’ (Schmitz 1999). There are three components to consider here. One is that local producers, especially when they are of a medium or small size, may find it advantageous to specialize among themselves. A second component is joint action among local producers to create institutions that support their activity. The creation of a local producer association is often indicative of a potential for ‘private governance’. The third component refers to local collective action of local producers towards government and external actors to lobby for public support institutions and infrastructure—for example, in the area of vocational training, technology development, or a local transport terminal. An area that has developed these three types of ‘active local efficiency’ endows its economic base with cumulative capabilities.

9.4.2.1 *Components of enterprise development Initiatives*

There are three components of enterprise development initiatives:

1. *Creation of the economic base.* The economic base may consist of single or various clusters of local producers in particular industries. Initiatives to be developed by local producers can act in two directions: (a) strengthening the cluster formation process, which may give rise to the creation of enterprises and employment in allied services; (b) advancing participation in the corresponding commodity chains, either by new investment of existing local producers, or by selective attraction of external enterprises, or by a combination of both.
2. *Enhancement of access to external markets.* In order to enable local producers to access external markets, there should be specialist business development services (BDS) to enable them to acquire knowledge about these markets. They also need these services in order to prepare their own operations financially, technologically, and organizationally for interna-

tionally competitive production. Small and medium enterprises, however, often have to gain access to external resources and rely on specialist business service providers to obtain market and product information, tools, technologies, and skills.

3. *Special programmes.* There are several programmes suitable for enterprise development. These include generation of 'passive' agglomeration economies. A growth point or growth centre would be a good example. Many African governments have initiated these, but few have sustained their efforts. Government concentrates public infrastructure investment in particular places, possibly in combination with other incentives to attract new firms into an area. Geographical concentration may generate specialization. A second type of programme goes further and seeks to promote the formation of clusters of enterprises, in an location where geographical concentrations of local producers already exist. Through joint action a new range of competitive advantages can be created. Business support services and inter-firm cooperation are principal avenues of action. A third type of programme has a focus on group learning to acquire new competencies. The introduction of new agro-exports may be based on group-based learning of the norms and quality standards for the products and of associated production practices and techniques. Often, an actor, playing a key role in the governance of the chain, contributes to the spread of new knowledge to the local producers. This may be foreign buyers, a local business association, or a local enterprise agency.

9.4.3 Locality development initiatives

Locality development is the third type of LED initiative and concerns the planning and realization of infrastructures and of relevant economic and social overhead capital. Locality development corresponds to the management of the entire local territory. That is to say, the physical infrastructure and the economic and social overhead capital of the locality should be built in such a way that they generate the balanced development of all land uses, resolving land use conflicts and minimizing negative and maximizing positive externalities. Localities that succeed in better managing their territories contribute to enhancing the local 'quality of life' and the competitiveness of local economic activities.

9.4.3.1 Components of locality development

There are five components of locality development:

1. *Participatory local economic development planning.* LED is a multi-actor affair. There are important investment complementarities within the private and community sectors and between public and private agents, which, when properly managed, can result in important economic gains and external benefits that otherwise would not be forthcoming. Local government can make an important contribution by properly coordinating its own public sector investment programme with needs and investment priorities of communities and private firms.
2. *Physical planning and development controls.* The urban land market is rife with all kinds of distortions and requires government regulation. Zoning and other land and building regulations can be an important tool if they are carried out with flexibility and with a developmental attitude.
3. *Urban planning and design.* Economic performance can be improved if commercial centres are upgraded through improvement of commercial streets and premises, often involving selective conversion of land uses and higher densities. ‘Townscaping’ includes actions geared towards improving town or city central areas and making them more attractive to local communities and prospective investors.
4. *Infrastructure.* Land is more attractive to potential users if it has already been developed or this can be done at lower costs. Available infrastructure shortens the time between acquisition and operations. The basic services to be provided are water and sewerage, electricity and street lighting, and access roads and sidewalks. The supply of improved sites should take into account the diversified demand for such sites—that is, take into account the demand by micro and small enterprises. Public–private partnerships can increase the capacity of local governments to provide infrastructure.
5. *Socio-economic overhead capital.* One of the important challenges of locality development is the creation and expansion of economic and social overhead capital. This refers to public, non-profit, and private institutions in the areas of education and training, research and technology, information and communications, and social capital serving the locality as a whole, as well as institutions dedicated to a locality’s specialized industries. One of the roles of local government, together with other private sector and civil actors, is to contribute to the creation of, and/or to attract to the locality specialist providers of, such overhead capital.

9.5 Steps in promoting local economic development (LED)

Step 1: Lobby for a national LED-conducive environment

Local governments individually and collectively need to lobby their central governments to ensure that there is a conducive and enabling national policy and regulatory environment for LED interventions at a local level. This lobbying should also be undertaken by civil society, the private sector, and labour unions. Such enabling instruments include a national LED policy.

Step 2: Get political support and ownership at the inception

It will be crucial for local governments to obtain in principle political support for LED strategies. This support should ideally come from the national Cabinet, sub-national levels of government, and local council meetings. Local authorities should give an undertaking to regularly update the relevant political structures of progress and challenges in implementation.

Step 3: Undertake stakeholder mobilization and commitment

Tackling LED in a particular location cannot be the task of government alone. In addition to political support, the local authority should undertake an extensive stakeholder mobilization. This inclusive process should target all relevant stakeholder groupings: the public sector, private sector, and social sector. This action should result in a formal stakeholder commitment outcome that can take the form of a local charter on employment, a social compact, or a city declaration.

Step 4: Undertake a strategic assessment of the local economy

Any sound policy or programme on LED should be informed by a rigorous empirical and qualitative assessment of the local economy and the conditions of the population in the local government's area of jurisdiction. A useful methodological tool that can be used is 'Priority Value Chain Analysis,' which should be built into the assessment and analysis phase whereby all stakeholders not only concentrate on problem identification, but also begin to imagine a shared, alternative, and positive future for the local economy. A potential matrix can be used to derive possible derived activities from the existing ones. Informed by the assessments, both a localized LED strategy and employment strategy should be crafted by the municipality through the involvement of all stakeholders, especially the targeted vulnerable groups such as unemployed youth and women.

The LED strategy should be the overarching instrument that identifies key opportunities, constraints, and vibrant sectors with potential. Both strate-

gies should seek ways to reduce the environmental and ecological footprint of economic activity in the local economy by promoting green jobs and 'eco-preneurs'. Key opportunity sectors include those of agriculture, alternative energy supply, and transportation. Appropriate institutional arrangements and different forums should be established to ensure full participation of the various stakeholders in the entire process, from strategy assessment, to strategy development, implementation, monitoring, and evaluation.

9.6 Challenges in promoting local economic activities

Promoting local economic activities can encounter several constraints. Challenges differ with the scale and nature of development. Energy services can be a large stumbling block. The unavailability of funds has also been a major constraint to local authorities. The limits imposed by a disabling business environment on production because of inadequate economic infrastructure are a considerable challenge. Some economies are weak to such an extent that there is a need to develop a popular or informal economy.

Local government has a greater role to perform for LED. The capacity of technocrats in local authorities to translate policies and frameworks, mobilize resources, coordinate activities, and merge the gap between local needs and national priorities is crucial during the planning processes. There are many opportunities in local areas to support LED.

The important starting point is to identify priority investment options prior to actual investment. All stakeholders should be involved in the process of identifying the opportunities and options for engagements. Value chain analysis and potential matrix can offer a comprehensive mechanism for the identification and concentration mechanism

In conclusion, it can be said that the enabling role of local government is imperative if local economies are to thrive. This is what this chapter has addressed. We have mentioned how local government can intervene in order to promote LED. Notably, three categories of initiatives have been presented: community economic development targeting the poor, enterprise development targeting businesses, and locality development targeting infrastructure and overhead capital. These three are considered key issues to deal with for anyone interested in LED.

References

- Agrawal, A. & Gibson, C.C. (1999). 'Enchantment and disenchantment: The role of community in natural resource conservation', *World Development* 27(4): 629–649.
- Bartik, T.J. (2003). *Local Economic Development Policies*. Upjohn Institute Working Paper No. 03-91. Available at SSRN: <https://ssrn.com/abstract=400820> or <http://dx.doi.org/10.2139/ssrn.400820>
- Gomez, G.M. & Helmsing, A.H.J. (2008). 'Selective spatial closure and local economic development: What do we learn from the Argentine local currency systems?', *World Development* 36: 2489–2511.
- Helmsing, A.H.J. (2001). *Local Economic Development in Low and Middle Income Countries: New Generations of Actors, Policies and Instruments*. The Hague: ISS.
- Helmsing, A. (2002). 'Decentralization, enablement and local governance in low-income countries', *Environment and Planning C: Politics and Space* 20: 317–340.
- Helmsing, A. (2003). 'Local economic development: New generations of actors, policies and instruments for Africa', *Public Administration and Development* 23: 67–76.
- Helmsing, A.H.J. & Egziabher, T.G. (2005). 'Local economic development in Africa: Introducing the issues', in: T.G. Egziabher & A.H.J. Helmsing (eds) *Local Economic Development in Africa: Enterprises, Communities and Local Development* (pp. 1–17). Maastricht: Shaker Publishing BV.
- Luger, M., (2007). *The Role of Local Government in Contemporary Economic Development*. Manchester: Lincoln Institute of Land Policy.
- Meyer-Stamer, J. (2008). *Systemic Competitiveness and Local Economic Development*. Duisburg: Mesopartner.
- Rodríguez-Pose, A. (2008). Decentralisation and local and regional development. CAF Working paper, 2008/04, Caracas: CAF. Retrieved from <http://scioteca.caf.com/handle/123456789/238>.
- Schmitz, H. (1999). 'Collective efficiency and increasing returns', *Cambridge Journal of Economics* 23: 465–483.
- World Bank (1991). *Urban Policy and Economic Development: An Agenda for the 1990s*. Washington, DC: World Bank.
- World Bank (2004). *Sustainable Development Reference Guide*. Washington, DC: World Bank.

10

Territorial Livelihoods and Development

George Kinyashi, Upendo Mmari, Adalbertus Kamanzi

10.1 Introduction

One of the focuses of livelihood framework analysis is to articulate the territorial assets or capital upon which livelihoods are built. Such assets or capital include human, social, physical, natural, and financial capital. These capitals are equally important in the formation of the economic base of a particular territory or locality. This chapter explores how territorial livelihoods can be analysed and proposes interventions that can be considered for enhancing territorial development. It aims at assisting planners to grasp the livelihood analysis and territorial development approach and to be able to apply this approach.

The chapter is structured in five sections. Following this introductory section is a section on the concept of territorial or local development. This section provides the meaning and a brief discussion of the concept. The third section is on territorial livelihood, where the sustainable livelihood approach is presented. The fourth section deals with territorial (rural–urban) linkages and how these linkages relate to territorial economic development. The final section focuses on territorial development interventions.

10.2 Territorial (local) development

Essentially, the term territorial development has been defined in two different views (Romero 2015). The first view holds that territorial development refers to integrated multi-sector development across a specific portion of territory, guided by a spatial vision of the desirable future and supported by

strategic investments in physical infrastructure and environmental management. This definition makes no reference to scales, be they local, regional, national, or transnational, and it applies equally to any of these. Therefore, this view on territorial development focuses primarily on territorial integration. This focus has been criticized in that it underestimates the complex operation of economic and social sectors across multiple scales and overstates the scope and feasibility of their coordination by local authorities. As such, it may take a hyper-local perspective, obscuring the multi-scalar and multi-actor nature of territorial development. These limitations gave way to a second view, which adopts a neutral sense of the term.

This second view maintains that territorial development is simply an umbrella term for the development of specific (typically sub-national) portions of a territory. These may be an urban, metropolitan, regional, or rural jurisdiction, but they could also be a watershed, coastal, mountainous, or border area. Most often, the term is used to encompass both local development (narrowly associated with smaller, first-tier jurisdictions or even part of them) and regional development (associated with larger, intermediate jurisdictions, such as districts, provinces, and regions). This second view on territorial development does not pass without criticism either. One of the criticisms is that since any space can be defined as local from the point of view of an observer placed above or outside it, the expression territorial development may simply designate local development at any scale. However, in this case, if we define territorial development as development that occurs in a territory regardless of the scale, we ignore the critical differences (e.g. political and institutional) of places of different scale in promoting local development.

Consequently, Romero (2015) has argued that central to the concept of local development is to understand 'local' as designating not just a 'where' (whose definition ultimately depends on the standing of the observer), but also—and more importantly—a 'how' and 'by whom' development is promoted. Territorial development designates development that is endogenous and spatially integrated, leverages the contribution of actors operating at multiple scales, and brings incremental value to national development efforts. A close look at this definition reveals four features of local or territorial development:

1. The first defining feature of territorial development is the mobilization of a wide range of place-specific resources via effective political and institutional mechanisms of governance and administration.
2. The second feature follows as a result of the first. It refers to local development being incremental with respect to national development efforts, in the sense of having the potential to improve, via autonomous local au-

thorities' action, both the efficiency and the scope of national development efforts.

3. The third feature refers to the economies of scope and added value to sector-specific activities that may be realized through their horizontally integrated and spatially coordinated management by local authorities.
4. The fourth feature refers to the fact that local development significantly depends on the interaction of local public, community, and private actors, with a range of other actors operating at supra- and infra-local level, regardless of the way such levels are defined. This invalidates any form of localism in thinking about local development and makes it essentially multi-scalar.

Implicitly, these defining features of territorial development call for quite a different approach and ways of thinking, policy making, and planning for regions or localities. We will come to this later in Section 10.5.

10.3 Territorial livelihood

10.3.1 Meaning and principles of livelihood approach

The livelihood approach is used to analyse situations prevailing in a certain territory, to prepare strategies and plans, and to promote territorial-specific development. This approach gained popularity among international development agencies in the 2000s. Earlier in 1995, Chambers and Conway (1992) defined livelihood as the way in which people make themselves a living using their capabilities and their tangible and intangible assets. Later on, many others picked up the idea and defined it in their own ways. A livelihood comprises the capabilities, assets, and activities required for a means of living, and a livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base.

Differences in definition imply that there are many ways of applying the livelihood approach. However, despite these many ways, there are six principles that everyone working with the livelihood approach should observe:

1. *Livelihood approach is people-centred.* It is people-centred in the sense that since problems associated with development are often rooted in adverse institutional structures impossible to overcome through simple as-

set creation, it is imperative that development efforts give priority to people rather than to resources.

2. *Livelihood is holistic in its approach.* A holistic view is aspired to in understanding stakeholders' livelihoods as a whole with all their facets, using a clear model that helps to identify the most pressing obstacles people have to face.
3. *Livelihood approach is dynamic.* Just as people's livelihoods and the institutions that shape their lives are highly dynamic, so must be the approach, in order to learn from changes and help mitigate negative impacts while supporting positive effects.
4. *Livelihood approach builds on local people's strengths.* A central issue of the approach is the recognition of everyone's inherent potential for the removal of constraints and realization of potentials. Identifying these strengths rather than the needs and problems is the starting point of this approach. This view will eventually contribute to stakeholders' motivation and ability to achieve their own objectives.
5. *Livelihood approach is concerned with macro–micro links.* Development activity tends to focus at either the macro or the micro level, but people are often affected by decisions at the macro-policy level and vice versa. This relation needs to be considered in order to achieve sustainable development. Therefore, this approach attempts to bridge this gap by stressing the links between the two levels.
6. *Livelihood approach places emphasis on sustainability.* A livelihood can be classified as sustainable if it is resilient in the face of external shocks and stresses, independent from external support, able to maintain the long-term productivity of natural resources, and does not undermine the livelihood options of others.

The livelihood approach is helpful in territorial project and programme planning and in monitoring and review of activities. A first step is to understand livelihoods by conducting a livelihood analysis. The livelihood analysis will form the basis for prioritizing, planning, and eventual monitoring. The analysis is guided by a livelihood framework which encompasses a number of issues to be examined.

Essentially, the framework presented in Figure 10.1 highlights the fact that territorial communities operate in a context of vulnerability, within which they have access to certain assets. These assets are influenced by the prevailing social, institutional, and organizational environment (policies, institutions, and processes), which enables people to perform better or worse. This context decisively shapes the livelihood strategies that are open to people in

pursuit of their self-defined, beneficial livelihood outcomes. Extended explanations of the elements of the livelihood framework are given below.

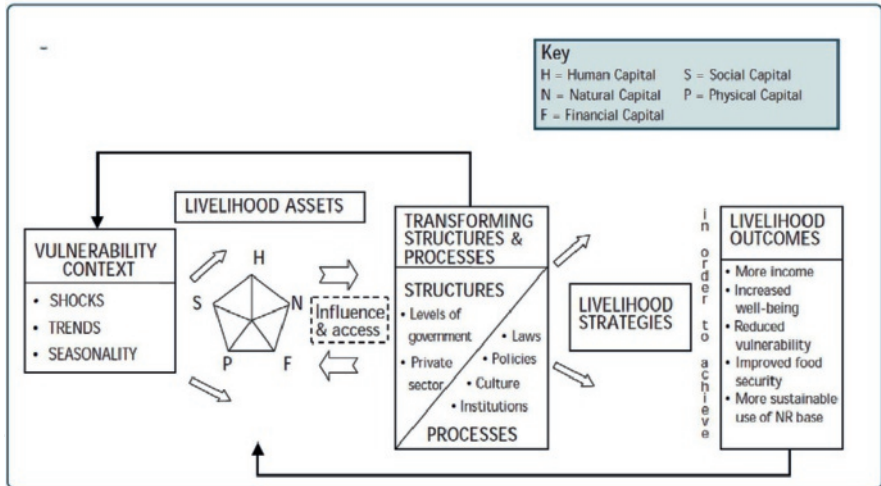


Figure 10.1
Sustainable livelihood framework
 Source: DFID (2000)

10.3.2 Elements of livelihood framework

10.3.2.1 Vulnerability

Vulnerability refers to risk and the ability to handle shocks. To be prone to risk or adverse events may be unavoidable because even moderately well-off people are vulnerable to risks, just as poor people are. The issue, therefore, is the ability or inability to handle the consequences of such adverse events: well-off people will cope better than very poor people. It is for this reason that risk combined with a lack of ability to cope with a shock jointly constitutes what vulnerability is (Chambers 1989; Dercon 2002). A vulnerability context, therefore, can be described as external conditions that may have serious impacts on capitals and livelihoods, and these conditions include climate, markets, and politics.

10.3.2.2 Livelihood assets or capital

The assets in the livelihood framework are called capitals. There are five main capitals. The first is human capital: labour, skills, experience, knowledge, creativity, and so on. The second is natural capital: resources such as land, water, forests, pastures, and minerals. The third is physical capital: houses, tools and machinery, food stocks or livestock, jewellery, and farm equipment. The fourth has to do with finance, in terms of money in a savings account in a bank or in an old way of saving money, or credit. The fifth is social capital: the quality of relations among people—for example, whether one can count on support from one's family or mutual assistance among neighbours.

10.3.2.3 Transforming structures and processes

Capitals do not float freely; they are embedded in structures. Structures refer to boundaries in which social relations occur. These can be exploitative as well as constructive. Structures can be policies, rules, regulations, and institutions. For example, structures can lay a foundation for households to be dominated at various levels of the society, and these structures of domination can even be reproduced within households between men and women and between old and young. Whether the structures are exploitative or constructive structures, they shape the way livelihood opportunities are perceived by locals as being feasible or not and accessible or not.

10.3.2.4 Livelihood strategies

Livelihood strategies comprise the range and combination of activities and choices that people undertake in order to achieve their livelihood goals. This should be understood as a dynamic process in which people combine activities to meet their various needs at different times. Different members of a household may live and work at different places, temporarily or permanently. Livelihood strategies are directly dependent on asset status, policies, institutions, and processes. Therefore, locals compete, and the livelihood strategy of one household may have an impact (positive or negative) on the livelihood strategy of another household.

10.3.2.5 *Livelihood outcomes*

Livelihood outcomes are the achievements or outputs of livelihood strategies, such as more income, increased well-being, reduce vulnerability, improved food security, and a more sustainable use of natural resources. When thinking about livelihood outcomes, the aims of a particular group and the extent to which these are already being achieved have to be understood.

In conclusion regarding the livelihood approach, there are a number of issues that a planner can examine. The first aspect is related to institutions. From the livelihood analysis perspective, a failure to access livelihood resources and opportunities may be the result of mechanisms by which some people exclude others from access, with the objective of maximizing their own returns—particularly property relations, or certain social or physical characteristics such as race, gender, language ethnicity, origin, or religion—to legitimize this fencing in of opportunities. This implies there should be attention paid to power relations, and this needs to begin with the exploration of the working of institutions, because power relations are legitimized by institutions and continuously reproduced by them.

The second aspect a planner can examine is that concerning interest groups and political arenas. With regard to interest groups and political arenas, a planner is cautioned to consider livelihoods as being organized in arenas of conflicting or co-operating actors. The interest groups are groups of different composition which present themselves depending on the problem. These groups can be occupational groups, status groups like women or youths, kinship groups, networks of mutual assistance or clients of a patron, and sometimes a group of individuals with a common history.

10.4 Rural–urban (territorial) linkage and development

The territorial approach is multi-sector and thus very appropriate in local rural and urban settings because, at this level, the sectoral approach cannot be fruitful. When using the territorial approach, it is difficult to separate the discussion of local rural and urban development for many reasons.

For instance, many of the economic activities in urban centres are interrelated with the surrounding rural economy through consumption, production, employment, and financial linkages, and through various types of economic and social service provision. This is equally to say that the expansion of an ur-

ban economy is very dependent on dynamics occurring in rural areas, while the reverse is also true. In other words, the nature and extent of economic linkages between urban centres, their hinterland, and the wider economy constitute key factors shaping territorial local development dynamics and potential. This means that policies and interventions aimed at developing the territorial economy should take into consideration the existing patterns of interaction between the rural and urban economies and should seek to reinforce synergetic links and mitigate adverse impacts arising from resource flows and exchanges between both types of locations. The bottom line is that a neglect of the urban aspects of the territorial economy undermines its development potential (Wandschneider 2004).

For many decades the conception that the urban economy grows at the expense of rural areas has largely dominated and influenced policy and development thinking. This influence has resulted in policies biased towards urban centres. Nevertheless, since the late 1970s and early 1980s, there has been a re-thinking of the nature and impact of rural–urban linkages, their mutual dependency, and the critical role of town and city networks in the process of territorial economic development (Kammeier 2002; Satterthwaite & Tacoli 2003).

A close examination of the interaction between urban and rural centres may reveal that the development of urban centres is substantially dependent on the growth, and not stagnation, of the surrounding rural economy. This growth comes as a result of an increase in demand for goods and services produced within urban centres and of the expansion of the rural surplus available for processing and/or marketing in these centres. Consequently, an expansion of urban centres cannot in any way disassociate itself from the dynamics of the rural economy. In other words—with the exception of global cities which can survive in another manner—if a local urban centre has a thriving economy, there is reason to believe that the surrounding rural economies are doing well rather than shrinking (Wandschneider 2004). Thus, policy makers and planners have the responsibility to promote the reciprocal relationship of the local rural and local urban economies, instead of prioritizing the development of one at the expense of the other. They should consider them as co-existing territories.

To enhance effective territorial economic development, there is a need for a shift in focus from very large cities to local urban centres, because the enterprise sector in these locations tends to rely heavily on the surrounding rural economy both as a supplier of inputs (including labour through seasonal

migration) and as a market for goods and services. At the same time, town dwellers often engage in farming, while nearby rural residents pursue a whole range of livelihood activities in urban centres. Increased employment opportunities at local urban centres may therefore contribute to curbing long-distance permanent and temporary migration to large city centres, mitigating its undesirable economic and social consequences both locally and in destination areas (Wandschneider 2004). In fact, local urban centres not only serve as consumption outlets and local distribution points for farm and non-farm village production, but also act as links for their hinterland to the wider economy through the supply of imported inputs and consumption goods and the export of rural surplus production.

It is important to note, however, that in spite of the fruitful links between local urban centres and rural areas, the literature (Douglass 1998; Satterthwaite & Tacoli 2003) recognizes this link may be weak and not always beneficial from a poverty reduction viewpoint. For instance, by acting as distribution points for imported goods, these local urban centres may expose local producers to outside competition, while as financial centres they may divert rural savings to outside areas or simply fail to channel resources to agriculture. Disadvantaged groups in village communities may also benefit little from proximity to local urban centres owing to lack of productive assets, social barriers to participation in economic activity, and lack of access to social and economic service provision at the local urban centres (Wandschneider 2004). This calls for local government intervention to target disadvantaged groups to avoid economic and social inequalities becoming too large.

10.5 Territorial (local) development interventions

Conditions at territorial level are quite different, especially when it comes to rural and urban settings; therefore, it is not possible to prescribe a one-fit-for-all intervention. What is presented in this section is a set of blanket interventions that can be unpacked when one wishes to apply them to a territorial-specific condition.

Four interventions to promote territorial development are proposed here. The first is related to territorial livelihood analysis to identify various groups existing in a certain locality and to match them with appropriate intervention. The second is as the consequence of the first: to select appropriate territorial local economic development (LED) initiatives. The third is to enhance

effective decentralization to allow a shift from government to governance. The fourth has to do with enhancing territorial competitiveness.

10.5.1 Territorial livelihood analysis

A detailed investigation of the living conditions of the people in the locality of concern is the starting point of any development intervention. With the use of the sustainable livelihoods approach presented above, this entails understanding the vulnerability context of the population, their assets, and their livelihood strategies, and the structures that guide or provide a context in which all the livelihood processes take place. Thorough understanding of these aspects facilitates the identification of the limiting factors and development-promoting factors prevailing in a given territory. This understanding will further assist planners to determine the disadvantaged groups and groups that can cope with the vulnerability context prevailing in the planning area. Disadvantaged groups require different interventions from the groups that are able to cope with the vulnerability context. Therefore, the identification of these groups is very important in an effort to determine which kinds of interventions are required for which group.

For planners to understand the living conditions of the population based on the livelihood framework, they must conduct research focusing on the five elements of the framework (i.e. vulnerability context, assets, structures and processes, livelihood strategies, and outcomes). They should prepare a survey and participatory guiding tools, using the elements of the livelihood framework as their variables.

10.5.2 Selection of appropriate territorial development intervention

Having determined the living conditions of people in a given territory, planners should be able to match groups with appropriate interventions. Two ideas are proposed here. The first is that the groups that find it difficult to deal with the vulnerability context should be assisted through community economic development initiatives such as those proposed by Helmsing (2003). These initiatives include creation of safety nets, housing improvement and settlement upgrading, basic service delivery, and stimulating community economy. By using these initiatives, it is possible for the vulnerable groups to

diversify their livelihood strategies and ultimately cope with the vulnerability context.

The second idea is that those that are able to cope with the vulnerability context are assisted through enterprise development initiatives (Helmsing 2003). This can be achieved through the creation of clusters of local producers, support of business and agricultural incubators, provision of business development services, and creation of learning groups, which may result in an innovative local milieu.

10.5.3 Enhancing effective decentralization

Decentralization is one of the key aspects for effective planning and conflict resolution mechanisms adapted to local territorial conditions. Therefore, local governments must be supported by clear legislation defining their relation to central government, have access to sufficient resources—notably through local taxation and/or central government transfers—for appropriate investment and service provision, and possess adequate planning and implementation capacity. Perhaps the most important aspect of decentralization is a shift from mere local government decentralization to governance.

As was pointed out earlier, territorial development is multi-actor; and effective undertaking of territorial development requires participation of various societal actors, among whom local government should play an enabling role. There should be flexible institutional coalitions involving local as well as regional and national stakeholders, public–private partnerships involving both the commercial and community sectors, participatory programme planning and management, demand-driven service delivery, and the creation of an enabling institutional and policy environment.

10.5.4 Enhancing territorial competitiveness

Territorial competitiveness is the ability of an area to create, attract, and maintain firms with stable or rising market shares in domestic and/or export markets, while raising the standards of living of its inhabitants. A more competitive territory stands a better chance to develop than a less competitive territory; hence, it is imperative for planners to devise appropriate means to enhance the territorial competitiveness of their planning area. One way of enhancing this competitiveness is by investing in the built-up physical infra-

structure and economic and social overhead capital of the locality, in such a manner that this generates balanced development of all land uses, resolving land use conflicts, minimizing negative and maximizing positive externalities (Helmsing 2003).

Another way of enhancing competitiveness is by creation of institutions that will effectively govern actors' social and economic operations. Enforcement of these institutions as rules of the game is very important, because if they are not enforced, their effect will never be felt. Institutions are important because, if effectively enforced, they will reduce transaction costs. Territories with low transaction costs are more likely to be competitive than those with high transaction costs.

10.6 Conclusion

In conclusion, it should be noted that a focus on a territorial livelihood approach is crucial for LED. In this chapter, territorial development has been referred to as local (rural and urban) areas economic development. In this sense, whenever planners need to promote development that is endogenous and spatially integrated (i.e. development with a territorial focus), they should analyse the situation prevailing in the territory, prepare appropriate strategies and plans, and consequently promote development for that specific territory. In achieving the ultimate goal of promoting development in a specific area, planners are expected to deploy a number of interventions. These include territorial livelihood analysis, selection of appropriate territorial development interventions, enhancement of effective decentralization, and enhancement of territorial competitiveness.

References

- Chambers, R. & Conway, G.R. (1992). Sustainable rural livelihoods: Practical concepts for the 21st century. Discussion Paper 296. Brighton, UK: Institute of Development Studies.
- Dercon, S. (2002). 'Income risk, coping strategies, and safety nets' *The World Bank Research Observer* 17(2): 141–166.
- Douglass, M. (1998). 'A regional network strategy for reciprocal rural-urban linkages' *Third World Planning Review* 20(1): 1–33.
- Helmsing, A. (2003). 'Local economic development: New generations of actors, policies and instruments for Africa' *Public Administration and Development* 23: 67–76.

- Kammeier, H. (2002). Rural-urban linkages and the role of small and medium-sized towns in development: Issues, concepts and policies. Background Paper for the ESCAP and UN-Habitat Workshop on Poverty Alleviation through Rural-Urban Linkages: The Role of Small and Medium-Sized Towns, 16-18 September 2002, Siem Reap, Cambodia.
- Romeo, L. (2015). What is territorial development? *GREAT Insights Magazine* 4(4). June/July 2015. <http://ecdpm.org/great-insights/territorial-development-2/what-is-territorial-development/>
- Satterthwaite, D. & Tacoli, C. (2003). *The urban part of rural development: The role of small and intermediate urban centres in rural and regional development and poverty reduction*. London: International Institute for Environment and Development.
- Wandschneider, T. (2004). Small rural towns and local economic development: Evidence from two poor states in India. A Paper Presented in an International Conference on Local Development, Washington 16–18 June, 2004 Session on 'Bringing Rural and Urban Together for Local Development'.

11

Planning and Financing Investment for Local Economic Development

Vedastus Timothy, Revocatus Nyefwe, Ezekiel Kanire, Galinoma Lubawa, Daniel Mpetwa

11.1 Introduction

The purpose of this chapter is to provide a practical guide to development planning practitioners in Tanzania on how to establish and maintain a process of planning and financing investment for local economic development (LED) as a regular activity integrated with other development planning activities. The chapter consists of five sections. The first section provides a general introduction to the chapter. Section 11.2 describes the context of investment and LED. Section 11.3 provides the planning processes and financing options for public investment in Tanzania. Section 11.4 describes the framework for planning and financing business development for LED. The final section provides concluding remarks to the chapter.

11.2 Context of investment and local economic development

In the macro-economic sense, investment refers to the acquisition of resources used in future production. Public investment in physical infrastructure (for transport, energy, irrigation, water supply, sanitation, etc.) and social infrastructure facilities for delivery of education, health, and public administration has a central role to play in the enhancement of the productive capacity of a country or region (Chatterjee & Turnovsky 2005). Adequate investment in physical assets, coupled with appropriate investment in human capital and technologies, is required to bring about the rapid growth needed to raise living standards and generate sufficient productive employment (Yusuf & Nabeshima 2012). As such, development planning can facilitate

growth and reduction of poverty through incentivizing the flow of capital investment into the priority areas within a region.

The Tanzania Development Vision (TDV) 2025 and the Tanzania Long-Term Perspective Plan (LTPP 2011/12–2025/26) have identified investment in priority infrastructure, as well as enhancing the productivity and growth in productive sectors, as key for the country to transition from a less-developed country to a middle-income country by 2025. Both the Vision 2025 and the LTPP (2011/12–2025/26) recognize that investment by individuals and private enterprises in productive activities (such as agriculture, manufacturing, trade, tourism, etc.) is essential in the war on poverty and the promotion of broad-based and sustained economic growth.

In terms of international and local literature on poverty reduction, findings from recent research recommend the adoption of an LED approach as a tool to ensure that economic growth is translated into greater opportunities, empowerment, and an enhanced quality of life for all the people in a well-defined territory (Ledo 2000; Lubuva 2014). LED is closely associated with decentralization and devolution policies (Nel & Rogerson 2007) and emphasizes that public sector and private enterprise investment must be properly coordinated with the development needs and priorities of local communities. Under the decentralized system, LGAs in Tanzania have the primary responsibility for delivering key public services to the communities, in line with the LED approach.

11.3 Planning and financing public investment

11.3.1 Public planning process in Tanzania

Tanzania's planning process is clearly outlined in other chapters of this Handbook, but we consider it necessary to address it once again in this chapter in order to provide readers with the context in which planning and financing of public investments occur. In Tanzania, the formulation and approval of public investment projects is a bottom-up process, beginning from the lower local government level (LLG) (i.e. villages and mtaa) and proceeding to the central government levels. At the LLG level, the process starts with identification of public investment projects based on the local conditions through an approach commonly known as Opportunities and Obstacles to Development (O&OD). The O&OD process involves village/mtaa-level discussions of pri-

orties, which are compiled, analysed, costed, and assigned budgets (Tilley 2013).

The public investment projects agreed at LLG are submitted to the ward development committee for approval and consolidation and thereafter submitted to the higher local government (HLG)—the district/municipal or township council—for further deliberation. At HLG level, the LLG budgets are consolidated into a council budget through the Medium-Term Expenditure Framework (MTEF), in line with policy priorities articulated in the Budget Guidelines as well as the ceiling set by the ministry responsible for the local government. They are then submitted to this ministry for scrutiny. At the level of the central government, the projects originate from the respective departments within a ministry, department, or agency (MDA) and are consolidated into an MDA budget subject to the ceilings set.

The process of approval of public investment projects proceeds with the Ministry of Finance (MoF) engaging in a dialogue with MDAs, regional secretariats (RSs), and LGAs to scrutinize submitted budget proposals. Later, the budgets are consolidated and submitted to the Inter-Ministerial Technical Committee (IMTC) for scrutiny before submission to the Cabinet with appropriate recommendations. Cabinet subjects the MTEF proposals to detailed discussions, followed by the passing of the Finance and Appropriation Bill that enables MDAs, RSs, and LGAs to start implementing the proposed plans. Investment proposals must be completed prior to budget preparation.

11.3.2 Financing public investment

Finance is required to facilitate the acquisition of resources needed for implementing planned public investment as well as to finance future operating costs. Funds for financing public investment can be delivered in one or more of the following modalities:

1. *Public funding.* In this approach, funds are provided by the central and/or local governments to a project directly or indirectly through a government department, an agency, or a statutory corporation—in different forms depending on the role of the government in the project.
2. *Private funding.* In this approach, financing includes funds sourced privately by the private counterparts—comprising capital markets, commercial banks, investment banks, and/or financing firms. Private funding can be provided in the form of equity and/or debt.

3. *Development partners, donors and other sources.* Funding from these sources includes loans and grants. There are four channels through which funds from development partners and other sources may be delivered:
 - a. Direct project support: Under this approach, fund providers can channel funds directly to a particular project through the budget.
 - b. Programme support: Under this approach, funds are captured in the budget but are directed to a particular programme as determined by the fund providers in consultation with the government.
 - c. General budget support: Through this approach, the funds are channelled directly to the government budget, and the discretion to use such funds rests exclusively with the government.
 - d. Community mobilization: Resources are mobilized within communities to finance projects within the same local areas.
4. *Private finance initiatives.* Private finance initiatives (PFIs) are now established as increasingly popular means of funding public investment with private sector finance and expertise (Jefferies 2006). PFIs can be used to deliver public investment projects through public–private partnerships in which private sector organizations design, build, finance, and operate assets to deliver a service to public sector clients (Akintoye et al. 1998).

The three commonly used types of PFI arrangements are: Build, Operate, and Transfer (BOT); Build, Own, Operate, and Transfer (BOOT); and Build, Operate, and Own (BOO). In a BOT framework, the private sector builds an infrastructure project, operates it over a prescribed period (frequently 20 years or more), and eventually transfers ownership of the project to the government without any payment being due to the private party involved. Under a BOOT contract, the private partner finances, builds, operates, and owns a specific new facility for a predetermined period of time, after which ownership is transferred to the public authority and, often, a payment for it can be established. Under a BOO contract, the private party that constructs the infrastructure owns it outright. PPPs as an integral part of the budget process must be fully disclosed in budget documents.

Tanzania has put in place a PPP Policy, Act, Regulations, and implementation guidelines. These are, respectively, the National Public Private Partnership (PPP) Policy (2009), the Public Private Partnership (PPP) Act (2010), the PPP Operational Guidelines for Tanzania Mainland (2010), and the PPP Regulations (2011). Projects classified as PPP should, therefore, follow the stipulations and guidelines in these documents.

11.3.3 *Procurement and implementation*

In practice, public investment project implementation begins with tendering and contracting processes. The implementation is usually supervised by the respective MDA/RS/LGA in accordance with the basic principles set out in the Public Procurement Act (2011) and its accompanying Regulations (2013), in a manner that maximizes economy, efficiency, transparency, and value for money.

11.4 Planning and financing business development

11.4.1 The role of the private sector

Business development is the most important component of LED planning because the attraction, creation, or retention of business activities is the best way to build or maintain a healthy local economy (Blakely & Bradshaw 2002). The private sector has a central role to play in the war on poverty, and mobilizing private investment is imperative for promoting the broad-based and sustained growth that will help drive poverty reduction. Increased business investment can transform communities from poverty-stricken ones into places leading the way to economic success.

Resources required to succeed in business include proper infrastructure and services (i.e. electricity, water, roads, etc.), business development services (BDS), regular means of financing, and the provision of appropriate information and skills. Successful private enterprises create wealth and employment in local communities. Private enterprise, however, requires a positive business enabling environment to flourish and deliver prosperity. The creation of such an enabling environment requires the participation of various actors, including the government, BDS providers, and financial institutions.

11.4.2 Promoting the informal economy

In developing countries such as Tanzania, economic growth is determined not only by the formal economy (the economic sectors that are legally registered and pay taxes) but also by the informal economy (those activities that are not legally registered). In fact, the informal economy in Tanzania is greater than the formal economy (Arouri et al. 2014); it is at 56.4%. The linkages

between the formal and informal sectors of the economy need to be understood and considered when devising an LED strategy. In practice, the informal economy interacts with the formal economy through the purchasing of formal sector goods and services and through the selling of commodities to formal economy consumers.

Formal–informal linkages can enhance the integration of informal workers and enterprises into global value chains⁴ and create new possibilities for inclusion of informal actors in wider structures of economic growth and decision making. Therefore, promoting and enhancing formal–informal interactions should be one of the key activities in transforming the micro/informal sector into a source of LED, entrepreneurship, and self-employment.

11.4.3 Planning business development

In many countries, national government functions continue to be decentralized, thereby increasing the responsibility of local governments to retain and attract private industry. LGAs have an essential role in creating a favourable environment for business development and success through planning and implementing programmes and projects that remove obstacles to and facilitate investment in their local communities.

Local government can make an important contribution to LED initiatives by properly coordinating its public investment programme with the investment needs and priorities of local communities and private firms, to bring about local convergence among actors. LGAs can contribute to the enhancing of a local area's potential through carrying out studies that pinpoint priority areas of investment and major pitfalls, as well as the feasibility studies and infrastructure project designs that will be required to make the investment opportunities identified more competitive for private sector investment.

Presently, the private sector in Tanzania is composed of a very large number of small and medium-sized enterprises (SMEs) and a small number of well-established, larger firms. To help fill this gap, SME growth needs to be promoted, taking into consideration the specific needs of industry. The wide-

4 A value chain describes the full range of activities that are required to bring a product or service from conception, through the intermediary phases of production, delivery to final consumers, and final disposal after use. This includes activities such as design, production, marketing, distribution, and support services up to the final consumer (and often beyond, when recycling processes are taken into account).

ly discussed constraints to private enterprise growth in the country need to be addressed; these constraints include lack of access to finance on affordable terms, lack of competitiveness, low levels of investment, weak value chain development, and the use of inefficient production technology.

As such, some strategies that can be considered in the development planning process include the following:

1. Expanding access to financial services for SMEs
2. Developing local business clusters
3. Promoting the region to attract and retain investment
4. Developing supply chains to increase intra-regional trade and investment
5. Improving transportation links within and beyond the region
6. Improving technology transfer.

In order to bring about broad-based business development, a unique and useful approach for harnessing the strengths of the various actors in value chains and industry can be the promotion of industrial integration along the value chain, through the establishment and strengthening of business linkages between SMEs and large enterprises within and outside the region.

11.5 Conclusion

As the private sector is the main source of employment and sustained economic growth, the public investment planning process for LED requires a careful coordination among actors and stakeholders at various levels. This will ensure such investment contributes to the creation and maintenance of a conducive environment for spurring entrepreneurship in both agriculture and non-farm occupations and increase incomes for the poor.

References

- Akintoye, A., Taylor, C. & Fitzgerald, E. (1998). 'Risk analysis and management of private finance initiative projects', *Engineering, Construction and Architectural Management* 5(1): 9–21.
- Blakely, E.J. & Bradshaw, T.K. (2002). *Planning Local Economic Development* (3rd ed.). Thousand Oaks: Sage.
- Chatterjee, S. & Turnovsky, S.J. (2005). 'Financing public investment through foreign aid: Consequences for economic growth and welfare', *Review of International Economics* 13(1): 20–44.

- Elgin, C. Arouri, M. & Ben Youssef, A. (2014). 'Building human capital to set the gazelles free: The informal economy', in: *One Billion People One Billion Opportunities: Building Human Capital in Africa*. African Development Bank, pp. 85–97.
- Jefferies, M. (2006). 'Critical success factors of public private sector partnerships: A case study of the Sydney Super Dome', *Engineering, Construction and Architectural Management* 13(5): 451–462.
- Ledo, A.P. (2000). 'Research briefing: A Regionalization strategy to promote integrated local development: The commercial development plan of Galicia', *European Planning Studies* 8(1): 123–134.
- Lubuva, J. (2014). 'ALAT LED capacity building initiatives in the backdrop of a LED policy vacuum in Tanzania—A case study'. Local Economic Development Network of Africa (LEDNA) Knowledge Brief No. 7. http://led.co.za/sites/default/files/cabinet/orgname-raw/document/2014/alat_and_led_capacity_building_in_tanzania.pdf [Accessed 25 July 2017].
- Nel, E. & Rogerson, C.M. (2007). 'Evolving local economic development policy and practice in South Africa with special reference to smaller urban centres', *Urban Forum* 18(2): 1–11.
- Tilley, H. (2013). Unblocking results case study: Rural water in Tanzania. Centre for Aid and Public Expenditure.
- United Republic of Tanzania (URT) (Prime Minister's Office) (2009). National Public Private Partnership (PPP) Policy. Dar es Salaam, Government Printer.
- United Republic of Tanzania (URT) (2010). Public Private Partnership Act 18. Dar es Salaam, Government Printer.
- United Republic of Tanzania (URT) (2010). Public Private Partnership Operational Guidelines for Tanzania Mainland.
- United Republic of Tanzania (URT) (2011). Public Private Partnership Regulations. Dar es Salaam, Government Printer.
- Yusuf, S. & Nabeshima, K. (2012). *Some Small Countries Do It Better: Rapid Growth and Its Causes in Singapore, Finland, and Ireland*. World Bank Publications.

PART III

Sectoral Planning

Sectoral Planning

This part of the Handbook focuses on the presentation of key sectors related to local economic development and describes these sectors in reference to development planning. The discussion in this section highlights the sector-specific potentials and limitations in each of the sectors. Some of the sectors are productive (agriculture, livestock, and environment), and others perform the servicing in the economy (social infrastructure, economic infrastructure). There is one sector that deals with manufacturing and processing (industry). For local economic development to take place, these sectors need two large transformations. The first transformation has to do with their integration with the market for acquiring inputs, on the one hand, and for marketing what is produced, on the other hand. The second transformation has to do with the inter-linkage of the sectors themselves: not only should the productive sectors feed the processing sector and vice versa, but also the service sectors should be set in a manner that they promote both the productive and processing sectors. It is in the inter-linkages that the agro and business incubators (government, scientific communities, and business communities)—as well as value chains, clusters, and innovation systems—enter in, and this will lead to a dynamic local economic growth.

Part III has eight chapters, beginning with a chapter presenting issues related to the agriculture sector, followed by a chapter on livestock development planning and one on environmental planning and management. The other chapters focus on industrial development planning, economic infrastructures, transport planning, and social infrastructures and their related services delivery. The final chapter focuses on sanitation.

12

Agricultural Development Planning

Youze Mnguu, Frank Hawassi, Batimo Sebyiga

12.1 Introduction

The objective of this chapter is to enhance understanding of farmers' conditions in Tanzania. Such understanding should be able to guide planners to design plans for interventions which will render positive results. In this regard, understanding the evolution of agricultural development in Tanzania will provide the requisite context to form a benchmark in planning for the future. The sections in this chapter lay their foundation on the framework of the National Agricultural Policy of 2013 and related policies, whose main objectives are increased agricultural production, sector liberalization and commercialization, promotion of public–private partnership, and provision of effective services that will ensure sustainable agricultural growth. The chapter also discusses the emerging issues in urban agriculture, the processing of agricultural products, value addition, and the potentials and prospects that exist in agricultural products. It is anticipated that this discussion will form a platform for planning agriculture development in Tanzania.

After this introduction section, the second section provides a survey of the agricultural background of Tanzania, followed by a presentation in Section 12.3 of agricultural reforms. In Section 12.4, agriculture-related policies are presented. Section 12.5 concerns resource planning for agricultural production, followed by Section 12.6 on farming systems in agricultural production planning. There is then a section on data needs for production planning and a section on urban and peri-urban agriculture. Section 12.9 presents agriculture processing, value addition, and marketing.

12.2 Agricultural background information

Agriculture is the mainstay of the Tanzanian economy, contributing about 24.1% of gross domestic product (GDP) and 30% of export earnings, and it employs about 75% of the total labour force. The sector is characterized by smallholder farmers, cultivating an average farm size of between 0.2–2.0 ha (URT 2013). The sector has been underperforming despite its 3.3% growth rate since 1985, which is largely derived from area expansion, and it is far below the projected growth rate of 10% annually.

Traditionally, agricultural development planning practice in Tanzania and other developing countries has tended to overlook the importance of incorporating farmers' production conditions. The greater attention paid to the agricultural sector was almost exclusively directed to large-scale farming (e.g. parastatal farms, which occupy 15% of cultivated land (STIPRO 2012)). Small-scale agriculture or the peasant economy, on the other hand, was considered to be inferior and incapable of making a major contribution to feeding cities and generating exportable surplus that would improve the national economy.

Indeed, there are distinct differences between agricultural production under smallholder conditions and under large-scale farming. These differences need to be clearly understood for the purposes of planning. Although resources are always limited, smallholders appear to be more resource-limited than large-scale farmers. They have less access to additional resources and, therefore, face greater difficulties in overcoming constraints in land, labour, capital, and management. Land is often assumed to be readily available; however, substantial research in Tanzania over many years has indicated that while land per se may not be a limiting factor, the availability of fertile land is always a major constraint. Labour clearly emerges as a limiting resource, specifically because it is combined with little capital (machines, equipment, tools, and other inputs). With respect to management, smallholders are also more disadvantaged because, as a group, they are less educated and have little access to extension services.

An important characteristic of smallholder farming is that it is essentially a family enterprise. Unlike large-scale farming, hiring of labour is rare. The family labour of smallholders is at the same time the most important source of their income. The smallholder may continue to produce, even when this does not provide for full payment of spent labour days at the existing labour wage. The farmer and his family may accept this if no alternative employment

possibilities exist. The 'farm' and 'family' is one and the same unit, and the farming systems of smallholders are generally more flexible than the systems of large-scale farmers. If the financial results of the large-scale producers are insufficient to pay hired labour, the farmer runs into financial difficulties and management problems. Recently, agricultural reforms and trade liberalization have largely shifted large-scale farms into private sector operations as business enterprises, while smallholder farmers are still operating at a subsistence level as family enterprises.

Not surprisingly, large-scale and small-scale farming differ in their objectives. The main objective of large-scale farming is the maximization of profit. The small-scale farmer, however, has a complex objective function with multiple objectives: food self-sufficiency, cash income earning, provision of traditional foods and/or keeping of livestock to meet specific cultural and social needs, satisfaction of particular food preferences, etc. These result in a rather complex combination of crops and livestock, despite the small scale of operations, an aspect which is normally overlooked. The farmer maintains a balance in interrelated activities and is bound to a specific farming system. This represents a typical practice of the livelihood strategies presented in Part II, which explains that local communities, including farmers, operate in a vulnerability context with certain livelihood assets constrained by several structures and processes. For this reason, they must live by diversifying their livelihood strategies from farming to livestock keeping, from livestock keeping to non-farming activities, and sometimes even to seasonal migration.

12.3 Agricultural reforms in Tanzania

The history of agricultural reforms in Tanzania cannot be explained well without tracing the development trend taken by Tanzania from the 1960s to 1970s, when it adopted socialist policies based on the philosophy of self-reliance. The major characteristics of that policy were based on protectionism, compulsory villagization, and price controls. This was the period when the state exerted a dominating hand in the control of the economy, a period characterized by state management of corporations, price controls, heavy restrictions on the growth of the private sector, and the monopoly of cooperatives in trade and marketing of certain crops. However, the achievements of these socialist economic policies did not last long owing to a series of economic crises which led to poor performance of the economy. Some of the documented causes of economic crisis in Tanzania include the following (Kiwara 1994):

1. The collapse of income from exported agricultural produce in the world market, exports which brought in USD 564 million in 1979 falling to USD 369 million in 1984
2. The Tanzania–Uganda War (popularly known as the ‘Kagera War’) (1979–1980)
3. The breakup of the East African Community, resulting in a loss to the economy of USD 200 million
4. A series of droughts in the 1970s, whereby approximately USD 413 million had to be spent on food imports
5. The oil crisis of the 1970s.

In view of the above, the government of Tanzania was forced to accept the economic reforms prescribed by the multinational financial institutions (World Bank and IMF), which came with substantial donor conditionalities. Macro-economic reforms were undertaken through specially funded programmes popularly known as Structural Adjustment Programmes (SAPs). The reforms implemented through SAPs had specific measures in regard to the agricultural sector, including the following:

1. An end to marketing monopolies
2. Reduction of parastatals’ involvement in the supply of inputs, marketing, and processing
3. Reduction or removal of subsidies
4. Removal of price control and impediments to private sector activities
5. Removal of restraints on foreign trade, and promotion of the private sector.

These reforms have impacted significantly on the agriculture sector, which was opened up to private investment in production and processing, input importation and distribution, and agricultural marketing. Some of the achievements of liberalization of the agriculture market under these reforms include the following:

1. The restrictions on the movement of grains across regional boundaries by individuals were removed, and the uniform pricing system was abolished.
2. The monopoly of cooperatives in trade and marketing of certain crops was progressively eliminated, and for the first time private operators were legally permitted to buy and distribute food crops in competition with cooperatives.
3. The National Milling Corporation (NMC), which had a monopoly on handling grain, was permitted to manage only the Strategic Grain Reserve (SGR), and the NMC’s usual easy access to commercial credit was terminated.

4. Private businessmen were permitted to sell and export agricultural produce, including grain.
5. Most agricultural product prices were now freely determined by market forces.

The role of marketing boards was changed from price setting, purchasing, and exporting of agricultural produce to new duties which consisted of organizing auctions, ensuring product quality, and conducting market intelligence.

As a result of these reforms, the private sector responded to the opportunities of the flourishing market. These opportunities enabled small-scale activities which required limited management, technical know-how, and capital to be rapidly adopted by the private sector. On the side of farmers, they were no longer confined to a single source for their essential inputs in crops and livestock. Through this reform, producer prices for food and export crops have increased and farmers can sell their produce much faster. The role of the government in this reform was to ensure regulatory and public support functions.

Monetary and credit policies were among reform measures taken to revamp in the face of economic crisis. Monetary policies in Tanzania attempted to control inflation by limiting the growth of money supply, limiting credit, and raising interest rates. This reform went hand in hand with a devaluation of the currency, aiming to attract foreigners to invest in the agricultural sector. Devaluation of the currency made the domestic price of export products more attractive to foreigners but discouraged imports by raising the price of imported goods (Msambichaka et al. 1995). This policy was aimed at boosting exports of agricultural products, discouraging imports, and thus improving the balance of payments (BoP).

12.4 Agriculture-related policies

In order to boost agricultural production, the government launched policies concerning land tenure, land use, input supply, environmental management, irrigation, cooperative development, marketing, and exporting.

12.4.1 Agriculture Policy of 2013

The Agriculture Policy (URT 2013) emphasizes increased production, sector liberalization, commercialization, promotion of public and private sector partnerships, and provision of effective services to ensure sustainable growth in agriculture. The policy recognizes that agriculture depends heavily on natural resources for the production of commercial goods. It is crucial for the long-term future of Tanzania that its natural resources (soils, land, water, forests, and wildlife) be managed so that agricultural production is sustainable and negative impacts are kept to a minimum. However, the use of these resources can directly or indirectly affect other resources in the natural system. This means that misuse of land, water, and forest resources in the production of crops and livestock can have adverse effects on environmental integrity. Therefore, the agriculture sector policies must fit into an overall environmental policy, which is critical in providing guidance for the proper and balanced use of environmental resources and for defining sectoral responsibilities for environmental management.

12.4.2 National Land Policy of 1995

Without land resources, there is no agriculture; and when the rules governing the use of this basic resource change, those of agriculture must also change. The overall aim of the National Land Policy (URT 1995) is to promote and ensure a secure land tenure system, to encourage optimal use of land resources, and to encourage broad-based social and economic development without endangering the ecological balance of the environment. The policy provides guidance and directives on land ownership, tenure rights, and other land-based assets. The policy also seeks to ensure that land is maintained in its most productive use to promote the rapid and sustainable social and economic development of the country.

12.4.3 National Environmental Policy of 1997

The National Environmental Policy (NEP) (URT 1997) seeks to provide a framework for making the fundamental changes that are required to bring environmental and social considerations into the mainstream of decision making in Tanzania. It seeks to provide plans and policy guidelines to guide the determination of priority actions and to monitor and regularly review policies, plans, and programmes. The policy addresses a broad spectrum of

environmental concerns, such as degradation of natural resources and pollution. It requires that development should be undertaken in a way that does not compromise environmental integrity. It stipulates that chosen technologies should be environmentally sound, socially acceptable, and economically viable. The policy also recognizes the role of agriculture in ensuring food security and the reduction of poverty through the promotion of production systems, technologies, and practices that are environmentally sound.

12.4.4 Tanzania Development Vision 2025 of 2000

The Tanzania Development Vision 2025 (URT 2000) foresees the alleviation of widespread poverty through improved socio-economic opportunities, good governance, transparency, and improved public sector performance. These objectives not only deal with economic issues but also include social challenges such as education, health, the environment, and the increasing involvement of people in working for their own development. The driving force of these objectives is to attain sustainable development of the population. The vision articulates the desirable conditions envisaged by the government and people of Tanzania. Vision 2025 seeks to mobilize the people and resources of the nation towards achievement of shared goals and achieving a sustainable, semi-industrialized, middle-market economy by 2025. It is also envisaged that the economy will have been transformed from a low productivity agricultural economy to a semi-industrialized one led by modernized and highly productive agriculture activities which are effectively integrated and buttressed by supportive industrial and service activities in rural and urban areas.

12.4.5 Water Policy of 2002

The Water Policy (URT 2002) identified several challenges in the management of water resources. The policy seeks to enhance the systematic development of water resources for all sectors and to promote the country's socio-economic development. It recognizes that there is a growing scarcity, misuse, and wastage of water resources in many locations in Tanzania, which may pose a serious threat to the sustainable availability of the resources. The policy also advocates that water-related activities should aim to enhance or to have the least detrimental effect on the natural environment. Furthermore, the policy stipulates that allocation and consumption of water for environmental purposes should be recognized and given appropriate consideration,

and that the use of water in the environment should be determined based on the scientific information available, considering both the temporal and spatial water requirements to maintain the health and viability of river systems.

12.4.6 National Irrigation Policy of 2009

The National Irrigation Policy (URT 2009) is Tanzania's policy framework to address the challenges of Tanzania's agricultural vulnerability to climate change. The policy aims at ensuring sustainable availability of irrigation water and its efficient use for enhanced crop production and for profitability that will contribute to food security and poverty reduction. The policy objectives also include the following requirements:

1. To accelerate investment in the irrigation sector by both public and private sector players
2. To promote efficient water use in irrigation systems
3. To abide by an integrated water resources management approach in irrigation development
4. To ensure that irrigation development is technically feasible, economically viable, socially desirable, and environmentally sustainable
5. To ensure reliable water for irrigation so as to facilitate optimization, intensification, and diversification of irrigated crop production to supplement rain-fed crop production effectively
6. To strengthen institutional capacity at all levels for the planning, implementation, and management of irrigation development and to empower beneficiaries for effective participation at all levels in irrigation planning and implementation.

The policy also recognizes the importance of water resources in land, public health, and safety, as well as cross-cutting issues (e.g. environment, gender, and HIV/AIDS).

12.5 Resource planning for agricultural production

Production planning is essentially resource planning. As noted above, resources are always scarce. But it is the relative scarcity of the resource or factor of production which determines how much to use of the resource for what possible productive activity or 'enterprise'. In this section, we will consider the main resources in the planning context.

12.5.1 Land use planning

It is important for planners to be conversant with the land types in their area so that proper advice on their use can be provided. Normally, typologies are based on most preferable use; in other words, once a land type or class is known, its use can be identified quite easily. Land use can be classified into the following categories:

1. Residential land
2. Commercial and industrial sites
3. Crop land
4. Pasture and grazing land
5. Forest land
6. Mineral land
7. Recreational land
8. Environmentally protected land
9. Barren or vacant land.

As can be expected, the most important categories of land are crop land and pasture/grazing land. This land accounts for the largest proportion of the total area that may be said to have economic value in districts and regions. Crop land includes all cultivated areas used for the production of food crops, animal feed, fibres, and all other crops. As a land use concept, it includes not only crop land harvested but also planted areas that have suffered from crop failure and areas that are temporarily idle or fallow.

Forest land includes the areas used for commercial timber production, together with non-commercial woodlands, farm wood plots, cut-over lands with timber growth potential, and some bush land areas. Grazed woodlands, for example, may be treated as either grazing or forest land. Similarly, a number of tree crops have value for food as well as for timber production. Recreational land includes parks, beach resort areas, game reserves, open spaces, and scenic areas that are used largely for recreational and related purposes. One of the functions of a planning officer is to provide leadership in decision making on the use of land in a district. Often, he has to deal with and mollify villagers who want to make use of a protected natural forest to satisfy their need for firewood, and he has to explain conservation measures. In cooperation with other functional managers in the district, it may be necessary also to explain why crops can be cultivated only in land areas of specific classes.

Land is the basic resource in agriculture. It is therefore imperative to have a detailed knowledge of land use patterns. As a general rule, the higher the

producing capacity of the land, the higher the land value. Two different land values can be established: the private or market value, and the social or societal value. Individual farmers tend to satisfy their short-term interests. This may lead to over-exploitation of land. Land, being a natural resource, has to be held in trust for our descendants. The role of planners, therefore, is to safeguard societal interests and values which are long-term in nature. If a continuous degeneration of land takes place, measures to reverse this process have to be taken. These measures may take the form of zoning, protection ordinances, or by-laws for specific identified areas.

The carrying capacity of land involves its relative ability to produce a surplus of return and/or satisfaction above its cost of utilization for a given number of years. This definition means that the carrying capacity of land is subject to change from time to time, depending on its use. Capacity may increase if sufficient attention is given to the land. On the other hand, capacity may decrease if land is abused over time. Shifts take place, however, with changes in a human being's know-how and changes in the way he uses land resources.

Having established the main land types, more details are required for the agricultural planning of suitable land. Three types of analysis have to be made:

1. *Physical aspects.* The elements of interest are topography and altitude. An assessment of land potential has to be made, taking into account soil and climate conditions. Availability of surface water (rivers, lakes, swamps) has also to be established. All these elements together define the enterprises that are technically feasible.
2. *Spatial aspects.* The location of land is of utmost importance. The distance to market and the condition of road networks have substantial consequences for economically feasible enterprises. On the one hand, location determines the level of off-farm prices—and on the other, the level of transport costs. In many cases, transport costs are as important as production costs—and are often even more important. The sum of both costs determines the competitiveness of regions, districts, and zones within districts.
3. *Institutional aspects.* The way land is governed is of primary importance in agricultural development. If people do not have security of tenure, they will not invest much of their efforts to develop land. It is important therefore that farmers are given rights to own land, either as individuals or as a community. This is related to the prevailing land tenure system. The form of land tenure, be it private property, communal land, or rented land, is important for production decisions, especially insofar as investments are concerned. No farmer will make qualitative improvements, and neither

will he grow (multi)annual crops, on land which is rented for a short period. The pressure on land determines the length of fallow periods and rotation schemes. In addition, the average farm and plot sizes are crucial factors to be taken into account in agricultural production planning.

Also of importance is the micro level. What distance does the farmer have to walk to reach his plots? Which means of transport does he have access to for transporting his produce to his home or to a selling point, and at what price?

Products with a low value per weight are disadvantaged when transportation is time-consuming and costly, even if the geographic distance is short. For example, cassava may be an excellent crop from an economic point of view when plots are located near a selling point. A location further away may render the crop unattractive as a result of increasing transportation costs. The following example will illustrate this effect:

Situation A

A plot of cassava and maize located near a selling point

Cassava (1 ha)		Maize (1 ha)	
16,000 kg at Tshs 2/kg	32,000	800 kg at Tshs 20/kg	16,00
<i>Variable costs:</i>		<i>Variable costs</i>	
Transportation 200 bags of 80 kg at Tshs 50/kg	(10,000)	Transportation 10 bags of 80 kg at Tshs 50/kg	(500)
Other costs	(3,000)	Other costs	(500)
Subtotal costs	13,000	Subtotal costs	1,000

In this situation, the margin of cassava exceeds that of maize by Tshs 4,000 (27%).

Situation B: A plot of cassava, located at such a distance from a selling point that transportation costs per bag of 80 kg are doubled from Tshs 50 to Tshs 100

Now the picture changes dramatically. The transportation costs of cassava increase by $200 \times \text{Tshs } 50 = \text{Tshs } 10,000$, reducing the margin to Tshs 9,000—whereas for maize the costs increase by only Tshs 500, with a margin of Tshs 14,750. The result is that the margin for maize exceeds the margin for cassava by Tshs 5,750 (64%)

Transportation costs have a high impact on cassava and almost no impact on maize, because the physical volume of cassava per kilogram is 20 times the volume of maize. This is accompanied by a low value per weight for cassava and a relatively high value per weight for maize.

12.5.2 Labour planning

Labour is the most substantial input contributed by the farming family in most agricultural activities. The farm size is determined largely by the available family labour.

The strength or capacity of the family labour force depends on the number of household members and the age–sex composition:

1. *Age composition.* Arbitrarily, we can say that a person below 15 years of age cannot contribute effectively to farm work operations. In normal labour accounting methods, the amount contributed to farm labour below that age is scored as a percentage of an adult person. The proportion of schoolchildren in a family determines the extent to which children participate in farm work. Although they may do little work during periods of low activity, during peak periods in labour demand (sowing, harvesting) their support may be substantial.
2. *Gender composition.* In some districts one may come across ‘women’s crops’, such as beans, groundnuts, and vegetables. On the other hand, there may be crops which are predominantly under male management. When a household consists of males only, beans will not be cultivated. The promotion of the cultivation of a particular crop may have to take into account the sexual composition of labour, rather than the total amount of family labour. A proper understanding of the gender bias towards specific crops will also ensure that the proper audience is addressed whenever extension activities are carried out. Some authors consider that the intensity of women’s work is less than that of men’s work; this depends, however, on the nature of the activity. In fact, some cultivation practices are considered feminine (weeding), whereas others are considered masculine (land preparation).
3. *Intensity of labour use.* Apart from age and gender, intensity of land use also depends on nutrition, health, and seasonal influences. Poorly fed farmers are less productive than well-fed farmers, especially in regard to heavy work. Tropical diseases, such as malaria, affect normal labour operations. With respect to climate, heavy and lasting rains do not permit effective farm labour utilization, while very high temperatures are unsuitable since they cause fatigue.

To estimate the availability of family labour, a calculation should be made of the time spent on activities other than farm work:

1. One day of the week is usually a rest or religious day.
2. Public holidays may be quite numerous.
3. Communal activities, such as the construction of roads, schools, dispensaries, public water point, etc.
4. Going to market for buying and selling.
5. Collecting firewood, and other household activities.

When an accurate calculation is made, one finds that the available time is often much less than one initially expected.

It is important to realize that labour is a flow variable and not a stock variable. This means that any labour not used today cannot be stored and be used tomorrow. An account of available labour at the household level is required to be able to plan for its utilization and to determine whether the labour requirement of a certain production plan can be met. If the requirements do not match with the available labour, then the planner has to determine how best to circumvent the situation—for instance, by any of the following methods:

1. Changing one production activity for another
2. Reducing an operation
3. Working longer hours
4. Introducing machine power in some operations, etc.

12.5.3 The seasonality of farm labour

Farm work does not occur evenly throughout the year. In many areas in Tanzania, for example, the actual farming season is only 3–4 months. Farming operations are therefore characterized by labour peaks and troughs. Work peaks occur because critical tasks, such as planting, weeding, and harvesting, are closely related to the seasons and must be completed within a limited period of time. Delays will usually cause a loss of yield. The existence of peak periods in general means that agricultural labour is not fully utilized in other periods of the year. In contrast, livestock work is usually spread evenly throughout the year. The availability of family labour is rather constant during the year; as a consequence, the availability of labour does not match with the labour requirements in every month.

In rural districts and regions, increased labour availability to farm households through hiring is not particularly feasible, because landlessness rarely exists. Moreover, due to politicization and the political connotations attached to the hiring of labour, a planner needs to do the following:

1. To avoid competition for labour among individual and communal activities in the village and district through proper timing
2. To identify and encourage non-farm activities aimed at increasing household income, such as weaving, tailoring, pot- and basket-making
3. To establish labour profiles, which are very important in calculating optimal production plans of farm enterprises or of smallholders (see section on farm planning).

In summary the planner has to estimate on the one hand the labour available (supply), and on the other hand the labour required by different productive activities (demand). Comparison of the supply and demand of labour results in the so-called labour film.

12.5.4 Capital planning

Capital is defined either in terms of physical (goods) or financial resources. Capital goods include goods that can be used to produce other goods (plants, machinery, buildings, breeding animals, etc.), and these can be distinguished from non-capital goods, such as fertilizers, seeds, and chemicals. In financial terms, capital relates to the flow of financial resource into the production process.

At the farm household level, consumer capital (i.e. durable consumer goods such as houses and furniture, bicycles, hoes and pangas, cooking utensils) should not be neglected, although they are less important. A knowledge of capital will assist planners to advise on the proper capital–labour ratios required for optimum production, acquisition of capital, and the accumulation and depreciation of capital.

Farmers can acquire capital goods through the following methods:

1. Purchase from personal funds
2. Physical efforts (if he/she clears land, plants crops, builds a dam or a cattle kraal, etc., he is investing)
3. Credit. Resource-limited farmers can benefit greatly from supervised credit. The necessary considerations for credit are the repayment capacity and risk-bearing ability:

- a. Repayment capacity. The normal return on capital is the total annual gain or benefit derived from using the capital less extra costs incurred, including depreciation, maintenance, and repairs. It is usually expressed as a percentage of total capital invested. At issue in this regard is whether the credit is able to benefit the farmer and at the same time enable the farmer to service the credit and repay the principal.
- b. Risk-bearing ability. The borrower of capital runs the potential risk of losing his capital. At this point it is important to observe whether the farmer has the capability to absorb any shocks related to losing the borrowed capital. The lender would not be interested in very vulnerable borrowers. The district planning officer is thus the best link between the rural financial banks—such as the Cooperative and Rural Development Bank (CRDB), the National Bank of Commerce (NBC), and the Tanzania Investment Bank (TIB)—and villagers. Based on the foregoing, the planner can advise on whether or not the applicant deserves the credit requested.

The value of capital goods, such as tractors and farm buildings, decreases owing to use and age. This phenomenon is called depreciation. Methods for its determination are the following:

1. Straight line method
2. Sum of the year digits method
3. Declining balance method.

The straight line method is illustrated below using a hypothetical example. Suppose a tractor costs Tshs 1.5 million inclusive of the plough, trailer, and harrow. If we assume that the tractor will perform adequately for 10 years, after which the tractor will have a salvage value of Tshs 500,000, its yearly depreciation can be calculated as follows:

$$\begin{aligned}
 &= \frac{(\text{cost price} - \text{salvage value})}{\text{No. of years}} \\
 &= \frac{1,500,000 - 500,000}{10} \\
 &= \text{Tshs } 100,000
 \end{aligned}$$

This means that the tractor will have depreciation expense of 10% of its original value per annum.

12.6 Farming systems in agricultural production planning

A farming system is considered to be a recurrent decision-making process resulting in production, through which agriculture-based households satisfy their needs and priorities (objectives) with the existing resources at their disposal (internal factor) and within the framework of their physical, socio-economic, and political environment (external factors). Thus, a farming systems perspective (FSP), also commonly referred to as farming system research (FSR), implies a holistic, interdisciplinary approach to a farm and its relationships within its environment.

The major objective of FSR is the improvement of agricultural production and productivity by generating appropriate new technologies. Two types of research can be distinguished: downstream and upstream FSR. Downstream or location-specific research has the short-term objective of generating improved technologies for a target group of farmers. Upstream FSR is conducted with a longer time perspective and seeks to overcome the major limitations of farming systems. Location-specific research is best implemented through on-farm research methods (OFR), where farmers are involved in identifying potential technological improvements, which are then tested under field conditions.

The interface between farming systems and agricultural planning lies in the identification and realization of the role and significance of economic, physical, and human factors, which influence the technologies to be employed in establishing a crop in a given target area or micro-climate. Economic factors can be divided into those that are internal to the farmer and over which he has some control (such as his goals and resources), and those that are external (such as markets).

Resources that are in relatively fixed quantities include land, family labour, and capital and can be allocated to household production and consumption goals. Farmers may allocate their resources to different uses. Within limits, and given the level of available incentives, they also adjust the amount of resources available for the production process. For example, they may use some of their cash to rent more land or hire more labour during peak periods in the season.

Economic factors with bearing on the farming system, but externally controlled, include price and price variability for inputs and products, access to input and product markets, land tenure systems, credit facilities, and infra-

structure. This economic environment is largely outside farmers' control; it is influenced by policy decisions about distribution of input, prices and level of inflation, infrastructural development, and so on.

A large number of environmental factors also condition the farmer's decision-making process. These include soil fertility, slope and depth, climate, common weeds, crop pests, and other farming hazards. Thus, the researcher's and planner's role in improving the productivity of farming systems involves the incorporation of knowledge of critical factors affecting farming. Plans for agricultural production will have little chance of success if such factors are ignored. Following the FSP, the planning stage will therefore entail the use of physical, biological, and socio-economic information acquired during the diagnostic and/or on-farm experimental stages.

Farmers may choose to neglect policy guidelines, instructions, or interventions from outside—for example, production directives or obligations to sell to government institutions—when these contradict their own objectives. Farmers can be compelled to respect directives only by sanctions, such as penalties or even jail. Therefore, it is important that planners have a sound understanding of the farming systems.

12.7 Data needs for production planning

An important planning step is the collection of reliable data. Data can be collected at two levels: the village level and the farm or household level. Data at village level are mainly aggregated data which give an idea of the level of development. They are mainly used for defining development parameters, for projections, and for target setting.

12.7.1 Data requirement for farm planning

The data required for effective farm planning are listed below under different headings. They have to be collected in order to describe representative farms in homogeneous agro-ecological zones of the districts. The data are presented in seven clusters and are meant to serve as a guide. More detailed elaboration will be required if use is to be made of questionnaires.

DATA SET

1. Land availability and use, combined with physical factors:
 - a. Quality of soil and suitability of crop, topography, altitude, rainfall, temperature, availability of irrigation water
 - b. Average farm size, number of plots, distance to home
 - c. The actual land use:
 - i. Cropping pattern during one agriculture year
 - ii. Current use and next use
 - iii. Size of plots
 - iv. Duration of fallow periods
 - v. Livestock.
2. Availability of labour:
 - a. Composition of the family household, age and gender; participation of women, children, and men in farm activities
 - b. Estimation of work in non-farm activities, such as firewood collection, marketing, communal activities, illness, non-working days, etc. to determine the effective available labour days of the family
 - c. Hired labour: which activities, when used, how paid (cash or products), how much, their availability during peak periods, etc.
3. Productive activities (crops/livestock) for each crop:
 - a. To elaborate the calendar of operations
 - b. To calculate variable costs: quantity of inputs and their prices (technology uses)
 - c. Labour requirements, type of work, gender, duration and timing (labour film)
 - d. To obtain the yields (in units used by farmers)
 - e. Destination of the produce: for market or retained for home consumption (human, animal, and seeds).
4. Prices and market conditions:
 - a. Farm prices of crop related to calendar month
 - b. Official prices and parallel market prices
 - c. Type of buyer(s) and place of selling
 - d. Marketing costs involved
 - e. Timing and efficiency of buying parties
 - f. Supply of required inputs (improved seeds, fertilizer, etc.).

5. Food requirements and household expenditure:
 - a. Foods preferences and habits; possible changes in recent past
 - b. Estimation of average food consumption of the farm family (type of foods, quantities, periods)
 - c. Which foodstuffs are purchased (quantities, prices)
 - d. Other household goods.

6. Farmers' decision-making process:
 - a. Test indicators for determining the objectives of the farmers
 - b. Why do they grow the crops they grow?
 - c. Has there been a change in the past 5 years in the relative importance of crops: which crops are produced more and which less, and why?
 - d. Major constraints (problems) on adopting new technology
 - e. Constraints on increasing acreage.

7. Supporting services:
 - a. Credit (availability, timing, adequacy)
 - b. Agricultural extension services
 - c. Government intervention in production and marketing (obligations/ restrictions, village development agents).

12.7.2 Methods of data collection

Unlike industrial data, where records are well maintained, data for small-scale agriculture are neither readily available nor very reliable. Problems always exist with area and volume measurements. Farmers find it difficult to estimate area, and it is almost always over-estimated. Volume, on the other hand, is easier to measure because of the use of such containers as bags, de-bes, and standard pishis. In an attempt to establish reliable data it may be necessary to carry out actual area measurements in the field using a sample of farmers. In estimating yield, crop cutting in a specified area and extrapolation of the resulting output on a hectare basis may prove useful.

Data can be collected in different ways, including the following:

1. Discussions with village leaders and development agents familiar with the villages
2. Discussions with farmers, individually or in groups
3. Questionnaire surveys of selected individual farmers
4. Introduction of a system of record-keeping by farmers
5. Own observation and measurement of samples.

All methods have their advantages and disadvantages; and, in practice, a combination of methods will often have to be used. Here we should note that, in order to collect reliable data on flow variables such as labour, a simple form of record-keeping will be required.

As noted above, primary data are obtained directly from the farmers. However, it is sometimes necessary to gather some secondary data. Reliable sources of secondary data are the following:

1. District and regional agricultural offices for area planted
2. Cooperative societies and unions for crop volumes marketed
3. Meteorological stations for rainfall data
4. Parastatal organizations for crop collection in the period when cooperative unions were disbanded.

12.7.3 Farm records

Regional and district officers are not managers of farms, although they play a very important role in advising farmers in their respective areas of competence. To effectively perform this role, they need to know something about the keeping of records, since records are prerequisites for the application of any farm planning technique.

Many farmers, on their own admission, are not interested in figures and account books and often state with pride that they are able to carry all their business affairs in their heads. This does not mean, however, that there is no place for records. On the contrary, records are useful for the following reasons:

1. Assistance in planning and budgeting
2. Identification of growth in the farm (comparison with earlier years)
3. Identification of weaknesses in different farm enterprises (comparison with other comparable farms)
4. Assistance in negotiating and acquiring loans from banks, cooperatives, and private individuals
5. Knowledge of how farmers practise farming (helps in understanding the farming system).

While the keeping of records does not involve much time, discipline and supervision are always required. The farmers should keep the records themselves, and a small remuneration for the effort involved will help provide the

motivation. A reward will also improve the quality and consistency of the information.

Very simple physical record charts can be designed by the district’s planning team and distributed to farmers. It is not necessary to distribute charts to all farmers and for all crops and livestock. More important is a representative sample of farmers who maintain reliable data.

Record keeping should also be selective and the recording of information on unimportant items should be avoided. It is normally preferred to introduce a diary both for the purpose of providing an incentive and for the purpose of being able to maintain proper and reliable records.

Experience has shown that records can be unnecessarily complicated, especially where they encompass few tables and are concerned with aggregated data. An apparently simple question such as ‘How much labour did you devote to that crop’ often turns out to be unanswerable because it is impossible to summarize all the bits and pieces of work conducted over several months on a particular plot. An example of a bad record is shown in Table 12.1. The so-called crop production chart is in fact a table, which should result from summarizing data derived from other more basic charts.

Table 12.1
Crop production chart

Crop	Plot No.	Acres	Seeds (QT & T)	Fertilizer Qt & T)	FYM (QT & T)	sprays (Qt & T)	Yield	Total output

A better approach is not to use a record for each selected crop on a specific plot separately. There is no need to register all crops on all plots. It is sufficient to collect data on principal crops only, and this further increases the reliability of the data. Comparison with similar records of the same crops provides a basis for the estimation of outputs and costs and subsequently the calculation of gross margins (Table 12.2).

Table 12.2

Crop production chart

Crop _____ Acres _____ Plot No _____				
Date	Activity	Quantity	Price/Unit	Value

Other example record charts that could be created are the Tables 12.3 and 12.4:

Table 12.3

Record of home-consumed produce

Date	Details	Meat	Maize Meal	Beans	Vegetable
2/12/15	Vegetable				1 kg
9/12/15	Chicken	1 kg			

These kinds of data can be assembled on a regular basis by the supervisor—for instance, once every two weeks.

Table 12.4

Record of labour on farm

Date	Crop	Plot no.	Work done	No of persons	Time taken hrs or days per person
22/9/15	Maize	1	Land preparation	2	4

And so on.

12.8 Urban and peri-urban agriculture

12.8.1 Overview

Urban agriculture is the practice of cultivating, processing, and distributing food in or around a town or city. It is an industry that produces, processes, and markets food and fuel, largely in response to the daily demands of consumers within a town or city or peri-urban area (Smit et al. 1996). Urban agriculture can also involve animal husbandry, aquaculture, agro forestry, urban beekeeping, and horticulture. It forms part of the survival strategy of urban dwellers all over the world and has historically been integral to urban areas (Mougeot 1994; Drakakis-Smith 1996). It plays a beneficial role in terms of the urban economy, urban food supply, and urban development in general (Smit et al. 1996). Although largely an informal economic activity, urban farming provides employment and income for those involved. It is not its urban location which distinguishes urban agriculture from rural agriculture, but the fact that it is embedded in and interacts with the urban ecosystem.

Most countries in the world are characterized by increased population coupled with increased urbanization. It is projected that worldwide the population will reach 9.6 billion people by 2050, with the majority of that growth taking place in urban areas of less-developed regions (UN 2012). Sub-Saharan Africa in particular constitutes a great portion of that growth, as its urban population is expanding faster than any other region and expected to double between 2010 and 2030 (FAO 2012). Given the urban population growth worldwide, the phenomenon of urban agriculture as a food, income, and employment generator is likely to increase. A rapidly increasing urban population has implications for demand for food, potable water, shelter, transportation, and health and recreation services, and this will place additional stress on natural and cultural resources.

Until recently, poverty was perceived as a rural phenomenon, but the rapid urbanization of many developing countries has given birth to a large class of urban poor. On the other hand, rapid growth in urban population is a factor in the growth of urban agriculture. It is estimated that 54% of the world's population lives in cities, a percentage that is expected to increase to 66% by the year 2050 (UN 2014). Increase in urbanization is also expected to result in growing urban markets, urban poverty, food insecurity, rising food prices, growing dependence on food imports, and challenges posed by climate change. Basically, urban areas are not designed to accommodate agricultural

activities or livestock keeping. Urban land is customarily zoned to accommodate residential areas, industrial sites, business activities, road and railway networks, recreational facilities, and other agreed upon purposes. As such, there have been a number of infrastructural, social, and environmental constraints to urban agriculture despite its potential to meet the nutritional and economic needs of urban dwellers.

The urban agriculture situation in Tanzania was summarized well by Foeken, Sofer, and Mlozi (2004), who observed that farming in towns—both crop cultivation and livestock keeping—is very common in Tanzania; that urban farming is, to some extent, an answer to adverse economic circumstances; and that urban farming is practised by all social categories and not merely by the urban poor. Generally, urban agriculture is characterized by three crop production systems: home-garden production, open-space production, and peri-urban production. Home-garden production, or backyard farming, involves farming in people's compounds. Plots are usually small to very small, depending on the housing density of the area, and production is primarily used for home consumption. Selling part of one's produce occurs more frequently when plots are larger. It is mainly women who are responsible for production. Open-space cultivation refers to crop cultivation in open areas within or very near a built-up area. A wide variety of open spaces exists, varying in location and size. On average, however, these plots are larger than home gardens.

Most of the land is owned by either institutions or the government, but the people cultivating it do not pay rent. Production is mainly for commercial purposes and is dominated by men. In 2000, almost 650 ha of open space in Dar es Salaam were being used for vegetable production. It is estimated that at least half of the leafy vegetables on sale in Dar es Salaam markets are grown on these open spaces. Finally, peri-urban production is defined here as farming in the areas between built-up areas and the municipal boundary. Peri-urban plots are much larger than the open-space ones, and production is mainly commercial.

The choice of which crops to grow is determined by climatic conditions, the location of the plot, consumer preferences, and the resource endowment of the site concerned. Amaranth (mchicha) is by far the most common crop, though less so in the peri-urban zone of Arusha. Okra is very popular in Dar es Salaam, but rarely found in Arusha. Onions do not grow well in Dar es Salaam's hot humid climate. The choice of crops cultivated in home gardens is mainly determined by the growers' consumption preferences, and to a less-

er extent by the market, the amount of work involved in growing the crop, and its cultivation period. Open-space cultivators are primarily swayed by the market and the crop's length of cultivation, while peri-urban producers mainly grow crops that are marketable.

Although urban agriculture responds to the critical food requirements of urban dwellers, it also poses environmental as well as health threats if not carefully planned. Therefore, urban planners need to find ways to capture the benefits and counter or prevent the potential problems of urban agricultural activities. Planners are also required to shape the patterns of land use and the built environment in and around cities to realize a desired future urban state and to distribute public benefits to citizens.

12.8.2 Approaches to urban planning

Urban planning is continuing to develop and in many cities planners are experimenting with new approaches and tools, based on different views or paradigms. Of these approaches, participatory approaches are becoming more popular. Other approaches introduced by the donor community are also taking root. It is against this background that urban agriculture can be made much more visible than it currently is.

Urban agriculture can play an important role in urban planning by linking to environmental, social, and economic issues. All of the different approaches to urban planning provide specific opportunities and linkages to facilitate and catalyze the integration of urban agriculture into urban planning. In light of this, five models based on descriptions from Chapin and Kaiser (1979) cited by Van Veenhuizen (2006) could be used. These are described below.

12.8.2.1 The ecological model

The ecological model has been used mainly by environmental, health, and transport planners. It applies a systems view, in which the city is seen as a system of interrelated parts akin to a biological system. Planning is used as an approach to make cities healthy and disease-free. Open and green spaces are seen as lungs to purify pollutants from the environment. The model is dominant in environmental planning and management approaches, as promoted by Local Agenda 21 (as developed after the Earth Summit in Rio de Janeiro,

1992) (UN 1992). Dar es Salaam in Tanzania and Lusaka in Zambia are cities where this approach has been applied.

For instance, in Dar es Salaam the city adopted the Environmental Planning and Management (EPM) approach in its City Consultation in 1992. The approach has been the engine of change in many aspects related to urban agriculture. Under this new approach, the city held a mini-consultation in 1993 to deliberate on agriculture. In the consultation, stakeholders agreed that agriculture in the city contributed substantially (almost 30%) to household food supplies and that it had become an integral part of urban livelihood strategies. A working group was formed to work out strategies for putting urban agriculture on the city agenda. The working group used a participatory approach to devise a strategic plan for urban agriculture for the city. The results of this process have been good: from action, plan preparation, implementation of demonstration projects, and further integration of agriculture in the city's urban zonification. Findings of the working group included results of these projects and formed the basis for deciding where and to what extent agriculture can be practised in the city, as reflected in the Strategic Urban Development Plan (SUDP). In this plan, special land zones have been designated for agriculture. Ideas necessary for revising municipal by-laws and regulations were also worked out, and a platform for coordination was established and enhanced. The SUDP has also deliberately set apart several areas to be used for large- and medium-scale urban agriculture in the future and provides corresponding development conditions. This is contrary to earlier 'zonification' where an area could only be considered for agricultural activities while awaiting to be assigned to other uses, such as residential or industrial areas. The major difference is that the previous master plan considered urban agriculture as a transitional land use, whereas the SUDP considers it to be an activity with a very important contribution to make to citizens. This recognition is reflected in several laws and regulations, among them are the Agricultural and Livestock Policy (URT 1997) and the National Human Settlements Development Policy (URT 2000). There is no one single way of organizing urban agriculture, and success very much depends on adaptation to local conditions.

The implications of the ecological model for urban agriculture are as follows:

1. Urban agriculture is considered a tool for environmental management through nutrient and waste recycling.
2. Nutritional and health conditions of residents can be improved through urban agriculture.
3. Urban agriculture may constitute a good use of derelict and open spaces.
4. City gardens help to beautify the city.

5. Potential health risks for consumers (use of waste water, soil erosion) need to be considered.

12.8.2.2 New urbanism (design, engineering, architecture)

New urbanism propagates the idea of the compact city. The key feature of this model of city development is to reverse the trend of urban sprawl by learning from traditional urban development patterns. It promotes small plot sizes and building up open spaces within the city, but also the uses of recreation. The model is applied in many new cities, such as Lilongwe, Dodoma, and Abuja.

The implications of the new urbanism approach for urban agriculture are as follows:

1. Economic imperatives in the new urbanism militate against urban agriculture.
2. It has been criticized by those that see home spaces as multi-functional production areas, and not just as a places to sleep.
3. The model follows the recommendations of some aid agencies, such as the World Bank, that have been advocating for the reduction of urban residential plots, leaving very little space for urban agriculture.

12.8.2.3 The collaborative or communicative model

The collaborative or communicative model is a procedural theory of how planning should be done. It acknowledges the divergent social-political and at times ethnic groups in the city, and it encourages a process of consensus building in addressing problems and developing a vision for the city. The assumption is that with negotiation, problems in the city can be resolved. The model emphasizes the role of the planner and the leadership she/he provides. It promotes multi-stakeholder processes, in which the planner should achieve consensus among stakeholders and not impose his own blueprint as in the new urbanism model. It assumes an even distribution of power among stakeholders. The implications of the collaborative model for urban agriculture are as follows:

1. The mainstreaming of multi-stakeholder processes may give a voice to urban producers and place emphasis on urban agriculture being demand-driven.

2. There is a need to pay attention to issues of who has power and influence among stakeholders and on how a common position on urban agriculture can be negotiated.
3. Urban agriculture should emerge as a community need and be expressed as such; if it is a community need, it can find its place in urban development.

12.8.2.4 The contemporary just city perspective

The contemporary just city perspective is characterized by democratic radicalism. It calls for a radical form of participation that goes beyond stakeholder involvement. It places emphasis on governance by civil society and making explicit the differences in power and the need for the 'excluded' to fight for power and influence change. The implications of the just city concept for urban agriculture are as follows:

1. Urban farmers need to organize themselves so that they can effectively lobby local authorities.
2. The authorities need to be engaged in debates for the rights of urban farmers to earn a living by legitimate and honest means.
3. Negotiation is necessary for the use of any open land available for urban agriculture activities; this will also involve negotiating for the legalization of informal settlements and informal sector activities.

12.8.2.5 The new life model

The new life model argues that development institutions have realized that urban agriculture can facilitate the creation of new institutions. It links urban agriculture to different aspects of urban development such as poverty alleviation, urban nutrition and environmentalism, informal sector employment, and gender, and it argues for further enhancement of urban agriculture in these sectors. The implications of the new life theory for urban agriculture are as follows:

1. Urban agriculture is a new field of development or perspective in sustainable city development and needs to be taken on board in the urban development discourse.
2. Emphasis is on the inter-linkages between urban agriculture and other urban development issues.
3. Urban agriculture may attract considerable international development assistance if properly organized and well promoted.

4. In city dynamics, urban agriculture will develop itself and adapt to urban needs until another priority issue ('new kid on the block') emerges and comes into vogue.

The models discussed above have shaped the way different land uses and urban forms have emerged. These models are adhered to by urban authorities and NGOs, and the visions espoused in the paradigms influence the way policies are developed. By clarifying the linkages and the potential role urban agriculture can and should have in urban development, planners can possibly integrate urban agriculture and articulate it clearly in urban development plans.

12.9 Agricultural processing, value addition, and marketing

Strategies to promote and strengthen agro-based industries in Tanzania including food processing firms date back to independence in 1961, when the government introduced the long-term industrialization strategy known as the basic industrial strategy during the preparation of the third 5-year plan (1976–1981) (URT 1998). The main objective of the plan was to focus on those industries producing goods for the basic needs of people and utilizing local resources as much as possible. Special emphasis was devoted to promoting agro-based industries such as food processing, textiles, clothing, and leather products. As a result, the Tanzanian agro-processing industries were categorized into four main groups: (a) import substitution agro-industries, such as textile industries; (b) import-dependent agro-industries that depend on imports for processing technology, including requirements for technical assistance, spare parts, packaging materials, raw materials, and other important inputs such as Tanzania Diaries Limited (TDL); (c) export-dependent agro-processing industries, which increase the shelf life of agricultural produce, such as the former Tanganyika Packers located in Dar es Salaam region; and (d) domestic market agro-processing industries such as Dabaga Fruit and Vegetables Canning Industry Limited, which is located in Iringa region.

According to Amani (1992) and Kavishe (1993), in the late 1970s and 1980s the Tanzania government owned and operated most of the country's agro-based industries. Indeed, the food processing sector was dominated by a few major enterprises, including government parastatals, village cooperatives, and private investors. For instance, milk processing was entrusted to the Tanzania Dairies Limited, with processing plants located in Dar es Salaam, Tanga, Arusha, Mbeya, Musoma, and Tarime. Another parastatal, the NMC, was involved in canning fruits and vegetables. However, the major weakness

of the parastatals was that they operated inefficiently and depended on government subsidies (Temu & Due 1998).

Following economic liberalization policies, a number of government policies were put in place aimed at facilitating economic growth, and these policies have a bearing on the development of the agro-processing sector. The Sustainable Industrial Development Policy (SIDP) launched in the mid-1990s, for example, defined the framework for the country's industrial development process within a short-, medium-, and long-term perspective (URT 1996). Interestingly, SIDP recognizes the role of the private sector as the principal vehicle for carrying out direct investments in industry, with emphasis on the promotion of small and medium enterprises (SMEs). National micro-finance policy, on the other hand, places emphasis on the provision of financial services to micro and small enterprises (MSEs), in both rural areas and the urban sector, that are engaged in all types of legal economic activities (Tiisekwa et al. 2005).

12.9.1 Importance of agro-processing in economic development

The contribution of agro-processing industry to economic development can be traced through four stages of development (FAO 1997a). First, in the early stage of growth, agro-processing can be an important direct complement to agriculture as a source of employment opportunities for seasonal labour, and it provides ample opportunities for expanding value addition by using underemployed resources as well as improving income and nutrition status. Second, in an advanced stage of development of agro-processing industry, the presence of a well-developed food processing industry—such as canned fruits and vegetables—ensures stronger links with sectors other than agriculture. These other sectors can serve as providers of inputs and as dependent sectors of further processing, as well as perform marketing services. Thus, a well-developed agro-processing industry can lead, through forward linkage, to a number of more advanced industries. Third, in a further stage of development of agro-processing industry, characterized by full development of forward linkage chains and with several marketing and other services incorporated in the final product, product innovation can prevail over process innovation to provide a competitive advantage and sources of growth to firms in the market. The linkage with the marketing chain tends to be well established, with both organizational and financial links between the producers and retail outlets. The pace at which new products are introduced is extremely high, and this testifies to the importance of product innovation in this phase of the industry cycle.

Finally, in the mature stage of agro-processing industry, although forward and backward links do not go much beyond what has already been achieved in the third stage, a separate series of linkages develop through the production of specialized machinery and process innovation. Because of their size, market leadership, and degree of internationalization, agro-producing companies located in high-income countries are often instrumental in setting the basis for a whole technology of processed food production. This involves a range of activities, from the planning and quality control of agricultural products and other raw materials, to the design and manufacture of machinery, specification and monitoring of the production cycle, and provision of specialized financial and other services. Thus, the contribution of agro-processing industry to economic development through the linkage effects is deemed to be an important factor of growth, both for developed countries and developing countries such as Tanzania. Undoubtedly, processing seems to be the most effective technique for providing an important link in a continuous chain between production of raw materials sub-systems and final consumption sub-systems to allow the full exploitation potential of fruits and vegetables in Tanzania. Certainly, processing is a powerful instrument of growth, diversification, and poverty reduction for Tanzania.

In particular, it is widely reported by Kejriwal (1989), Damardjati (1995), and Hicks (2001) that development of agro-processing helps to achieve the following vital objectives:

1. Prevent loss and increasing food supplies
2. Generate value addition and hence increase producers' income and profitability
3. Improve storability and/or nutritive value of products
4. Generate a large number of employment opportunities and reduce poverty in both rural and urban areas
5. Reduce migration of people from rural to urban areas to avoid a number of social, environmental, and political crises
6. Increase foreign exchange earnings
7. Stimulate agricultural production through diversification of marketable products within and outside the country
8. Improve livelihood by shifting from the traditional thinking of production only to a product chain approach, which emphasizes adding value and marketing
9. Provide incentives for increased production and productivity among smallholder farmers.

12.9.2 Status of agro-processing in Tanzania

Despite the realization of the significant role that agro-processing firms can play in economic development, the government and other stakeholders have devoted minimal efforts to promote and strengthen this sub-sector in the country. As a result, the current status of the agro-processing sub-sector in Tanzania is still in its infant stage compared with other developing countries such as South Africa, Kenya, and India. As a consequence, Tanzania is losing opportunities to earn value added to raw materials, as well the fact that its agricultural products are greatly influenced by price fluctuations. In fact, the prices of many traditional cash crops, such as coffee, cotton, sisal, tea, and cashew nuts, have been decreasing (Bank of Tanzania 2004). Other agricultural products such as fruits and vegetables face the same problem of price fluctuation. During the peak (harvest) season, for example, these products flood the domestic market and their prices decline drastically.

It is generally acknowledged that efforts to promote agro-processing industries, including food processing firms, in Tanzania have been neither well-coordinated nor linked to the larger national economic strategy covering all sectors of the economy (Commonwealth Secretariat 1997; URT 1998). As a result, agro-processing industries—particularly MSEs—have been facing many constraints (Tiisekwa et al. 2005). These constraints include the lack of appropriate and adequate working premises, lack of working capital, low levels of technical and management skills, low levels of technology, irregular and expensive power supply, many and high levies at various stages of the production chain, and an unfair taxation system (leading to unfair competition). Other constraints include inadequate quantity and quality of raw materials, poor infrastructure, limited access to market information and few alternative markets, lack of strong processor associations, and lack of research and development (Tiisekwa et al. 2005).

12.9.3 Agricultural marketing situation and constraints

12.9.3.1 *Agricultural marketing*

Marketing can be defined as the process of creating form, time, and space utility (Kohls & Uhl 1990). Form refers to processing or value adding, time to storage and preservation, and space to transportation of the products. The

FAO (1997b) defined marketing as a process that involves determining what customers want and supplying it to them at a profit or directing production in accordance with clear signals from the market place as to what is needed by customers. A more comprehensive definition was given by Czinkota et al. (1997), who described marketing as the process of planning and executing the conception, pricing promotion, and distribution of ideas, goods, and services to create and maintain exchanges that satisfy individual, organizational, and societal goals in the systematic context of the global environment. To keep things simple, we can say that marketing deals with three separate but related problems: consumers' demands for farm products; the price system that reflects these demands back to distributors and producers; and the methods or practices used in exchanging title and getting the physical product from producers to consumers in the form they want and at the time and place desired (Shepherd & Futrell 1982). Thus, the crucial role of agricultural marketing is to determine accurately and in quantitative and qualitative terms what consumers demand in time, place, and form and what changes take place in those demands with the passage of time. Based on this scenario, the producer's job does not begin and end with producing a product. Rather, it begins with discovering what potential customers want, producing the product, and then seeing that it reaches the consumers in the form and time they want it.

It is worth noting that an efficient marketing sector does not merely link sellers and buyers and react to the current situation of supply and demand; it also has a dynamic role to play in stimulating output and consumption, the essentials of economic development. Likewise, it creates and activates new demands by improving and transforming farm products and by seeking and stimulating new customers and new needs. Moreover, it guides producers towards new production opportunities and encourages innovation and improvement in response to demand and prices. Its dynamic functions are thus of primary importance in promoting economic activity and creating employment. For this reason, an efficient marketing sector has been described as the most important multiplier of economic development. Improving the productivity of agricultural marketing services will increase social welfare by reducing the cost of transforming agricultural commodities through space, time, or form, and thereby extend the market for agricultural products, including processed fruits and vegetables.

12.9.3.2 Status of agricultural marketing in Tanzania

Crop marketing

From the mid-1980s to the early 1990s, as part of the process of SAPs, the Tanzania government undertook a series of major reforms (URT 2008). These reforms included the de-control of marketing of non-traditional export crops in 1986, which was followed by a de-control of marketing of food crops in 1989, and finally a de-control of marketing of traditional export crops in the 1993/94 marketing season. The de-controlling of agricultural marketing was meant to pave the way for the participation of cooperatives and private traders in the marketing aspects of all agricultural crops in a competitive marketing environment, one that included competitive prices and free entry of marketing actors (producers, traders, processors, and exporters) at all levels of the marketing channel.

However, experience has shown that the anticipated gains from this policy have not been fully realized, particularly for non-traditional exports and food crops, mainly because the adopted policy change did not put in place an orderly marketing system for the crops. The producers are not guaranteed markets for their crops in all localities, owing to, among other reasons, the weaknesses of cooperative societies, lack of farmers' associations, inadequate number of competing buyers, and absence of regulatory institutions to oversee quality and standards for non-traditional exports and food crops. Consequently, producers have not received remunerative prices for their produce, and at times they have remained with unsold stock in cases where buyers do not turn up or offer only low prices. In other cases, substantial post-harvest losses have been incurred by farmers, which, in turn, has tended to intensify rural poverty and unemployment levels (URT 2008). For instance, Alliance for a Green Revolution in Africa (AGRA 2013) observed in 2013 that post-harvest losses of all crops in Tanzania were estimated to be up to 63%, and values of up to 106,448 metric tons were recorded.

Marketing of agricultural inputs

With liberalization, the role of the government has been that of creating an environment conducive to the private sector's taking the lead in marketing of agricultural inputs. Initially, the involvement of the private sector in importation and distribution of fertilizers improved in mid-1980s and early 1990s, but the trend was reversed in the 1992/93 cropping season when subsidies were abolished. Decline in the usage of improved inputs, including fertilizers,

seeds, agro-chemicals, and tractors, is associated with higher input prices against low output prices (URT 2008).

Other factors for this poor performance are the absence of any alternative credit mechanism since the collapse of cooperatives; poor transport infrastructure; weak private sector response; weak farmer's organizations which are unable to access credit, markets, and inputs on behalf of members; and inadequate competition and economies of scale. Low productivity against high costs prevails—which, in turn, is a disincentive to save for acquisition of agricultural inputs and superior agricultural production technologies.

Smallholder farmers and traders do not have readily acceptable collaterals to secure loans from formal financial institutions. The situation worsens when inputs requiring longer amortization periods are involved. Therefore, not only have agricultural inputs become relatively more expensive, but even the little amount which is made available is not adequate or delivered in a timely manner. Thus, it is necessary to comprehensively address the problems facing agricultural inputs marketing.

The promotion of contract farming, whereby farmers are linked with agricultural product processors and/or traders, nowadays plays an important role as an institutional arrangement to gain access to inputs and to markets. Therefore, planners should play a pro-active role in creating these links between farmers and companies. To be in a position to promote contract farming, planners must take the trouble to understand both the potentials and challenges of such arrangements. Contract farming has the potential to transform smallholder farmers from subsistence agriculture to a market economy. This is because access to input will help them to improve methods of production—for instance, to shift from rain-fed dependence to irrigation farming—thereby ultimately increasing their productivity.

12.9.4 Potentials and prospects of agricultural products

The growing urban population and the changing income distribution through economic development provide opportunities for business development of both rural and urban agriculture. Market availability in the cities should be properly utilized by adding values to agricultural products and subsequently selling them in urban markets. Fresh vegetable and livestock products have short marketing chains owing to their perishable nature. This means that urban and peri-urban agriculture, by its proximity to local markets, could have greater competitive advantage over produce sourced from more remote lo-

cations. Therefore, planners should advise farmers and value chain actors on the need to position their products, prices, promotions, and sales channels so as to maximize the existing market potential.

Agriculture has a large potential for improving local economic development through the generation of income for households. In addition to income from sales of surpluses, farming households save on household expenditures by growing their own food—a contribution which can be substantial since poor people generally spend a sizeable part of their income on food. Agriculture can also be used to enhance the development of micro-enterprises in the production of necessary agricultural inputs (e.g. fodder, compost, earthworms) and enhance the processing, packaging, and marketing of products in rural areas as well as in cities. The proximity of cities to external markets forms another opportunity for farmers to sell their agriculture products at more profitable prices.

As for environmental management, waste disposal has become a serious problem for most cities. Urban and peri-urban agriculture can contribute to solving this and related problems by turning urban wastes into productive resources—for example, compost production, vermiculture, and irrigation with wastewater (Cofie et al. 2006). Urban and peri-urban agriculture and forestry may also positively impact the greening of cities, the improvement of urban micro-climates (wind breaks, dust reduction, shade), and the maintenance of biodiversity. They may also reduce a city's ecological footprint by producing fresh foods close to the consumers, thereby reducing energy use for, among other factors, transport, packaging, and cooling.

12.10 Conclusion

Agricultural development planning in Tanzania is intended to properly address the key issues in resources scarcity and the need to reduce abject poverty in terms of food security and household income. It has been noted that, in rural areas of Tanzania where more than 70% of the population reside, agriculture is often taken as a traditional activity and production is largely at subsistence level. Major emphasis should therefore be placed on ensuring resource use efficiency for agricultural production and on the need to transform subsistence agriculture production into market-oriented production.

With regard to urban and peri-urban agriculture, this is recognized for its multi-functional role of feeding urban dwellers and improving the income

of the households involved. However, in most cities, urban agriculture is ignored, is not addressed in national or in local government authority policies, or is not acknowledged as a valid urban land use. Therefore, a policy framework is required to encompass planning policies, legislation, and regulations that guide or regulate land use planning and management. More emphasis should be focussed on making urban agriculture a viable business enterprise that can grow out of its small-scale character.

References

- Alliance for a Green Revolution in Africa (AGRA) (2013). Establishing the status of post-harvest losses and storage for major staple crops in eleven African countries (Phase I). AGRA: Nairobi, Kenya
- Amani, H.K. (1992). 'Agricultural market reform in Tanzania: Evolution, performance and future policy issues', in: S.D. Bagachwa & N.Y. Mbele (eds) *Market Reform and Parastatals Restructuring in Tanzania Economic Research Bureau*. University of Dar es Salaam, Tanzania.
- Bank of Tanzania (2004). *Economic Bulletin for the Quarter Ended December*. Dar es Salaam.
- Chapin F.S. & Kaiser E.J. (1979). *Urban Land Use Planning* (3rd ed.). University of Illinois. Chapter 2, 'The theoretical underpinnings of land use', pp. 4–67.
- Cofie, O., Adam-Bradford, A. & Drechsel, P. (2006). 'Recycling of urban organic waste for urban agriculture', in: R. van Veenhuizen, *Cities Farming for the Future: Urban Agriculture for Green and Productive Cities*. RUA Foundation/IDRC/IIRR, Leusden.
- Commonwealth Secretariat (1997). *Tanzania Development of Agro-Processing Industry Strategies and Action Plan*. EIDD/I/TAN/49, Industrial Development Department and Export and Industrial Development Division, Marlborough House, London SW1.
- Czinkota, M.R., Katobe, M. & Mercer, D. (1997). *Marketing Management: Text and Cases*. Cambridge: Blackwell Business.
- Damardjati, D.S. & Widowati, S. (1995). 'Development of small-scale food industries in Indonesia: Special cases in food crop products'. In International Workshop on Small Farmers' Food-Processing Enterprises in the Asian Countries, 21–20 May 1995, Seoul, Korea.
- Drakakis-Smith, D. (1996). 'Third World cities: Sustainable urban development II: Population, labour and poverty', *Urban Studies* 33: 673–701 .
- FAO (1997a). 'The agro-processing industry and economic development', in: *The State of Food and Agriculture*, No. 30. FAO, Rome, Italy.

- FAO (1997b). *Agro-Industrial Policy Reviews: Methodological Guidelines: Training Materials for Agricultural Planning* No. 42. FAO, Rome, Italy.
- FAO (2012). *Growing greener cities in Africa. First status report on urban and peri-urban horticulture in Africa*. Rome, Italy: Food and Agriculture Organization of the United Nations. Available from www.fao.org/ag/agp/greencities/pdf/GGC-Africa.pdf
- Foeken, D., Sofer, M. & Mlozi, M. (2004). *Urban Agriculture in Tanzania: Issues of Sustainability*. African Studies Centre, Leiden, The Netherlands
- Hicks, A. (2001). 'Issues and strategies in development of rural-based small-scale enterprises', in: *Workshop on Development in Food Processing Technology*. 24–27 April, 2001, Asian Institute of Technology, Bank Kola, Thailand.
- Kavishe, F.P. (1993). 'Nutrition-relevant action in Tanzania', in: *A Country Case Study for the XV Congress of International Union of Nutrition Sciences UNICEF. Monograph Series* (No.1). UN ACC/SCN September–October, Aldehyde.
- Kejriwal, N.M. (1989). 'Performance and constraints in accelerating production and export of fruits and vegetables', in: U.K. Srivastava & S. Vathsala (eds) *Agro-Processing Strategy for Acceleration and Exports, CMA Monograph No. 135* (ed. by Mohan Primlani for Oxford and IBH Publishing Co. PVT Ltd, New Delhi, Bombay, Calcutta).
- Kiwara, A.D. (1994). 'Health and health care in structurally adjusting Tanzania', in: L.A. Msambichaka, H.P.B Moshi & F. Mtatifikolo (eds) *Development Challenges and Strategies for Tanzania: An Agenda for the 21st Century*. Tanzania: DUP. DSM.
- Kohls, R.L. & Uhl, J.N. (1990). *Marketing of Agricultural Products* (6th ed.). New York: Collier Macmillan Company.
- Mougeot, L.J.A. (1994). *Urban food production: Evolution, official support and significance*. Cities Feeding People Series, Report 8, International Research Development Center, Ottawa.
- Msambichaka, L.A., Kilindo, A.A.L. & Mjema, G.D. (eds) (1995). *Beyond Structural Adjustment Programmes in Tanzania: Success, failures and new perspectives*. Economic Research Bureau. University of Dar es Salaam, Tanzania.
- Shepherd, S.G. & Futrell, G.A. (1982). *Marketing Farm Products* (7th ed.). Iowa State University Press, Ames.
- Smit, J., Ratta, A. & Nasr, J. (1996). *Urban agriculture: Food, jobs and sustainable cities*. New York: United Nations Development Programme (UNDP).
- STIPRO (2012). *Impact of foreign direct investment (FDI) on local technological capabilities in the agriculture sector in Tanzania*. STIPRO Policy Brief No. 3. DSM.
- Temu, A. & Due, J. (1998). 'The success of newly privatized companies: New evidence from Tanzania', *Canadian Journal of Rural Development* 19(2): 315–341.
- Tiisekwa, B.P.M., Senkondo, E.M.M., Ballegu, W.R.W. & Kimanya, M. (2005). 'An overview of agro-processing industry in Tanzania', *Mzumbe University Journal of Management and Development Dynamics* 17(1): 69–95.

- United Nations (UN) (1992). United Nations Conference on Environment & Development Rio de Janeiro: UN Sustainable Development Division.
- United Nations (UN) (2012). World Urbanizations Prospects, the 2011 Revision: Highlights. New York: Department of Economic and Social Affairs, Population Division.
- United Nations (UN) (2014). Concise Report on the World Population Situation in 2014. New York: Department of Economic and Social Affairs Population Division.
- United Republic of Tanzania (URT) (1995). National Land Policy. Dar: Ministry of Lands and Human Settlement Development.
- United Republic of Tanzania (URT) (1996). Sustainable Industrial Development Policy (SIDP) (1996–2020). Dar es Salaam: Printpak Tanzania Limited.
- United Republic of Tanzania (URT) (1997). National Agriculture and Livestock Policy. Dar es Salaam, Ministry of Agriculture and Cooperatives.
- United Republic of Tanzania (URT) (1997). National Environmental Policy. Dar es Salaam: Vice President's Office.
- United Republic of Tanzania (URT) (1998). A Strategic Plan to Develop Tanzania's National Policy Framework for Small Business. Report by Commonwealth Secretariat for the Ministry of Industry and Commerce. Government Printer, Dar es Salaam, Tanzania.
- United Republic of Tanzania (URT) (2000). National Human Settlements Development Policy. Dar es Salaam: Ministry of Lands and Human Settlement Development.
- United Republic of Tanzania (URT) (2002). Water Policy 2002. Dar es Salaam: Ministry of Water and Livestock Development.
- United Republic of Tanzania (URT) (2008). Agricultural Marketing Policy. Dar Es Salaam, Tanzania.
- United Republic of Tanzania (URT) (2009). National Irrigation Policy of 2009. Dar es Salaam: Ministry of Water and Irrigation.
- United Republic of Tanzania (URT) (2013). National Agricultural Policy 2013, Dar es Salaam: Ministry of Agriculture.
- Van Veenhuizen, R. (2006). 'Integration of agriculture in urban land use planning' in: R. Van Veenhuizen, *Cities Farming for the Future: Urban Agriculture for Green and Productive Cities*. The Netherlands: RUAF Publications.

13

Livestock Development Planning

James Lwelamira, John Safari, Hija Mwatawala, Francis Njau

13.1 Introduction

Tanzania is endowed with a large population of livestock. The livestock industry is one of the sectors in the country that has a great potential to contribute to the national economy. The sector involves ruminant and non-ruminant livestock species. The country has a total of 21.3 million cattle, 15.2 million goats and 6.4 million sheep, 1.9 million pigs, 35 million local chickens, and 23 million improved chickens (URT 2011b). The sector is dominated by indigenous breeds characterized by low productivity. Tanzania is the country in Africa with the third-largest population of cattle, next to Ethiopia and Sudan. However, despite having a large population of livestock, the sector is still under-developed, and its potential to contribute to the national economy has not been well tapped. In 2010, for example, the livestock sector contributed only 16% and 3.8% to the agricultural gross domestic product (AGDP) and national gross domestic products (NGDP), respectively, and the sector grew by only 3.4% compared with 4.4% for the crop sector (URT 2011a). The contribution of the sector to the national economy has been minimal. A number of factors have been responsible for this trend. The main factors contributing to low performance of the sector include low genetic potential of the stock, unavailability and low quality of feeds, limited grazing land, water scarcity, diseases, poor market and marketing infrastructures for livestock and related products, limited extension services, and inaccessibility to credit services among smallholder farmers. Strategies for dealing with problems facing the livestock sector so as to ensure the sector contributes substantially to the national economy are well articulated in the National Livestock Policy (URT 2006). This chapter highlights important aspects to consider when planning for livestock development in the Tanzania context.

The chapter covers issues related to planning for livestock feed and water in the second section. In the third section, it deals with livestock disease control, followed by a section on improved stock. While section five presents issues regarding livestock infrastructure, section six deals with support services.

13.2 Planning for livestock feeds and water

Feed and water are important inputs in livestock enterprise. Ruminant livestock under intensive management conditions (e.g. small-scale dairy farming), apart from forage, also need to be supplied with concentrates, mineral supplements, and adequate water. The concentrates can be protein or energy concentrates. Protein concentrates include cotton seedcake and sunflower seedcake, while energy concentrates include maize bran, rice bran, and wheat bran. Feed management for non-ruminants (e.g. poultry) depends largely on compounded feeds. Therefore, supply of the compounded feed for this group of livestock will depend heavily on the availability of these feed ingredients. Animals should be supplied with feed ingredients based on recommended ratios (see Mc Donald et al. 2010). The quantity of feed to be supplied to animals depends on their age, physiological conditions, and production levels.

Availability of forage, especially during dry season, for ruminant livestock is a problem both under intensive and extensive management conditions. Having pasture plots and hay storage for dry season feeding is recommended under intensive management. Recommended pasture species for these pasture plots include Kikuyu grass and Pennisetum spp. On the other hand, deferred or rotational grazing may be required under extensive management. A good example of deferred grazing is ngitili in Sukumaland. This is a practice that involves conservation of standing hay during the rainy season and opening up for grazing at the peak of the dry season. However, this requires vast areas of land and strong institutional arrangements to control the process (Selemani 2015). Therefore, where land is available, planners should bring together the public sector, individual livestock keepers, and NGOs and CBOs with an interest in livestock to create institutions that will foster effective seasonal arrangements.

Optimized animal production under extensive management depends on maintaining optimum carrying capacity and altering animal density to maintain this balance. Carrying capacity is the number of animal units (i.e. tropical livestock unit) a land area can support for feed for a given period of time. This means making day-to-day decisions based on forage status and the number

of animals, and therefore, in some instances, destocking may be required. However, most livestock keepers regard having large numbers of animals as a sign of wealth and prestige—and also as a form of savings. For this reason, it is difficult to implement a destocking policy. Improvement of range resource management is critical for development of the livestock sector. This is a key institutional problem that planners should seek to tackle. Specific actions for planners to take include the following:

1. Organize the private sector, livestock-oriented NGOs, and livestock groups to arrange for the provision of technical support services on rangeland management.
2. Increase availability of livestock infrastructure (such as water facilities and dip services) in rangeland areas.
3. Promote utilization of improved pasture in a way that ensures all livestock keepers have access.
4. Improve utilization of fibrous by-products from cereals to ensure the amount available is used strategically.

Tropical grasses are characterized by early maturity and rapid decline in nutritive value over time. In this regard, it is recommended to sow pasture land/plots with proven legume species to increase nutritive value for the pastures. This is practical under smallholder intensive management as well as under ranching conditions. Some of these legume species include *Desmodium intortum* (Greenleaf desmodium), *Macroptilium atropurpureum* (Siratro), *Medicago sativa*, *Stylosanthes* spp, *Neonotonia wightii*, and *Clitoria ternatea*. Fodder tree legumes can also be planted along edges of the farm and barren land, and they can be used as feed supplement for animals under intensive management, especially during the dry season. Some of these fodder tree species include *Leucaena* spp, *Albizia* spp, *Moringa* spp, and *Sesbania* spp.

In Tanzania, meat is produced mainly from Tanzania Shorthorn Zebu (TSZ) cattle, which are extensively managed on range lands. In most of these range lands, pastures are in short supply, with low nutritive values especially during the dry seasons—resulting in low animal growth rates. In addition, most animals lose weight and have body conditions which result in low meat yield and quality. Feedlot for beef animal fattening could be one of the avenues for boosting productivity of ruminant livestock and increasing income among farmers. This would add market value for beef animals and market prices. Planners need to work closely with the private sector and livestock organizations to ensure that private investors are attracted to establishing fattening stations close to cities where the meat is consumed.

Water availability is an important problem for ruminant livestock under extensive management. Therefore, well-distributed water points in the grazing land is one of the important aspects to consider in planning for livestock development. This would minimize the movement of large herds of cattle from one point to another in search of drinking water and hence allow healthy growth of animals, and it would further reduce the problem of overgrazing that results from high concentrations of animals in an area. Reduced movement of animals in search of water would also minimize the encroachment of protected areas by livestock keepers. Therefore, planners are responsible for bringing together livestock communities, CBOs, and NGOs to encourage them to mobilize their resources for investing in building adequate Charco dams and boreholes, and to lay down guidelines for managing water utilization.

It is worth noting that conflicts between livestock keepers, crop farmers, and conservation authorities are very common in the country, and these have various adverse consequences, including limited growth of the livestock sector in the country. To address this problem, the role of planners is to engage in a multi-actor process, backed up by the Land Act of 1999, and advocate for stakeholders' participation in land use planning. In more specific terms, planners need to conduct livelihood analysis to understand how various livelihoods affect each other; conduct participatory and transparent stakeholder analysis; identify various interests in terms of power and influence; determine who is going to be affected and who is going to benefit; and determine the role each stakeholder plays in livestock or local development.

Collective understanding of these issues among all stakeholders (local and outsider) will allow planners to move into the next stage of the preparation of participatory land use planning—that is, a plan that will provide a clear demarcation of land for grazing, cropping, and conservation purposes. The last step in this multi-actors' planning process is to secure a collective commitment among stakeholders to adhere to land use conditionalities. A series of meetings should take place to draft a commitment or an agreement document to be agreed upon by all stakeholders and signed by their representatives. Planners should ensure that the agreement is made based on a win-win situation; otherwise, it will not be put into effect.

13.3 Planning for disease control

Diseases and parasites account for substantial losses in the livestock sector in the tropics. Therefore, planning for disease control is another important aspect in livestock development planning. These diseases include infectious and non-infectious diseases. Important diseases and parasites include the following:

1. Cattle: East coast fever (ECF), brucellosis, anaplasmosis, foot and mouth disease (FMD), Rift Valley fever (RVF), anthrax, and mastitis
2. Shoats: pneumonia and worm infestation
3. Poultry: Marek's diseases, salmonellosis, Newcastle disease, fowl pox, fowl typhoid, infectious bursitis (gumboro), coryza, colibacillosis, coccidiosis, worm infestation, and external parasites such as fleas
4. Pigs: swine fever, porcine cysticercosis, worm infestation, and external parasites such as mange.

Timely and regular vaccination of animals to control some of these diseases, such as anthrax, FMD and RVF in cattle and Newcastle disease and gumboro in chickens, are required to maintain the health of the stock. For example, Newcastle disease is usually a serious problem under extensive management during dry season; therefore, vaccinating chickens during this period can save a number of them. Routine diagnosis of animals for disease and parasites and their treatment are good practices to control animal diseases. However, this requires well-functioning veterinary laboratory services, availability of veterinary personnel, and a good supply of veterinary drugs. Therefore, in local governments that have very few veterinary personnel, planners should encourage private veterinary service operators and arrange for quality control of the service providers.

Tick-borne diseases, as well as diseases spread by tsetse flies, are the major disease challenges for cattle. Therefore, planners should encourage investment by private investors and community-operated dip infrastructures to control tick-borne diseases. Sometimes livestock organizations should mobilize livestock keepers to clear bushes for the purpose of controlling tsetse fly. In cases of disease outbreak, placing animals under quarantine is critical to maintaining public health. Screening of live animals and their products before importation/exportation or consumption by customers is another aspect to consider in controlling the spread of livestock diseases.

13.4 Planning for supply of improved stock

The livestock sector in Tanzania is dominated by indigenous stock characterized by low productivity; therefore, continued improvement of the stock is necessary to improve productivity. In this context, the use of proven genetic materials to upgrade indigenous stock is recommended. The common crosses (improved animals) for beef cattle recommended in the Tanzanian context include crosses between indigenous stock (i.e. TSZ) and Boran or Sahiwal or European beef breeds, or composites of these different breeds. For dairy cattle, there are crosses between TSZ and Friesian, Ayshire, and Jersey breeds. These breeds are of European origin. The common crosses of goat proven to perform well in different areas in Tanzania include crosses between Tanzanian local goats and some exotic breeds of goats such as Saanen, Nubian, and Toggenburg. For sheep and pigs, recommended crosses include those between indigenous stocks and Black-Headed Persian and Danish Landrace, respectively (Mlote et al. 2013).

It has also been a common practice to cross indigenous chickens with improved stocks of chicken such as Rhode Island (dual purpose), Black Australop (dual purpose), Plymouth Rock (meat production), and White Leghorn (egg production). These crosses have proven to perform well in harsh environments and are, therefore, recommended under smallholder conditions in rural areas. Effective breeding schemes require a regular supply of proven improved genetic materials—for example, reliable artificial insemination services (AI), breeding males (breeding bulls/bucks/ cocks), and livestock multiplication units (LMUs) or centres for improved animals need to be in place. Crosses beyond F2 have proven to perform poorly in sub-optimal management conditions like those of smallholder farmers; it is, therefore, important to consider the blood level of resultant crosses between exotic and indigenous breeds while planning for genetic improvement.

Modern poultry keeping also constitutes a substantial segment of the poultry industry in the country. The system is mainly located in urban and peri-urban areas, supplying eggs and meat to urban populations. The system keeps hybrid stocks of layers for egg production and broilers for meat production. The prosperity of this sub-sector depends on the availability of quality breeding stock for those people dealing with hatcheries to supply day-old chicks to farmers. Therefore, controlling the importation of parent stocks for maintaining quality of hybrid chickens could be necessary.

The role of the public sector and hence of the planners in the supply of improved stock will be to mobilize NGOs and private sector participation in the process. NGO mobilization should be the starting point, and they can be encouraged to sensitize livestock keepers to the benefits of improved stock over traditional stock. This can take place through pilot cases such as the kopa ng'ombe lipa ng'ombe (lit. 'borrow a cow, pay a cow') project and can provide good experience to facilitate the dissemination of improved stock innovations. After some time, this NGO work may create a demand for improved stock, and it is at this point that planners can organize with the private sector to intervene and hence increase the adoption rate of improved stock.

13.5 Planning for livelihood infrastructure

Planning for these infrastructures is another important aspect in livestock sector development. There should be widely distributed slaughter infrastructures (slaughter houses and slaughter slabs, abattoirs) to ensure animals are slaughtered according to recommended standards and in hygienic conditions. Slaughter slabs are usually less expensive than slaughter houses and therefore ideal in rural areas. On the other hand, meat shops are important for the supply of meat. However, these shops need to be under standard hygienic conditions to ensure safe and quality food of animal origin. Marketing of livestock in the country is mainly based on live animals and usually conducted in periodic open markets for livestock. Important livestock infrastructures in these market places need to be in place to facilitate easy marketing of the livestock. These should include livestock holding facilities. These are typical investments that traders' associations and/or local governments can undertake.

Farmers, specifically smallholder farmers, frequently face losses from the perishability of livestock products. In this regard, it is recommended to plan for livestock product processing plants. These would extend the shelf life of the products and minimize losses. The plants are also important for value addition to the products and hence good marketability. Plants include milk processing plants, meat processing plants, and plants for processing hides and skin. Attracting investors to build these plants or encourage farmers to organize themselves to initiate these plants could be important. Furthermore, it is also important to plan for milk collection points for smallholder farmers dealing with dairy farming. These collection points need to have storage facilities. Farmers can be encouraged to organize themselves to form cooperatives and initiate these facilities.

13.6 Support services

Farmers need technical advice to boost productivity. This requires well-functioning livestock research centres as well as livestock extension officers to take extension packages from the centres to farmers. The shortage of livestock extension officers in most parts of the country has been among the major challenge facing the livestock sector. The situation has further been worsened by inadequate veterinary services (i.e. shortage of veterinary officers, inadequate livestock disease diagnostic centres, and shortage of drugs). The good news is that there is a substantial number of livestock extension and veterinary graduates in Tanzania who are either underemployed or employed in sectors outside their profession. Therefore, local governments could actively encourage these graduates, perhaps by providing incentives, to carry out extension and veterinary services on a private business basis. The incentive package could include training courses on operating one's own business, provision of start-up capital in terms of soft loans or grants where possible, linking the graduates with livestock keepers, and improving enabling infrastructures such as water, power, communication, and roads.

13.7 Conclusion

Wider involvement of actors (including producers, processors, traders, and service providers) in the planning process and implementation of various interventions in the livestock sector is essential for the development of this sector. Proper planning in terms of feeds, disease control, breeding, and provision of support services, together with monitoring and evaluation of the sector, are essential issues if the livestock sector is to contribute significantly to social and economic development in Tanzania.

References

- McDonald, P., Edwards, R.A., Greenhalgh, J.F.D., Morgan, C.A., Sinclair, L.A. & Wilkinson, R.G. (2010). *Animal Nutrition* (7th ed.). London: Benjamin-Cummings Publishing Company.
- Mlote, S.N., Mdoe, N.S.Y., Isinika, A.C. & Mtenga L.A. (2013). 'Estimating technical efficiency of small scale beef cattle fattening in the lake zone in Tanzania', *Journal of Development and Agricultural Economics* 5(5): 197–207.
- Selemani I.S. (2015). Influence of ngitili management on vegetation and soil characteristics in semi-arid Sukumaland, Tanzania. *Livestock Research for Rural Development*.

Volume 27, Article #37. Retrieved June 23, 2017, from <http://www.lrrd.org/lrrd27/2/sele27037.htm>

United Republic of Tanzania (URT) (2006). National Livestock Policy.

United Republic of Tanzania (URT) (2011a). Agriculture and Food Security Investment Plan (TAFSP) 2011–12 to 2020–21. Main Document.

United Republic of Tanzania (URT) (2011b). Livestock Sector Development Programme.

14

Environmental Planning and Management

Israel B. Katega, Hozen Mayaya, Idd Masumbuko, Emmanuel Nyankweli, Abiud Kaswamila, John Safari, Innocent Zilihona, Francis Njau, Omari Mzirai, Boniface Kauki

14.1 Introduction

The current trends in population growth and human activities over land have resulted in environmental degradation. Settlements and agricultural activities are expanding and encroaching upon natural systems. Forests are cleared, grasslands invaded, hill tops levelled, and marshes drained. In the process, the soil becomes barren, flora and fauna are exterminated, and natural ecosystems are destroyed. Within human settlements—in particular, urban areas—both the natural and man-made environments are deteriorating. All these developments impacting the environment endanger the very survival of human beings and, therefore, call for systematic planning and management of the environment so as to contain the problem and ensure sustainability.

The objective of this chapter is to help environmental planners and actors understand the importance of environmental planning and management in pursuit of sustainable development. Therefore, the chapter presents issues related to principles of sustainable development and environmental planning processes. It is divided into seven sections. After this introduction, the second section discusses the concept of environmental planning and sustainable development principles. This is followed by a section on natural resources which are highly threatened by human activities. The fourth section focuses on climate change as one of the significant phenomena caused by human activities and how it impacts the resource base. This is followed by a section on key considerations in the environmental planning and management process. The last section deals with techniques and tools for environmental planning,

including environmental impact assessment (EIA), environmental management systems (EMS), and strategic environmental assessment (SEA).

14.2 Environmental planning and sustainable development principles

According to Tanzania's Environmental Management Act of 2004, environmental planning means planning that takes into account environmental exigencies. This includes the protection, conservation, and sustainable use of various elements or components of the environment. In this regard, environmental management is a very complex undertaking, involving complex interactions of economic, social, and environmental needs, and must therefore be planned so as to strike a balance between these three needs.

Sustainable development, on the other hand, is an inescapable undertaking in realizing a desirable future state. At its core, sustainable development strives to strike a balance between social, economic, and development goals; it aims to limit people's vulnerability to and the environmental degradation resulting from development activities. According to the Brundtland Report, commonly known as 'Our Common Future,' sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Based on this definition, sustainable development focuses on the concepts of needs and limits, whereby it calls for ensuring the poor meet their needs and cautions on the limitations on the use of resources.

Environmental planning and management, therefore, focus around optimal and equitable use and distribution of resources, based on principles of sustainability, as indicated in Table 14.1.

Table 14.1

Principles of sustainability

<p><i>A. Environmental/ecological principles</i></p> <ol style="list-style-type: none">1. Protect environmental goods and services such as scenic beauty and historic sites by economic activities in rural and urban areas2. Protect and enhance biotic diversity—for instance, by formulating and enforcing laws and regulations for managing biological resources3. Maintain or enhance integrity of ecosystems, and develop and implement rehabilitative measures for badly degraded ecosystems4. Develop and implement preventive and adaptive strategies to respond to threat of global ecological change
<p><i>B. Socio-political principles</i></p>
<p><i>B1. Environmental/ecological constraints</i></p> <ol style="list-style-type: none">1. Keep the physical scale of human activity below the total carrying capacity of the planetary biosphere2. Recognize the environmental costs of human activities; develop methods to minimize energy and material use per unit of economic activity; reduce noxious emissions; decontaminate and rehabilitate degraded ecosystems3. Ensure socio-political and economic equity in the transition to more sustainable society4. Incorporate environmental concerns more directly and extensively into political decision-making process5. Ensure increased public involvement in the development, interpretation, and implementation of sustainable development concepts6. Link political activity more directly to actual environmental experience through reallocation of political power to more environmentally meaningful jurisdictions
<p><i>B2. Socio-political criteria</i></p> <ol style="list-style-type: none">1. Establish an open, accessible political process that puts effective decision-making power at the level of the government closest to the situation and the lives of the people affected by a decision2. Ensure people are free from extreme want and from vulnerability to economic coercion3. Ensure people can participate creatively and self-directly in political and economic system4. Ensure a minimum level of equality and social justice, including equality to realize one's full human potential, recourse to an open and just legal system, freedom from political repression, access to high-quality education, effective access to information, and freedom of religion, speech, and assembly

Adapted from Robinson et al. (1990)

14.3 Natural resources availability

Natural resources can be acquired through natural processes. They can also be acquired through scientific and technical know-how. The earth's natural resources are summarized in Box 14.1.

Box 14.1 Earth's natural resources

Type	Examples
Global commons	Air, solar energy, sea salt, outer space
Renewable resources	Soil, vegetation forest, wildlife
Non-renewable resources	Minerals, fossils, natural gas, coal
Inexhaustible resources	Solar energy, wind power, wave energy, hydropower
Human resources	Labour, skills, ability, knowledge

Natural resources are not evenly distributed. Quantities, rates, and modes of utilization also vary; for example, minerals such as Tanzanite, diamonds, gold, silver, uranium, copper, and petroleum are present in very few locations on Earth. If the current rate of mineral exploitation and extraction continues, most of these will be exhausted soon or later. However, this situation can be avoided through reuse and recycling.

Living natural resources, such as wildlife, valuable plants, and animals, are concentrated in countries such as Tanzania. There are some countries in the developing world that have potential resources which have not yet been exploited or utilized owing to lack of scientific and technological know-how as well as financial constraints. Despite the disparities that exist in natural resource use and distribution, there is an urgent need to increase conservation efforts to ensure that human needs are met.

14.3.1 Categories of natural resources

Many types of resources ultimately become depleted on use. A further classification of resources, based upon their exhaustibility, can be made as follows:

1. *Depletable (maintainable) renewable resources.* A high level of use is generally possible with such resources. They can be maintained or restored

through appropriate policies and practices. A good example of this type of resource is soil (fertility).

2. *Depletable (maintainable) non-renewable resource.* These are resources which can be maintained mainly through the use of appropriate technology and methods. However, they can be destroyed forever if measures are not taken to maintain them. An example of such a resource is soil (erosion).
3. *Depletable (non-maintainable) re-usable resources.* These are resources which become depleted with exploitation. However, after use they can be re-used or re-cycled. An example is a metallic mineral, such as iron.
4. *Depletable (non-maintainable) non-reusable resources.* These are resources which are finished after exploitation and cannot be used again. Examples of such resources are mineral fuels.
5. *Inexhaustible (immutable) resources.* These are resources which neither become exhausted with use, nor change in their origin. Examples include solar energy and wind power. Harnessing these resources may, however, require complex and expensive technologies
6. *Inexhaustible (mis-usable) resources.* With these resources there is no danger of depleting them, although there are risks associated with their misuse. An example is inland waters, such as lakes and rivers, which can be used for power generation and transportation but in the process may suffer pollution.

14.3.2 Tanzania's policies for resource utilization and conservation

There are several important policies and strategies related to natural resources management in Tanzania. These policies include the National Development Vision 2025, National Strategy for Growth and Poverty Reduction (MKUKUTA), Wildlife Policy, Tourism Policy, National Environmental Policy, Land Policy, Agriculture Policy, and Forest Policy. The national development policy, Vision 2025, aspires for the country to leap forward from a least developed country to a middle-income country with a strong competitive economy.

In Tanzania mainland, management of natural resources is guided by various policies, including the National Environmental Policy (1997), National Fisheries Sector Policy and Strategy Statement (1997), Agricultural and Livestock Policy (1997), National Forestry Policy (1998), National Beekeeping Policy (1998), National Tourism Policy (1999), Land Policy (1995), National Water Policy (2002), Environmental Management Act (2004), Livestock Del-

opment Policy (2006), and Tanzania Wildlife Policy (1998, revised in 2007). Overall, these policy documents underscore the need for judicious use of natural resources for socio-economic development and sustainability of the resources.

The documents are also backed up by multi-lateral agreements that Tanzania has ratified. The agreements include the African Convention on the Conservation of Nature and Natural Resources (1968), Convention on Wetlands of International Importance (Ramsar Convention) (1971), Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) (1973), Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (1985), and Convention on Biological Diversity (1992). Others are the United Nations Framework Convention on Climate Change (UNFCCC) (1992), United Nations Convention to Combat Desertification (1994), Kyoto Protocol to United Nations Framework on Climate Change (1997), and Stockholm Convention on Persistent Organic Pollutants (POPs) (2001).

14.3.3 Key questions while appraising natural resources

Usually, the appraisal of resources seeks to assess the supply and demand of a given resource for development. The main concern is the compilation and manipulation of data about natural resources and examination of the ways in which resources are allocated among competing uses and users. The aim is thus to understand the fundamental characteristics of natural resources and the process through which they are allocated and utilized. The main objectives of resource appraisal are as follows:

1. To aid evaluation of investment
2. To provide information to be used in the improvement of current resource utilization
3. To satisfy direct consumer demand
4. To aid government activities (e.g. administration of taxation on the resource).

In addressing these objectives, the following key questions may be considered (Box 14.2):

Box 14.2 Key questions during appraisal of natural resources

- Where are the resources?
- What are their quality and characteristics?
- How much is there?
- What are the demands for them?
- How will changing prices affect future demands?
- How will different resource uses interact to influence future supplies?
- What opportunities exist to improve productivity?

14.3.4 Planning for natural resources utilization

This section outlines the planning process, with a focus on natural resources. The outline reflects the fundamental characteristics of planning which can be viewed as a cyclic process, involving a sequence of stages. Key stages in natural resource-based planning involve the following:

1. Identifying natural resource issues of importance to the community, such as water quality and wildlife habitat.
2. Conducting a natural resource inventory (NRI). An inventory of natural resources is essential when preparing a comprehensive plan, since the extent, type, locations, limitations, and benefits of natural resources will affect planning and policy judgments. A good way to describe natural resources is with a brief narrative and maps. Shown in Box 14.3 are some examples of natural resource information that may need to be included in the inventory (subject to site-specific variations).

Box 14.3 Example of information for a natural resource inventory

- Parks and recreational areas
- Open spaces
- Navigable waters, wetlands, ponds, streams, floodplains, and shore lands
- Environmentally sensitive areas, endangered/threatened species, natural areas, aquifers and their recharge areas
- Soils, topography, drainage patterns, and storm water management
- Agricultural lands (prime agricultural soils, unique agricultural lands)
- Forests, woodlands, prairies, and other vegetation cover types
- Historical and archaeological sites
- Landfills and brown fields
- Aggregate resources, such as sand and gravel deposits
- Natural geologic features and scenic areas
- Ridge tops, bluff lands, and areas with steep slopes
- Local energy resources

- 3 Identifying priority natural resources for conservation and areas suitable for development.
4. Setting goals and objectives related to natural resources identified. In setting goals, it is important to consider the balance between the need for resource conservation and resource use for development. Objectives are the end towards the attainment of which plans are directed. Objectives are also defined as specific, attainable, and measurable statements of the actions required in carrying out a plan.
5. Developing a comprehensive plan which outlines priorities for conservation and economic development.
6. Implementing a plan in accordance with goals and objectives. It is necessary to consider how to 'operationalize' plans or to 'plan the implementation processes'. This involves, among other things, identifying the various activities associated with the plan or project, preparing a time schedule which indicates when they will be undertaken, and mobilizing the resources (finance, staff, materials, and equipment) required for implementation.
7. Monitoring and evaluating, which should ideally be a continuous process. Monitoring should be built into the implementation of the natural resource plan or project. It is therefore necessary during the early stage of planning the implementation process to consider what sort of monitoring is required and how it will be performed. Evaluation is designed to reveal the extent to which planned objectives have been achieved, any anticipated effects a project may have had, and—so that lessons can be learned for future planning—the reasons for successes and failures or for reviewing the plan.

The specific activities involved in the process are as indicated in Box 14.4.

The implementation of the proposed plans will result in human activities in terms of various projects to achieve the set goals. These human activities always have an impact on the very resource base they depend on. One of the significant impacts frequently noticed is climate change. In the next section this phenomenon is discussed, and some proposals are made on how people can mitigate its effects or adapt to them.

Box 14.4 Main activities involved in natural resource planning

- Analyse the objectives and set the targets of the natural resource sector in question in the light of existing policies.
- Collect data and information on various sectors (e.g. land forms, climatic factors, population and their activities, and economy). Information and data can be on the past and existing situation.
- Analyse the collected data.
- Prepare existing natural resources and use map.
- Estimate the demand of various natural resources in the future in the planning area.
- Devise strategies that ensure sustainability in the natural resources sector. Strategies devised should be based on the analysis of data and information collected.
- Measure and evaluate the appropriateness of the proposed strategies.

14.4 Climate change

14.4.1 Causes of climate change

Climate change is defined as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is, in addition to natural climate variability, observed over comparable time periods.

According to the IPCC (1996), human activities increase the concentration of aerosols and greenhouse gases (GHG), such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulphur hexafluoride (SF₆) in the atmosphere. Aerosols are responsible for cooling of the atmosphere. A combination of aerosols and GHG (especially CO₂) resulting from the burning of fossil fuel contributes significantly to changing the climate parameters such as temperature, precipitation, and soil moisture (IPCC 1996). Slow changes in mean climatic conditions, increased inter-annual and seasonal variability, increased frequency of extreme events, and rapid climate changes causing catastrophic shifts in ecosystems are the major ways in which climate changes are manifested (Tompkins & Adger 2004).

14.4.2 Climate trends and projections in Tanzania

In Tanzania, climatic projections show that annual temperatures may rise by 2.2°C by 2100. Mean daily temperatures on average will rise by 3–5°C and mean annual temperature by 2–4°C throughout the country. From 1961 to 2005, the mean annual temperature increased by 1–1.8°C throughout the country. Annual precipitation over the whole country is projected to increase by 10% by 2100; according to the IPCC (2007), there will be a decrease in rainfall of 5–15% and an increase of 5–45% in some parts of the country. All these changes will aggravate the climatic situation, leading to increased vulnerability of communities to the impact of climate change, and they will require planners to plan not as usual but while using real information and data.

14.4.3 Impact of climate change in Tanzania

Climate change projections indicate that the frequency and severity of extreme climatic events will increase. In the last 40 years, Tanzania has experienced severe and recurring droughts with devastating effects on the agricultural, water, and energy sectors. Currently, more than 70% of all natural disasters in Tanzania are hydro-meteorological and are linked to droughts and floods. Some of these impacts are further elaborated in the following three sections.

14.4.3.1 *Impact on agriculture and food security*

Changing climate has resulted in a general decline in agricultural productivity, including changes in agro-diversity. The prevalence of crop pests and diseases is also reported to have increased, posing more challenges to agriculture. Studies by the Tanzania Meteorological Agency indicated that some of the previous highly productive areas, such as the southern and northern highlands, will continue to be affected by declining rainfall, frequent droughts, and significant increases in spatial and temporal variability of rainfall—with long-term implications for the agricultural sector planning and resources allocation, such as changes in seeds and pesticides, and even shifts in types of agricultural produce (URT 2009).

In 2005, the agricultural sector grew by only 5.2% compared with 5.8% growth in 2004; the GDP was targeted to grow by 6.9% but grew by 6.8%. This was attributed to the severe drought that affected most parts of the country, trig-

gering food shortages and a power crisis (URT 2007). Regional predictions indicate that Tanzania may suffer a loss of over 10% of its grain production by the year 2080 (Parry et al. 1999). The cultivation of maize is going to be particularly hard hit. Estimates from a Crop Environment Resource Synthesis Model (CERES-Maize) show that the average yield decrease over the entire country would be 33%, 84% in the central regions of Dodoma and Tabora, 22% in the north-eastern highlands, 17% in the Lake Victoria region, and 10–15% in the southern highland areas of Mbeya and Songea (Jones & Kiniry 1986).

14.4.3.2 Impact on fresh water resource

Severe and recurrent droughts in the past few years triggered a decrease in water flows in rivers, hence shrinkage of receiving lakes, satellite lakes, and hydropower dams. Furthermore, some of the perennial rivers have changed to seasonal rivers, and some wetlands have dried up.

Predictions of changes of lake levels and hydrological basins owing to climate change in Tanzania have indicated a potential decline of 0.1–1.2 m. Regression and water balance models were used to assess the impacts of rainfall variability / climate changes on five Tanzanian lakes. From the assessments, the highest changes of about 3 m are predicted for Lake Rukwa. The assessments indicated that a 1% decrease of annual rainfall may result in a 0.6–5.0% reduction in average discharge, 0.6–4.1% minimum discharge, 0.4–7.5% maximum discharge, and 0–1.6% of zero flow duration. The largest discharge decreases are predicted for internal drainage and Lake Victoria, while the lowest decreases are predicted for Kikuletwa, Ruhuhu, and Rufiji rivers (except Great Ruaha). Predicted rainfall increases expected from some general circulation models (GCMs) indicate future discharge increases of 8–41% (average discharge), 6–30% (minimum discharge), 0.4–45% (maximum discharge), and a decrease of 6–16% (zero flow duration).

14.4.3.3 Impact on human health

The tropical African climate is favourable to most major vector-borne diseases, including malaria, schistosomiasis, onchocerciasis, trypanosomiasis, filariasis, leishmaniasis, plague, Rift Valley fever, yellow fever, and tick-borne haemorrhagic fevers. The continent has a high diversity of vector-species complexes that have the potential to redistribute themselves to new cli-

mate-driven habitats, leading to new disease patterns. These organisms have different sensitivities to temperature and precipitation.

In Tanzania, there are already reported incidences of epidemic malaria, especially in highland areas that were traditionally free from mosquitoes and malaria (Yanda et al. 2006; URT 2009; Wandiga et al. 2010). Malaria has been common in high temperature and humid lowland areas, especially during and after rainy seasons; but with changes in temperature and rainfall regimes, the disease has been observed in non-traditional malaria areas. It is estimated that the potential costs to address the increased disease burden in Tanzania could be USD 20–100 million per year by 2030 (Global Climate Adaptation Partnership and Partners 2011).

14.4.4 Adaptation to climate change

Adaptation to climate change refers to taking steps to build resilience and minimize costs. Since climate change impacts differ from one sector to another, adaptation strategies will also differ. Some adaptation responses based on selected sectors are listed below:

- *Adaptation responses for impacts on water resources*
 1. Protecting and conserving water catchments
 2. Enhancing exploration and extraction of underground and other water sources
 3. Facilitating and promoting water recycling and reuse
 4. Promoting rain water harvesting
 5. Enhancing coordination of water abstraction and use
 6. Promoting efficiency in water supply and use to ensure adequate and sustainable water supplies to all sectors
 7. Facilitating access to water resources
 8. Enhancing management of water sources to improve sanitation and hygiene
 9. Promoting water treatment and storage
 10. Enhancing decentralization of water sources management
 11. Conducting vulnerability assessment in water resources.

- *Adaptation responses for impacts on the forestry sector*
 1. Enhancing control of forest fire, disease, and pest outbreak
 2. Enhancing conservation of forest biodiversity and control of invasive species

3. Supporting alternative livelihood initiatives for forest-dependent communities
 4. Promoting establishment of woodlots
 5. Establishing comprehensive monitoring system for forest resources and ecosystem conditions
 6. Strengthening and up-scaling of community-based forest management best practices
 7. Promoting use of non-wood construction materials
 8. Promoting energy efficient technologies
 9. Enhancing decentralization of forest management.
- *Adaptation responses for impacts on wildlife resources*
 1. Enhancing protection and conservation of wildlife habitats
 2. Strengthening wildlife information database and management systems
 3. Enhancing management of emerging human–wildlife conflicts
 4. Promoting appropriate methods for conservation of climate change threatened species
 5. Enhancing involvement of local communities in wildlife conservation through Wildlife Management Areas
 6. Conducting vulnerability assessments of wildlife
 7. Enhancing controlled fire management systems in wildlife habitats.
 - *Adaptation responses for impacts on agriculture and food security*
 1. Assessing crop vulnerability and suitability (cropping pattern) for different agro-ecological zones
 2. Assessing trade comparative advantage of traditional export crops with changing climate
 3. Promoting appropriate irrigation systems
 4. Promoting early maturing and drought-tolerant crops
 5. Enhancing agro-infrastructural (input, output, marketing, storage) systems
 6. Promoting appropriate indigenous knowledge practices
 7. Developing crop insurance strategy
 8. Strengthening weather forecast information sharing for farmers
 9. Strengthening post-harvest processes and promoting value addition
 10. Addressing soil and land degradation by promoting improved soil and land management practices/ techniques
 11. Strengthening integrated pest management techniques
 12. Promoting use of pest-/disease-tolerant varieties
 13. Strengthening early warning systems for pest surveillance

14. Insisting on farm rainwater harvesting through improvement of physical soil structure.
- *Adaptation responses for impacts on the livestock sector*
 1. Purchasing pasture land, which guarantees pastoralists access to pasture
 2. Promoting herd splitting, forage conservation, collective investment in pasture, private water points, communal dips, and communal water points
 3. Promoting manure management practices and waste management in abattoirs
 4. Improving rangeland productivity
 5. Promoting development of livestock insurance strategy
 6. Strengthening weather forecast information sharing for pastoralists
 7. Promoting livelihood diversification of livestock keepers.
 - *Adaptation responses for impacts on human health*
 1. Strengthening control systems related to health risks and diseases
 2. Ensuring availability of specialized trained staff and medical facilities for addressing climate-related diseases and other health risks
 3. Enhancing information sharing systems
 4. Cooperating with international community in addressing climate-change issues related to health
 5. Enhancing health insurance system.
 - *Adaptation responses for impacts on the energy and industrial sectors*
 1. Promoting diversification of energy sources, including the non-traditional
 2. Supporting development and utilization of community-based off-grids/mini-grids
 3. Promoting clean coal for energy generation
 4. Promoting development and use of energy-efficient technologies
 5. Promoting application of cogeneration in industrial sector
 6. Promoting energy plantations to reduce pressure on catchment natural forests
 7. Promoting diversification and integrated energy sources
 8. Promoting establishment of energy management systems
 9. Promoting appropriate planning for industrial locations and zoning in the context of climate change
 10. Promoting insurance schemes in industrial establishments.

- *Adaptation responses for impacts on infrastructure*
 1. Promoting and enhancing use of building codes and standards adaptive to climate change
 2. Promoting integrated planning in infrastructure design, development, and use of appropriate technologies
 3. Promoting construction and rehabilitation of relevant infrastructure
 4. Promoting insurance system for infrastructures.

- *Adaptation responses for impacts on human settlements*
 1. Promoting building standards to accommodate impacts of climate change
 2. Enhancing land use planning
 3. Improving settlements of communities in climate-change risk-prone areas
 4. Relocating settlements from high-risk areas
 5. Promoting sustainable housing schemes
 6. Promoting insurance schemes for human settlements.

14.4.5 Mitigating climate change

Climate change mitigation includes technologies, economic and social changes, and substitutions that can help to achieve reductions in GHG emissions (Hall & Williams 2008). A successful mitigation policy could consider four main steps that any sector or institutions can implement as practical responses to climate change. The first step is eliminating the emission of GHG by refraining from certain activities that can be avoided. The second is to reduce the emission of GHG by focusing on energy-efficient practices in specific activities. The third step is to substitute practices that are responsible for a large amount of GHG emissions with practices that have a lower carbon footprint. The fourth step is to enhance the carbon sinks through reducing deforestation and increasing afforestation.

The National Climate Change Strategy of 2010 in Tanzania has pinpointed adaptation strategies in different sectors. In the sector of energy and industry, the climate change mitigation strategies include the following:

1. Enhancing the use of renewable energy share in the national grid and off-grid
2. Enhancing off-grid power supply to rural areas
3. Promoting diversification of energy sources

4. Supporting exploitation of geothermal, clean coal, and safe nuclear energy
5. Promoting energy-efficient technologies and practices
6. Promoting green-energy-related technologies.

For the transport sector, the mitigation options include the following:

1. Promoting fuel switch in transport facilities
2. Improving systems for rapid transportation
3. Promoting use of mass transport facilities
4. Establishing infrastructures for and promoting use of non-motorized transport
5. Providing proper urban transport planning to facilitate efficient and low GHG modes of transportation
6. Developing nationally appropriate mitigation actions (NAMAs) on transport systems.

In the waste management sector, options available for reducing emission of GHG include the following:

1. Promoting generation and utilization of energy from wastes
2. Promoting on-site sorting of wastes
3. Enhancing methane recovery in waste water treatment
4. Promoting land-fill methane recovery
5. Enhancing recovery, recycling, and reuse of materials from solid wastes
6. Developing NAMAs on waste disposal facilities.

With regard to the forestry sector, the important mitigation strategies include the following:

1. Promoting afforestation and reforestation
2. Supporting household energy plantations to reduce pressure on natural forests
3. Supporting capacity building for community-based forest carbon assessment
4. Promoting reduction of emission from deforestation
5. Promoting reduction of emission from forest degradation
6. Promoting sustainable management of forests
7. Enhancing and conserving carbon stocks
8. Developing NAMAs in forest management.

Climate change mitigation in agriculture can be achieved through the following:

1. Promoting sustainable intensification

2. Improving nitrogen fertilizer management and production
3. Reducing emission from enteric fermentation
4. Reducing food waste
5. Managing manure
6. Reducing methane emission from rice cultivation
7. Sequestering carbon in agriculture systems
8. Promoting best agronomic practice technologies.

14.4.6 Mainstreaming climate change into development planning

One of the most sustainable approaches to addressing the problem of climate change is through mainstreaming climate change into development planning. In this case, mainstreaming refers to the process of integrating climate change adaptation and mitigation activities into development policies, development programmes and plans, and budgeting (UNDP-UNEP 2010). For effective results, mainstreaming of climate change should be at both strategic and operation levels (CARE International 2009a, 2009b).

Table 14.2 indicates the possible entry points for mainstreaming adaptation into national development planning.

Table 14.2
Possible entry points for instreaming adaptation into national development planning

Planning level	Entry points
National government and cross-sector ministries	<ul style="list-style-type: none"> • Poverty reduction strategy paper • National development plan • MDG-based national development strategy
Sector ministries	<ul style="list-style-type: none"> • Sector strategies, plans, and policies • Preparation of sector budgets • Public expenditure review
Sub-national authorities	<ul style="list-style-type: none"> • Decentralization policies • District plans • Preparation of sub-national budgets

Source: UNDP-UNEP (2010)

In Tanzania, various efforts are undertaken to mainstream climate change adaptation and mitigation strategies into government policies, strategies, and plans at both central and local levels. Among the mainstreaming efforts are the integration of climate change into the government's various major policies. The government efforts in mainstreaming climate change are also evident at regional level. For instance, the government, in collaboration with other East African countries, devised the East Africa Climate Change policy in 2010.

Nevertheless, the laudable national efforts to deal with climate change challenges need to be realized at the local level through effective translation of national development policies into local actions. This can only be achieved through integrating climate change issues into local government development plans and budgets, capacitating the regional secretariat and LGA planning units to understand the importance of integrating climate change in their development plans. This is critical to empowering planning units at local levels to accommodate climate change issues in their plans and budgets, hence complementing national-level efforts in addressing climate change challenges at LGAs.

14.4.7 Climate change adaptation planning process

The primary tasks associated with climate change adaptation planning are as follows:

Step 1: Establish the planning process

- Step 1.1: Scope out level of effort and responsibility.
- Step 1.2: Assess resource needs and availability.
- Step 1.3: Assemble planning team and establish responsibilities.
- Step 1.4: Educate, engage, and involve stakeholders.

Step 2: Assess vulnerability

- Step 2.1: Identify climate change phenomena.
- Step 2.2: Identify climate change impacts and consequences.
- Step 2.3: Assess physical characteristics and exposure.
- Step 2.4: Consider adaptive capacities.
- Step 2.5: Develop scenarios and simulate change.
- Step 2.6: Summarize vulnerability and identify focus areas.

Step 3: Create an adaptation strategy

- Step 3.1: Set goals.
- Step 3.2: Identify actions.
- Step 3.3: Evaluate, select, and prioritize actions.

Step 3.4: Write action plans.

Step 4: Design a plan implementation and maintenance process

Step 4.1: Adopt the plan.

Step 4.2: Implement the plan.

Step 4.3: Integrate plan findings into other state planning efforts and programmes.

Step 4.4: Track, evaluate, and communicate plan progress.

Step 4.5: Update the plan.

If one is interested in getting deeper into issues of planning processes for climate change adaptation, there are two recommended resources that contain very detailed information: the National Oceanic and Atmospheric Administration (<http://www.noaa.gov/>), and CARE International (2009a, 2009b). Planners are encouraged to make use of these resources for increased understanding of the process.

14.5 Environmental planning and management process

Addressing complex environmental problems in rural and urban areas in Tanzania involves taking stock of the existing urban environmental problems, undertaking comparative analysis and prioritization, setting out objectives and targets, and identifying various measures to meet these objectives. Therefore, a well-defined process of environmental planning and management is critical as a tool to address environmental issues in a systematic and planned manner.

Essentially, there is no universal process for planning and managing the environment. This is based on the varied nature of environmental problems in terms of their causes, impacts, spatial distribution, severity, longevity, and strategies used in addressing them. For example, the causes of land degradation in Tanzania may range from unsustainable farming, to mining, encroachment of wetlands, overgrazing, uncontrolled tree and bush clearing, wildfires, and over-exploitation of forest resources, among other causes. In the case of threats to biodiversity, the causes can be encroachment in biodiversity-sensitive areas, pollution of water bodies (rivers, lakes, and ocean), over-exploitation, and invasive alien species. Therefore, understanding of the dynamics and correct approach in addressing environmental problems—such as congestion of traffic leading to air pollution, sanitation, land degradation, and water pollution—is paramount.

Given the environmental challenges in Tanzania and the existence of various initiatives to address these, there is a need to undertake the following actions:

1. Strengthen enforcement of legislation related to environmental resources.
2. Carry out environmental mapping to identify highly degraded and fragile areas.
3. Promote sustainable agricultural practices and rangeland resources.
4. Promote local communities' participation in the enforcement of environmental-related issues.
5. Strengthen implementation of integrated environmental management plans.
6. Promote sustainable utilization of environmental resources.
7. Improve data collection and information management on environmental resources.
8. Strengthen capacity building and awareness of the management of ecosystems.

However, in realizing the above there is a need for systematic planning, in particular the participatory planning process advocated by the United Nations and categorized into three phases: the assessment and start-up phase; the strategy and action planning phase; and the follow-up, consolidation, and institutionalization phase.

Phase 1: The assessment and start-up phase

This phase involves the identification and mobilization of project participants and partners; familiarization of stakeholders with aims and objectives of the environmental planning and management intervention in the respective area; preparation of the environmental profile (e.g. district or town environmental profile) and initial identification of priority environmental issues; review of available resources, tools, and information on the environment and its management; working out of the organizational structure, work plan, and operational procedures for the intervention; and organization and holding of the stakeholders' consultation workshop. During the workshop, stakeholders form groups, known as issue-specific working groups, for dealing with particular identified environmental problems.

An environmental profile is an important, specialized planning tool that focuses on the environment. It works to provide a common understanding of how economic activities interact with the environment in terms of resources and hazards. For instance, excessive clearing of vegetation cover for agriculture can lead to environmental degradation and consequently the occur-

rence of hazards that may need immediate attention (e.g. floods). Therefore, an environmental profile provides information about existing institutional frameworks for managing environmental issues, and it helps to both identify and mobilize local stakeholders with interests in development and the environment. It is normally assembled from existing information and data. It is a form of rapid environmental assessment.

The consultative workshop is important as it brings into practice a real sense of public participation, which is critical for improving communication and achieving results that are more relevant to the public's needs. It also strengthens administration, makes decisions more sustainable, and increases respect for the work undertaken. Input from the general public provides local knowledge, experience, time, and skills. Local stakeholders are key to the identification of priorities. In addition, by participating in the planning process the general public gains a sense of ownership of the process and is likely to be more committed to its implementation.

Phase 2: The strategy and action planning phase

This phase involves intensive analysis of environmental issues and consequently reaching a consensus on their prioritization. This is conducted through discussion and negotiation within the issue-specific working groups. During this period, each of the agreed priority issues are further elaborated and developed to reach consensus on appropriate strategies for each issue. The role of the planner in this phase is to guide and facilitate the development of strategies into action plans for implementation and to carry out institutional capacity building and human resource development for smooth realization of environmental management objectives.

Phase 3: The follow-up, consolidation, and institutionalization phase

This phase begins towards the end of the strategy and action planning phase. In this third phase, the strategies and action plans coming out of the working groups are further elaborated, especially in order to build towards an overall community-wide environmental management and urban development strategy. Investment proposals are worked out in detail, subjected to rigorous analysis, and pursued vigorously with funding sources. Finally, institutionalization of the environmental planning and management process involves making the whole process part of the institution activities so as to make it sustainable.

14.6 Environmental planning and management techniques

Sound environmental management reduces vulnerability to disasters, improves livelihoods and productivity, stimulates economic growth based on natural resources, and enhances human well-being (Ahmed & Sanchez-Triana 2008). Achieving such environmental, economic, and social benefits involves the use of environmental planning and management techniques. Among the techniques that can be used to minimize or address potential environmental impacts resulting from development activities and investments are EIA, EMS, and SEA.

14.6.1 Environmental impacts assessment (EIA)

14.6.1.1 Key explanations of EIA

EIA is a technique and process that aims to determine whether or not an activity or project will have any adverse impacts on the environment. Therefore, EIA should be undertaken prior to project implementation in order to ensure that development options under consideration are environmentally, socially, and economically sound and sustainable. The main objectives of EIA include ensuring that environmental considerations are explicitly addressed and incorporated into the development decision-making process; anticipating, minimizing, and avoiding significant negative biophysical, social, and other relevant effects of a development proposal; protecting the productivity and capacity of natural systems and ecological processes, which should maintain their functions; promoting sustainable development; and optimizing resources use and management opportunities (URT 2005).

EIA is an environmental planning and decision-making tool and an instrument of sustainable development that is intended to reduce adverse environmental impacts of a development undertaking. In addition, EIA is a participatory tool that seeks to involve a substantial number of stakeholders, who may be positively or negatively affected by a proposed development. When approaching the issue of an EIA process in Tanzania, planners and other relevant actors should note the following:

1. EIA is a legal requirement for all development projects, and these projects should be screened to determine the level of assessment required as approved by the National Environmental Council (NEMC) or LGA on behalf of NEMC.

2. EIA should be undertaken by a registered environmental expert (an individual person or a firm of experts).
3. Any project requiring EIA should not be implemented before the expert's approval.
4. Public consultation must be undertaken in conducting an EIA so as to seek the views of any person who is, or is likely to be, affected by the project.
5. An EIA certificate of approval may be cancelled if the holder contravenes the conditions set out in the EIA; if there is a substantial change or modification in the project's implementation; if the project poses an environmental threat which could not reasonably have been foreseen before the EIA certificate was issued; and if the project developer provided false or incorrect information, or intended to mislead in supporting his application.
6. Costs involved in undertaking an EIA are paid by the project developer or proponent.

14.6.1.2 EIA procedures

The EIA process, while not uniform from country to country, generally consists of a set of procedural steps culminating in a written impact assessment report that will inform the decision-maker whether to approve or reject a proposed project.

1. *Identifying and defining the project or activity*: Although this step may seem relatively simple, defining a 'project' for the purposes of an EIA can become complex and even controversial if a project is large, has several phases, or involves multiple sites. The goal of this step is to define the project with enough specificity to accurately determine the zone of possible impacts and to include activities that are closely connected with the proposal so that the entire scope of environmental impacts is evaluated.
2. *Screening*: The screening process determines whether a particular project warrants preparation of an EIA. The threshold requirements for an EIA vary from country to country. Some laws provide a list of the types of activities or projects that require an EIA; others require an EIA for any project that may have a significant impact on the environment or for projects that exceed a certain monetary value. In some cases, particularly if the possible impacts of a project are unknown, a preliminary environmental assessment will be prepared to determine whether the project warrants an EIA.

3. *Scoping*: Scoping is a stage, usually involving the public and other interested parties, that identifies the key environmental issues that should be addressed in an EIA. This step provides one of the first opportunities for members of the public or NGOs to learn about a proposed project and to voice their opinions. Scoping may also reveal similar or connected activities that may be occurring in the vicinity of a project, or identify problems that need to be mitigated or that may cause the project to be cancelled.
4. *Preparing terms of reference*: The terms of reference serve as a roadmap for EIA preparation and should ideally encompass the issues and impacts that have been identified during the scoping process. A draft terms of reference may be made available for public review and comment. Public review at this early stage of the process provides a key opportunity to ensure that the EIA is properly framed and will address issues of community concern.
5. *Preparing a draft EIA*: A draft EIA is prepared in accordance with the terms of reference and/or the range of issues identified during the scoping process. The draft EIA must also meet the content requirements of the overarching EIA law or regulations. Ideally, this step will engage a wide range of technical specialists to evaluate baseline conditions, predict the likely impacts of the project, and design mitigation measures.
6. *Public participation*: Best EIA practice involves and engages the public at numerous points throughout the process, with a two-way exchange of information and views. Public participation may consist of informational meetings, public hearings, and opportunities to provide written comments about a proposed project. However, there are no consistent rules for public participation among current EIA systems. Even within a particular country, there can be variations in the quality and extent of public involvement in the EIA process, depending on the type of project being considered, the communities that may be affected, or government agencies that are overseeing the project.
7. *Preparing the final EIA*: This step produces a final impact assessment report that addresses the viewpoints and comments of the parties that reviewed the draft EIA. These comments may prompt revisions or additions to the text of the draft EIA. In some cases, the final EIA will contain an appendix summarizing all of the comments received from the public and other interested parties and provide responses to those comments.
8. *Decision*: A decision to approve or reject a project is generally based on the final EIA, but in some instances an environmental clearance may be just one step in the approval process. The decision may be accompanied by certain conditions that must be fulfilled, such as posting a reclamation bond or filing an environmental management plan.

9. *Administrative or judicial review:* Depending on the jurisdiction, there may be opportunities for a party to seek administrative and/or judicial review of the final decision and the EIA process. An appeal may address procedural flaws in the EIA process, such as a failure to hold any required public hearings, or may point to substantive issues that the decision-maker failed to consider. A country's judicial review or administrative procedure act, or sometimes the EIA law itself, will usually identify the kinds of issues that can be raised in an appeal and the type of relief that may be granted.
10. *Project implementation:* Provided all regulatory requirements are met and permits are obtained, the development will proceed following the project decision and once opportunities for administrative and/or judicial review are exhausted.
11. *Monitoring:* Monitoring is an important part of project implementation. Monitoring serves three purposes: (a) ensuring that required mitigation measures are being implemented; (b) evaluating whether mitigation measures are working effectively; and (c) validating the accuracy of models or projections that were used during the impact assessment process.

14.6.2 Environmental management systems (EMS)

An environmental management system (EMS) is a set of voluntary processes and practices that enable an organization to reduce its environmental impacts and increase its operating efficiency. The Tanga Cement Company Limited (TCCL), for instance, is one of the organizations in Tanzania using the EMS in conducting their operations in such a way that minimizes any potential adverse effects of the cement processes and products on the community, the environment, and themselves. This helps in balancing between economic performance, social responsibility, and environmental improvement. EMS is a framework that helps a company to achieve its environmental goals through consistent control of its operations. The assumption is that this increased control will improve the environmental performance of the company.

An EMS itself does not dictate a level of environmental performance that must be achieved, but rather each company's EMS is tailored to the company's business and goals. The approach helps a company address its regulatory demands in a systematic and cost-effective manner. This pro-active approach can help reduce the risk of non-compliance and improve health and safety practices for employees and the public. An EMS can also help address

non-regulated issues such as energy conservation and can promote stronger operational control and employee stewardship.

The basic elements of an EMS include reviewing the company's environmental goals, analysing its environmental impacts and legal requirements, setting environmental objectives and targets to reduce environmental impacts and comply with legal requirements, and establishing programmes to meet these objectives and targets. Other elements of an EMS include monitoring and measuring progress in achieving objectives, ensuring employees' environmental awareness and competence, and reviewing progress of the EMS and making improvements.

14.6.3 Strategic environmental assessment (SEA)

14.6.3.1 Key explanations of SEA

SEA is a systematic process for evaluating environmental consequences of proposed policies, legislations, plans, strategies, and programmes. In this view, SEA extends the application of EIA from projects to policies, programmes, and plans. Policies, plans, and programmes are often viewed as forming a hierarchy, with policies at the top level, plans one level down, and programmes at the lowest level (Ahmed & Sanchez-Triana 2008).

The evaluation is meant to ensure the inclusion of environmental concerns about economic, social, and cultural aspects of proposed policies, legislations, plans, strategies, and programmes. The National Environment Policy of 1997 provided for the application of SEA to all policies that impact the environment. This is further expanded in the Environmental Management Act (EMA) of 2004, which provides under Section 104(1) the requirement for undertaking an SEA for any government bill, to be submitted to determine the likely effect of the proposed bill on the environment.

Therefore, planners and other environmental actors should note that SEA is a policy and legal requirement when formulating policies; preparing plans, programmes, and strategies; and when preparing a bill for enactment of any law that is likely to have an impact on the management, conservation, and enhancement of the environment, or on the sustainable management of natural resources. On this basis, the EMA of 2004, Section 105(1) underscores

the need for undertaking SEA for mineral, petroleum, hydro-electric power, and major water project plans.

14.6.3.2 *Strategic environmental assessment (SEA) procedures*

The SEA process generally consists of five steps, culminating in a written report that will inform the decision-maker whether to approve or reject a proposed policy or plan (World Bank online).

1. *Identification of environmental priorities:* This process provides a compilation of existing key environmental issues in the sector or region that will be affected by the policy. Their interrelationship with economic and social priority issues should be discussed to clarify how environmental priorities are linked to growth and poverty alleviation. A complete compilation will examine pre-existing private sector projects and the standards by which they operate.
2. *Stakeholder analysis:* This process assesses who benefits from or is adversely affected by both the current situation and the potential development project. It will analyse the vested interests, power asymmetries, and impediments to collective action of affected stakeholders. A complete and comprehensive analysis of all potential stakeholders is a critical component of an SEA.
3. *Assessment of institutional and capacity gaps:* This process addresses the environmental priorities for the next step. It will include an assessment of the extent to which the proposed policy may aggravate or please the stakeholders. A full assessment will consider potential stakeholder responses.
4. *Policy recommendations, institutional strengthening, and capacity-building recommendations:* This process addresses the institutional and capacity gaps identified in Step 3. Policy recommendations should be sorted into three categories: short term (1–2 years), medium term (3–5 years), and long term (greater than 5 years). Each recommendation must include monitoring indicators.
5. *Political economy assessment of proposed adjustments:* This process addresses the recommendations from Step 4 and analyses their impact on the political and economic environment. The assessment completes the first cycle in developing an SEA report.

14.7 Conclusion

Tanzania's economy and the sustainability of ecosystems services rely heavily on the available natural resources, including forests, minerals, fisheries, water, and wildlife. Nevertheless, the degradation of such resources is occurring at an alarming rate, as indicated in the National Environmental Action Plan 2013–2018. Given the rate of development and nature of environmental problems in Tanzania, environmental planning and management is an important undertaking for realizing sustainable development objectives. However, its effectiveness requires a vibrant and enforceable policy and institutional framework from which to guide the process of environmental planning and management at all levels of the government. In essence, environmental planning and management entail, among other issues, assessing environmental issues, setting priorities, identifying the most appropriate strategies for addressing the key problems, and implementing actions to achieve environmental sustainability.

References

- Ahmed, K. & Sanchez-Triana, E. (2008). 'SEA and policy formulation', in: K. Ahmed & E. Sanchez-Triana (eds) *Strategic Environmental Assessment for Policies: An Instrument for Good Governance* (pp. 1–10). The International Bank for Reconstruction and Development / The World Bank.
- CARE International (2009a). Climate change vulnerability and capacity analysis handbook. <http://www.careclimatechange.org>
- CARE International (2009b). Mainstreaming climate change adaptation: A practitioner's handbook. CARE International in Vietnam.
- Environmental Law Alliance Worldwide (2010). Guide book for evaluating mining projects. Environmental Law Alliance Worldwide (ELAW), Eugene OR 97403.
- Global Climate Adaptation Partnership and Partners (2011). <http://www.climateadaptation.cc/>
- Hall, C.M. & Williams, A.M. (2008). *Tourism and Innovation*. London: Routledge
- IPCC (1996). Climate change 1995: Impact, adaptations and mitigations of climate change: Scientific–technical analyses contribution of Working Group II to the Second Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press.
- IPCC (2007). Climate Change 2007: Synthesis Report: A report of the Intergovernmental Panel on Climate Change. Contribution of Working Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Geneva, Switzerland: IPCC.

- Jones, C.A. & Kiniry, J.R. (1986). *CERES-Maize: A Simulation Model of Maize Growth and Development*. Texas University Press.
- Parry, M., Rosenzweig, C., Iglesias, A., Fischer, G. & Livermore, M. (1999). 'Climate change and world food security: A new assessment', *Global Environmental Change* 9: S51–S67.
- Robinson, J.B., Francis, G. & Lerner, S. (1990). 'Defining a sustainable society: values, principles, and definitions', *Alternatives* 17(2): 36–46.
- Tompkins, E.L. & Adger, W.N. (2004). 'Does adaptive management of natural resources enhance resilience to climate change?', *Ecology and Society* 9(2): 10. <http://www.ecologyandsociety.org/vol9/iss2/art10/>
- UNDP-UNEP (2010). Mainstreaming adaptation to climate change into development planning: A guidance for practitioners. UNDP-UNEP Poverty—Environmental Facility.
- United Republic of Tanzania (URT) (2005). The Environmental Impact Assessment and Audit Regulations, 2005—G.N. NO. 349 of 2005.
- United Republic of Tanzania (URT) (2007). Vice President's Office: National Adaptation Programme of Action (NAPA, 2005).
- United Republic of Tanzania (URT) (2009). Climate Change and Livestock Policy Brief. Vice President's Office, Division of Environment, Dar es Salaam.
- United Republic of Tanzania (URT) (2013). National Environmental Action Plan (NEAP) 2013–2018. Vice President Office, Dar es Salaam.
- Wandiga, S.O., Opondo, M., Olago, D., Githeko, A., Downs, T., Yanda, P.Z., Kangalawe, R.Y.M., Kabumbuli, R., Opere, A., Githui, F., Kathuri, J., Olaka, L., Apindi, E., Marshall, M., Ogallo, L., Mugambi, P., Kirumira, E., Nanyunja, R., Baguma, T., Sigalla, R. & Achola, P. (2010). 'Vulnerability to epidemic malaria in the highlands of Lake Victoria basin: The role of climate change/variability, hydrology, health and socio-economic factors', *Climate Change* 99: 473–497 [DOI: 10.1007/s10584-009-9670-7].
- World Bank (online). Guidance notes on tools for pollution management. <http://siteresources.worldbank.org/INTRANETENVIRONMENT/Resources/244351-1279901011064/GuidanceNoteonSEA.pdf>
- Yanda, P.Z., Kangalawe, R.Y.M. & Sigalla, R.J. (2006). 'Climatic and socioeconomic influences on malaria and cholera risks in the Lake Victoria Region of Tanzania', *ICIFAI Journal of Environmental Economics (IJEE)* 4(3): 44–70.

15

Industrial Development and Planning

Joseph Haule, Danford Chisomi

15.1 Introduction

A country's achievement of sustainable industrial development partly depends on planners' possession of knowledge and skills necessary to identify industrial development potentials and their ability to influence the pace and direction of industrial development. This requires that a planner—irrespective of whether he/she is public or private—be competent in industrial planning. This chapter is intended to address these issues. It is organized into six sections. After this introduction, the second section deals with industrial policies and strategies. This is followed by a presentation in Section 3 of industrial development planning. Section 4 looks at Tanzania's planning framework for industrial development processes. Section 5 looks at the potentials and limitations of rural industrialization, and Section 6 at the roles of stakeholders in the industrialization process.

15.2 Industrial policies and strategies

To undertake industrial planning, planners need to consider industrial policies formulated by the government to guide industrialization processes and select appropriate industrial strategies (Mrema 1989).

15.2.1 Industrial policies

Industrial policies are sets of rules, regulations, or principles established at government or political level, guiding the establishment, operation, and development of manufacturing industries in a country. They indicate industrial

goals/objectives and set out the 'dos' and 'don'ts' in industrial sector development.

The most important industrial development policies formulated by the government of Tanzania include the following:

1. Tanzania Development Vision 2025 (URT 2005), which seeks to transform the economy from a low productivity agricultural economy to a semi-industrialized economy.
2. The Sustainable Industries Development Policy (SIDP), covering the years 1996–2020 (URT 1996). This emphasizes the phasing out of government involvement in productive activities and concentrates on creating an environment conducive to the smooth operation of privately owned industrial ventures. This sets the overall framework for the promotion of manufacturing activity in the country. The policy objectives include promotion of industrial exports, increase of employment in the industrial sector, and promotion of labour-intensive small-scale industries.
3. The Small and Medium Enterprises Development Policy of 2002, whose objectives are to foster job creation and income generation and to provide a base for industrial development.
4. The National Micro-Finance Policy of 2000, which covers the provision of financial services to small and medium enterprises.

15.2.2 Industrial strategies

Industrial strategies are ways or methods of achieving industrial goals and objectives. They stipulate the types of industries to be established, industry locations, and the types of technology to be used. Industrial strategies which planners can adopt for industrialization processes include the following:

Small-scale industrial strategy (SSI)

This strategy is geared towards promotion and establishment of small-scale industries. Tanzania adopted this strategy in 1974, as it was felt to be ideal due to the financial, technological, and human resource constraints on establishing large-scale industries. To this end, the Small Industries Development Organization (SIDO) was established with the aim of promoting small-scale industries particularly in rural areas.

Advantages of small-scale industries include the following:

1. They can utilize available local raw materials and indigenous skills to produce goods needed by people at relatively low cost.

2. They are appropriate in situations with a limited domestic market due to low-income levels of people.
3. They normally use labour-intensive techniques of production, which are ideal in labour surplus economies.
4. They require little capital and simple technology, which are both within the capability of most people in less-developed countries.
5. They can easily be dispersed into rural areas and hence ensure equitable income distribution and employment creation throughout the country.
6. They stimulate the emergence of local industrial entrepreneurs.
7. They contribute to economic independence, since large-scale industries are overly dependent on foreign capital and expertise.

Export-oriented industrial strategy (EOI)

This strategy focuses on producing manufactured goods for export to foreign countries, with the objective of earning foreign exchange. Advantages of export-oriented industries include the following:

1. They earn foreign exchange for importing intermediate and capital goods required for economic development.
2. They are linked to free international trade and hence enjoy the benefits of competition and adaptation to foreign technology.
3. They attract foreign direct investment, resulting in technology transfer and creation of employment opportunities.
4. They can take advantage of trade agreements and common markets existing within regional integration bodies, such as the East Africa Community (EAC), Southern African Development Community (SADC), and the Common Market for Eastern and Southern Africa (COMESA).
5. They have the possibility to utilize international trade opportunities and other favourable trade agreements, such as the African Growth Opportunities Act (AGOA).

Capital goods industrial strategy (CGIS)

This strategy aims at producing goods which are used to produce other goods. The significance of capital goods industries include the following:

1. Intimate connection with capital formation, which is a prerequisite for industrialization processes
2. High linkage with all other sectors of the economy
3. Internal dynamism of improving its own technology
4. Requirement for high level of education and training—and hence facilitates learning processes.

Import substitution industrial strategy

The import substitution industrial (ISI) strategy (1967–1975) aimed at producing industrial goods to substitute imports for the purpose of saving foreign exchange.

Specific strategic actions

The central issue in development of the manufacturing sector revolves around raising the competitiveness of the sector. The Global Competitive Report (Schwab 2015) defines a country's competitiveness as the set of institutions, policies, and factors that determine the level of productivity of an economy, which in turn sets the level of prosperity that the country can earn. These factors include infrastructure, macro-economic environment, health and primary education, higher education and training, goods market efficiency, labour market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation.

Therefore, the public sector and planners should work out how to ensure that the above-mentioned factors are improved to increase the country's competitiveness and hence attract people and business, which will lead eventually to investment in the manufacturing sector. Having achieved competitiveness, there are other associated strategies, as follows:

1. Create business incubators in order to increase the number of Tanzanian entrepreneurs and enterprises. This will mean accelerating the growth and success of enterprises through an array of business support resources and services, which can include physical space, capital, coaching, common services, and networking connections. These can be sponsored municipal entities, but there is a need to encourage private companies and public institutions, such as colleges and universities, to join the effort in order to help create and grow young businesses.
2. Identify special economic zones to attract foreign entrepreneurs and firms to Tanzania. Identification of areas with potential for industrial investment and making information about these areas available are key to attracting investors. These investors will help increase industries, employment, and transfer of technology.
3. Create a cluster of industries in order to raise competitiveness among SMEs. A cluster is a geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field. Clusters are very effective in increasing productivity, with which enterprises can compete nationally and globally. Therefore, the public sector should collaborate with the private sector to arrange various clusters in order to harness these advantages.

4. Build on value chain policies. A value chain is a key framework for understanding how inputs and services are brought together and then used to grow, transform, or manufacture a product; how the product then moves physically from the producer to the customer; and how value increases along the way.
5. The value chain perspective provides an important means to understand business-to-business relationships that connect the chain, mechanisms for increasing efficiency, and ways to enable businesses to increase productivity and add value. It also provides a reference point for improvements in supporting services and the business environment. It can contribute to pro-poor initiatives and better linking of small businesses with the market. Increasingly, the value chain approach is being used to guide and drive high-impact and sustainable initiatives focused on improving productivity, competitiveness, entrepreneurship, and the growth of small and medium enterprises (Webber & Labaste 2010).
6. Planners should therefore analyse the value chains of various industrial products in order to be in a position to raise the participation of Tanzanian firms in these chains for both domestic and export-oriented products.
7. Innovation system policies to raise the technological advance of Tanzanian firms. This strategy requires that planners work with research centres, and in some cases they will have to establish them. This is because it is through research and development centres that innovations in various technologies will emerge.

15.3 Industrial development planning

In this section, the basic concepts of industrial development planning are presented. The planning process involves a sequence of choices and decisions on alternative development activities to be undertaken in a given plan period for the purpose of achieving specific objectives. National planning deals with the whole economy, whereas industrial planning is concerned with designing a set of activities and programmes specific to the establishment of manufacturing industries. Industrial planning is an integral part of overall national development planning (Mrema 1989).

Industrial planning aims at fostering structural change in the economy as a whole, because the level of industrial development is not just a summation of all industries within an economy. This therefore points to the fact that it is fundamental for a planner to determine a matrix of industries that will lead to maximization of benefits derived from combined forward and backward

linkages, economies of scales, and externalities. This is possible through, among other factors, planning for input-mix—that is, planning the choice of technologies and the best combination of inputs to be used in industrial processing. This explains the fact that in producing certain items, there are a number of technologies and inputs to be used. Thus, input-mix planning is important because it places a planner in a position to dictate the use of (a) locally available raw materials, which enhances backward linkages to the local economy; and (b) the most efficient technology, a kind of technology that will minimize costs and maximize profits in the long run.

15.4 Tanzania's industrial planning framework

Based on Tanzania's Sustainable Industries Development Policy (1996–2020), the ministry responsible for trade and industries is charged with the responsibility of overseeing industrial development in the country in collaboration with the ministries responsible for finance and planning functions. Nevertheless, industrial planning can be undertaken at various levels, including at the national level for national projects, at the local government level, and at private level for private investors.

Industrial planning at any level involves a number of steps:

1. Formulation of industrial goals and objections. Objectives must conform to specific, measurable, achievable, relevant, time-bound (SMART) (Doran 1981) characteristics.
2. Selection of industrial strategies. These are methods/ways of achieving industrial goals/objectives and indicate the type of industry, industrial location, and type of technology to be used.
3. Identification, appraisal, and selection of industrial projects/programmes.
4. Industrial projects identification. Ideas for new industrial projects may come from proposals to extend existing programmes. Some projects may be resource-based. Such projects seek opportunities to utilize profitably available resources. Other projects may be demand-based to take advantage of existing markets for industrial products. Industrial projects may also be needs-based, aiming to produce products needed by a segment of the population.
5. Industrial projects analysis and preparation. This stage involves preparation of a feasibility study to determine technical, economic, and financial viability; establish the project's attractiveness to intended beneficiaries; and conform to the country's development objectives and priorities. The

feasibility study also determines whether the project is sustainable and environmentally sound.

6. Implementation of industrial projects. This covers the process of converting resources into industrial products to meet the specified goals and objectives. This stage also provides details of the institutional arrangements for implementation of plans and specifies the factors required to ensure supervision and coordination of the implementation process (e.g. implementation schedules, action plans, and input requirements).
7. Monitoring of industrial plans. The purpose of industrial plan monitoring is to ensure that plan implementation takes place according to the schedule. The system of monitoring is developed from implementation schedules and action plans. Monitoring takes place at specific times during the implementation period. In Tanzania, monitoring is performed on a quarterly basis, and progress reports are the main instruments for plan monitoring. Monitoring of plans helps to identify problems or constraints which emerge during the implementation stage.
8. Evaluation of industrial plans. The purpose of plan evaluation is to assess the performance of a plan in terms of policies, objectives, strategies, output targets, input requirements, and budgets, in order to determine whether the plan is on the right path. A planner is expected to perform mid-term and terminal evaluations.

Furthermore, before establishing any industry, there are a number of issues that require consideration. The following are essential (Mrema 1989):

Business registration and licenses: Business registration is done through the Business Registration and Licensing Agency (BRELA), which derives its mandate from the Industry Registration and Control Act No. 46 of 2002.⁵ The Act classifies industries into large and small industries: large industries are those with a capital of more than Tshs 100 million, while small industries are those with a capital less than Tshs 100 million. The procedures to register an industry are as follows:

Registration of a large industry requires the following: completing an application form and submitting it with the company's memorandum and articles of association, registration certificate, and business plan for the establishment of the industry. BRELA will offer a license to operate the above type of industry after payment of an application fee and a review of the application by the Industrial Licensing Board.

5 Business Registration and Licensing Agency (online)

Registration of a small industry is through a certificate provided by the registrar of industries, without passing through the board of industrial registration. It is important to note that if a company has to relocate its industry, a letter to inform BRELA of the relocation and an application form for moving the industry must be submitted to BRELA.

Industrial plot: Industrial plot is an important aspect of the process of industry establishment. In fact, one of the questions that licensing authorities will ask is whether the applicant has acquired an industrial plot. For large industries, central government has identified provisional industrial sites for potential industrial investors, especially under the Special Economic Zones programme. Most of these can be accessed through the Tanzania Investment Centre. On the other hand, both large and small industrial investors can apply for plots from LGAs through the Department of Lands and Urban Planning.

Residence permits: Foreign investors require residence permits to establish industries in the country. In Tanzania, residence permits are classified into three groups. Class 'A' permits are issued to persons intending to enter the country and operate a business in the country. Such persons must provide evidence that they have capital investment of a substantial sum of money or machinery from outside the country. Class 'B' permits are issued to persons intending to enter the country for job search or work within the country. Such persons must satisfy the Director of Migration that they possess the required qualifications and that their employment will benefit the country at large. Class 'C' permits are issued to students, researchers, missionaries, and retired persons after service in the country.

15.5 Potentials and limitations of rural industrialization

Rural industrialization in Tanzania involves the establishment of manufacturing industries in villages, small towns, and district centres. In Tanzania, the industrialization process has largely by-passed the rural population, resulting in a high prevalence of poverty in the rural relative to urban population. Since over 70% of the total population lives in rural areas, any meaningful development policy must of necessity encompass rural industrial development. Tanzania has a Rural Industrialization Policy, whose objectives are the following:

1. To utilize locally available resources and skills for providing self-reliance to the economy

2. To provide employment opportunities to underemployed and unemployed rural people
3. To provide dispersal of industries and ensure balanced development of regions
4. To raise technology levels in rural areas by upgrading existing skills and introducing new ones
5. To undertake production for substituting industrial imports
6. To reduce disparities in income and welfare
7. To organize ancillary production for large-scale industries so as to reduce their costs of production.

There are a number of rural industrialization potentials in Tanzania, and it is crucial that they are tapped. These include the following:

1. Availability of abundant natural resources which are basic inputs to rural industries
2. Existence of indigenous skills
3. Agricultural sector modernization programme, which should open up new opportunities for agro-based industries
4. Growing up of tourist market, which increases the market for rural hand-crafts and artisan products
5. Rural electrification programmes undertaken by the government, stimulating establishment of high productivity rural industries
6. Existence of a stable and supportive political environment
7. Increased trust of the role of the private sector in economic development.

Not only are there potentials, but there are also limitations for rural industrialization. These include, among others:

1. Poverty among rural people, which reduces their capability to invest in rural industries
2. A labour force in rural areas which possesses simple skills with little technical know-how. Industrialization processes require people with a high level of education and skills.
3. Low level of income among rural people, which reduces the effective demand for industrial products
4. Existence of undeveloped infrastructural services and public utilities
5. Low level of industrial entrepreneurial base
6. Existence of weak regional and national innovative institutional systems for technological development.

Considering the potentials and limitations, the types of industries that can be feasible for development in the rural areas of Tanzania must be based on the following:

1. Use of simple technology requiring simple skills but more advanced than traditional technologies. A key issue in rural industrialization is the use of electrical hand-tools that raise productivity and quality in production processes.
2. Utilization of locally available raw materials
3. Small- and medium-scale operations
4. Use of technology and equipment which require little external support in the form of maintenance and repair services
5. Production of industrial products to essentially satisfy the local market—unless appropriate linkages are established.

The types of industries that are feasible to establish in rural areas should be industries with the following characteristics:

1. High backward linkage with agriculture and other primary sectors. Such industries are concerned with processing of primary sector products.
2. High forward linkage with other sectors. These industries produce inputs, tools, and equipment particularly for the primary sector.
3. Capacity to produce a variety of consumer goods demanded by rural people
4. Capacity to produce non-farm durable goods notable for construction, such as bricks, tiles, flooring materials, and repair tools for transport equipment
5. Capacity to produce items based on labour-intensive traditional technologies for tourists and export markets, such as handcrafts, metal and leather products, embroidery, and other work of artistic value.

There are also conditions that are necessary for the development of a viable rural industrialization programme. These are the following:

1. Creation of a conducive environment by eliminating constraints facing rural industries
2. Development of policies to ensure a package of assistance to rural people to enable them to acquire technical know-how, skills, credit, and market linkages
3. Increased support to rural industries in order to produce manufactured goods for which there is a growing demand and those which utilize to a large extent local resources

4. Establishment of appropriate institutions and increase of the capacity of existing institutions to develop and diffuse new technologies by increasing investment in research and development (R&D).

15.6 Roles of stakeholders in industrialization processes

The roles of the different stakeholders in the industrialization processes cannot be underestimated. The key stakeholders are the government, private sector, civil society, and development partners. The government needs to create a conducive macro-economic environment that will ensure industries emerge, survive, and grow; it also needs to put in place the requisite infrastructural services to provide support for the growth of industries; it should develop an industrial entrepreneurship spirit through education and training to foster pro-active entrepreneurs; and it should promote consultations and partnership with the private sector.

On the other hand, the private sector can play a leading role in carrying out direct investment in industries, by preparing feasibility studies for projects, mobilizing resources, implementing projects, and managing operations. Civil society can support industrial projects in different ways, such as capacity building and directly providing financial and non-financial services to infrastructural development. Development partners have a large role to play in providing finance, developing physical infrastructures, and assisting in capacity building.

15.7 Conclusion

This chapter has dealt with industrial development in Tanzania. What the chapter offers are insights into the knowledge and skills necessary to identify industrial development potentials and the ability of these factors to influence the pace and direction of industrial development. The chapter has provided not only historical perspectives on industrial development in Tanzania, but also the industrial policies and strategies, the framework for industrial development processes, the potentials and limitations of rural industrialization, and the roles of stakeholders in the industrialization process. This chapter is more critically relevant to Tanzania than ever before because the current government has embarked on a political-economic orientation with industrialization at its heart.

References

- Business Registration and Licensing Agency (online). Industrial Licensing: available at <http://www.brela-tz.org/?section=publication&page=industrial>: [Accessed 6 May 2015].
- Doran, G.T. (1981). 'There's a S.M.A.R.T. way to write management's goals and objectives.' *Management Review* 70(11): 35–36.
- Mrema, J. (1989). 'Industrial planning', in: H. Van Raay, A. Dolman & C. Kazi (eds) *Tanzania Planners' Handbook: A Guide for Regional and Rural Development Planning*. The Hague: ISS.
- Schwab, K. (ed.) (2015). *The Global Competitiveness Report 2015–2016*. The World Economic Forum.
- United Republic of Tanzania (URT) (1996). *Sustainable Industries Development Policy SIDP (1996–2020)*. Dar es Salaam: United Republic of Tanzania.
- United Republic of Tanzania (URT) (2005). *Tanzania Development Vision 2025*. Dar es Salaam: United Republic of Tanzania.
- Webber, C. & Labaste, P. (2010). *Building competitiveness in Africa's agriculture*. World Bank.

16

Economic Infrastructure Planning

Godrich Mnyone, Martha Nhembo, Omari Mzirai

16.1 Introduction

Infrastructures in general and economic infrastructures in particular enhance the competitiveness of an area. Business and people are more attracted to places where economic infrastructures are advanced than to places where they are poor. This chapter presents issues related to economic infrastructure planning. It is written with the aim of enabling planners to recognize economic infrastructure planning as necessary for development. The chapter begins by clarifying the concept of economic infrastructure, followed by a section on key economic infrastructures that planners need to consider during planning. This is followed by a section on the stages in infrastructure planning. The final section summarizes what has been presented in the chapter.

16.2 Economic infrastructure

Economic infrastructure can be defined as the basic physical and organizational structures and facilities in a country. Examples of economic infrastructure include public utilities such as power, telecommunications, piped water supply, sanitation and sewerage, solid waste collection and disposal, and piped gas, as well as public works, including roads, major dam and canal works for irrigation and drainage, and other transport projects such as urban and interurban railways, urban transport, seaports, waterways, and airports. These economic infrastructures play a significant role in the growth performance of countries (Aigbokan 1999). Where development of economic infrastructures has followed a rational, well-coordinated, and harmonized path, growth and development have received a large boost. Examples are Korea and Japan. Where the growth of infrastructures has not followed such a rational and coordinated path, growth and development have been stunted, as

can be seen in most African countries and other Least Developed Countries (LDCs).

All activities, from turning on the water taps in the morning to switching off the electric lights at night, involve the use of infrastructure. Enhancing economic infrastructure increases employment opportunities for skilled and unskilled people, and it promotes self-employment, expands markets for goods, and reduces transportation costs in terms of both money and time. In addition, enhanced economic infrastructure reduces production costs and prices of consumer goods, and it encourages large-scale production and distribution of goods. It opens up remote areas and thus enables utilization of resources that would otherwise be under-utilized. Such economic infrastructure encourages exchange of new goods and technology, increases rural income by extending monetary exchange into the agricultural rural sector, raising productivity and reducing the backwash of the urban sector. Last but not least, investment in economic infrastructure increases national revenues, which in turn encourages new investments in economic infrastructure. Revenue collection contributes greatly to the national economy.

16.3 Key economic infrastructures

16.3.1 Transport facilities and services

The aim of planning of transport infrastructure is to establish better links between production and demand areas. It is important to provide economic infrastructure to reduce transport costs for business by introducing or improving feeder, district, regional, and trunk roads, weigh bridges, and transport systems. Transport costs can be reduced by improving rail network systems that enhance bulk transportation. Planners should also consider storage and packing facilities along roads and railways. Accessibility can be achieved through air, surface, and water transport. The objectives of transport planning include supporting the country's economy, serving a growing population, and making urban and rural areas more liveable.

Currently, planning issues include researching the economic losses of commuters due to traffic jams and delays. Interventions should reflect costs and benefits, based on findings of feasibility studies. A cost–benefit analysis allows planners to obtain loans to implement viable transport projects.

In regard to supporting the country's economy, it is obvious that most jobs are located in the town centres of the country. Many people travel into these centres each working day. The importance of this central agglomeration of jobs will continue; and if promoted by provision of reliable transport infrastructure and services, it is likely to contribute to the improvement of the economy. Thus, sustaining the growth of the centre and providing good access to it remain a strategic economic priority for the country's foreseeable future. In all cases, investment in high-capacity transport is important to improve accessibility now and in the future and to stay abreast of the growth projected. Transporting freight by air, water, and surface transport plays an important role in the country's economy by bringing products to urban and rural areas as aggregates and by removing wastes.

With regard to the improvement required in the existing networks, transport planning is important in delivering the best possible services by increasing the number of trains, buses, and airplanes. Changes will increase the peak capacity of transport infrastructure as well as improving passenger comfort. Extending the transport networks will transform the connectivity of various areas in the country. The strategy here should be to introduce the following:

1. Faster and higher-capacity links to an expanding labour market beyond urban areas and rural areas and the traditional commuter belt
2. A congestion-busting programme, with world-leading signal technology, predictive traffic management, and the redesign of urban and rural areas' major junctions and pinch points
3. Enhanced bus networks, including increased priority, new links to growth areas, and expanded capacity to serve the growing population
4. Road tunnels that could reduce congestion in central business districts and help ensure a world-class environment in city centres and around inner ring roads, alongside a series of mini-tunnels and/or decking-over of roads to overcome severance and transform places across cities.

See Chapter 17 for additional information on Transportation Planning.

16.3.2 Communication infrastructure

Communication infrastructure plays an important role in a country's economy by facilitating communication between buyers and sellers of goods. Telecommunications can greatly increase and expand resources to all types of people (URT 2000a, 2003). For example, businesses need a greater telecom-

munications network if they plan to expand their company with Internet, computer, and telephone networks.

16.3.3 Energy supply infrastructure

Energy is involved in all life cycles and it is essential in all productive activities. Energy is a scarce resource, at least for some groups of people in some places and for the world as a whole. A rational use of energy is therefore necessary for economic and environmental reasons. Development often involves additional energy in different forms, such as thermal, electric, renewable, and non-renewable. Energy crisis is a current burning issue throughout the world. Government and development practitioners are trying to take action to curb the problem. The Tanzania government has been striving to plan for energy sources exploitation, distribution, and transmission to various users. Tanzania's National Energy Policy states clearly the necessity for planning for energy. The need for this planning has been increasing at an increasing rate in light of the energy crisis not only in Tanzania but in many parts of the world.

16.3.3.1 *Forms of energy*

Energy can exist in various forms:

1. Radiation energy from the sun, light, or a fire. More energy is available when the radiation is more intense and when it is collected over a larger area.
2. Chemical energy from all materials that burn. The content of chemical energy is larger than the heating value (calorific value) of the material.
3. Potential energy, such as the energy of a water reservoir at a certain height.
4. Kinetic energy from movement, as in wind or in a water stream. For example, the faster the stream flows and the more water it has, the more energy it can deliver.
5. Thermal energy or heat, measured by temperature. The higher the temperature, the more energy is present in the form of heat. Also, a larger body contains more heat.
6. Mechanical energy from a rotating shaft. The amount of energy available depends on the flywheel of the shaft.
7. Electrical energy. A dynamo or generator or battery can deliver electrical energy. The higher the voltage and the current, the more electrical energy is made available.

16.3.3.2 Energy sources

The energy sources present in our natural environment can be very useful for development. It is recommended, however, that environmentally friendly sources of energy are identified and matched with projected population growth and energy demand. The following are the main sources of energy in the natural environment:

1. *Biogas*. We distinguish between woody biomass (stems, branches, shrubs, hedges, twigs), non-woody biomass (stalks, leaves, grass, etc.), and crop residues (bagasse, husks, stalks, shells, cobs, etc.). The energy is converted through combustion (burning), gasification (transformation into gas), or anaerobic digestion (biogas production). Combustion and gasification, ideally, require dry biomass, whereas anaerobic digestion can handle wet biomass very well. Fuel preparation can include chopping, mixing, drying, carbonizing (i.e. charcoal making), and briquetting (i.e. densification of crop residues and other biomass). For example, dung from animals and human excreta can be converted through direct combustion or through anaerobic digestion.
2. *Solar radiation*. This refers to energy from the sun. We distinguish between direct-beam radiation and diffuse (reflected) radiation. Direct radiation is collected only when the collector faces the sun. Diffuse radiation is less intense but comes from all directions and is also present on a cloudy day. Solar energy can be converted through thermal solar devices (generating heat) or through photovoltaic cells (generating electricity). Direct-beam solar devices (whether thermal or photovoltaic) require a tracking mechanism to keep the device continuously facing the sun.
3. *Hydro resources*. This refers to energy from water reservoirs and streams. We distinguish between lakes with storage dams, natural heads (waterfalls), weirs, and run-off-river systems. Hydro energy can be converted by waterwheels or hydro turbines.
4. *Wind energy*. This refers to energy from wind. Wind machines can be designed either for electricity generating or for water lifting (for irrigation and drinking water).
5. *Fossil fuels*, such as coal, oil, and natural gas. Unlike the previous energy sources, fossil energy sources are non-renewable.
6. *Nuclear energy*. This is derived from uranium.
7. *Geothermal energy*. This is the energy contained in the form of heat in the earth. A distinction is made between tectonic plates (in volcanic areas) and geo-pressed reservoirs (can be anywhere). Geothermal energy is, strictly speaking, non-renewable; but the amount of heat in the earth is so large that, for practical purposes, geothermal energy is generally ranked

with the renewables. Geothermal energy can be tapped only at places where high earth temperatures come close to the earth's surface.

Energy sources are sometimes classified according to their characteristics. The classes include the following:

1. *Renewable energy*, which comes from resources naturally replenished on a human timescale (e.g. sunlight, wind, rain, tides, waves, geothermal heat).
2. *Non-renewable energy*, whose quantity is affected by human consumption (e.g. fossil fuel, crude oil, natural gas, coal).
3. *Traditional energy*, which is often contrasted with non-traditional energy and also with new energy. (However, what is considered traditional depends on what one is used to. In industrialized societies which are used to fossil fuels, renewable energies such as biomass and animate energy are often called traditional. At the same time, engineers working on 'new' energies such as wind or solar energy often consider fossil fuels to be traditional.)
4. *Commercial energy*, which is contrasted with non-commercial energy and sometimes with traditional energy. Commercial energy includes energy from fossil fuels which have been monetarized and also some forms of new and renewable energies which are part of the cash economy. Biomass and some other sources of renewable energy (thermal solar energy) are sometimes considered non-commercial, because they are thought to be freely available. In many areas, however, biomass fuels have to be paid for.

16.3.3.3 *Energy use in Tanzania*

The mix of energy sources used varies around the world. In general, the industrialized countries (which contain roughly 20% of the world's population) use roughly 60% of the world's energy. In the UK, one of the industrial countries, gas has begun to replace coal as a major source of electricity. Similar trends are occurring around the world. However, supply and demand within individual countries can vary significantly from year to year. Looking into the future, given the growing world population and rising material expectations, energy use is likely to increase.

The Tanzania National Energy Policy aims to improve the welfare and living standards of Tanzanians by addressing national energy needs as a result of structural changes in the economy and population increases. In order to meet this objective, the focus of the policy is on undertaking activities related

to developing domestic cost-effective energy resources; promoting economic energy pricing; improving energy reliability, efficiency, and security; encouraging commercialization and private sector engagement; reducing forest depletion; and developing human capacity for energy efficiency.

In Tanzania, less than 10% of the total population have access to electricity, and biomass-based fuels (mainly wood and charcoal) account for roughly 90% of the total national energy consumption. Commercial energy accounts for 10%, of which 8% comes from petroleum and 2% from electricity (hydro, solar, biogas, and coal sources).

16.3.3.4 Oil and gas infrastructure

Road networks, oil and gas pipelines, storage tanks, and mining machines and equipment form the key infrastructure for production and distribution of oil and gas to centres in the country, as well as to centres in nearby countries. Efficient provision of this oil and gas infrastructure is vital for the continued economic success and functioning of the cities. The investment programme set out for the southern part of Tanzania by the government will deliver a step change in the development of the required infrastructure, rendering it fit for the future, with more extensive tunnelling and world-leading oil and gas supply chains ensuring efficient supply of oil and gas to users. An increasing supply of oil and gas will be made possible by sustainable provision of oil and gas infrastructure. Delivering such an infrastructure would include, among other things, construction of pipelines, storage tanks, and communication networks (URT 2013).

16.3.3.5 Energy challenges in Tanzania

The main challenges of the energy sector in Tanzania are linked to the on-going exploration activities, which are accompanied by many uncertainties, and the increases in electricity demands, which require massive investment in generation, transmission, and distribution. There are also unstable and escalating petroleum prices, coupled with the rural population's inadequate access to modern energy services, making alternative energy technologies compete with fossil fuel-based ones.

Nearly all energy technologies have some environmental impact; therefore, it is important to select appropriate technologies which are likely to be feasible

for a sustainable future with minimal negative impact (avoidance or at least minimization of environmental impact). Technically, the goal should be to devise a set of energy technologies which can meet human needs, without producing permanent environmental effects.

16.3.4 Irrigation infrastructure

The aim in promoting irrigation is to increase agricultural productivity and ensure food security. Increasing agricultural productivity will ensure that poverty is reduced in rural areas. Promoting irrigation means making the irrigation infrastructure efficient in delivering the best possible irrigation services. This can be achieved by constructing water dams and irrigation facilities (e.g. intake weir, irrigation canals, drainage canals) to be used by farmers. This should improve water availability to growing crops, thus increasing crop yields in the hinterlands. As an alternative, most areas in Tanzania are suitable for rainwater harvesting (Hatibu & Mahoo 2000). It is important that a planner has a wide understanding of rainwater harvesting so that this resource can be used for irrigation purposes.

16.3.5 Warehouses infrastructure

One of the strategies for promoting household incomes and the national economy is to initiate more economic zones in the central business centres, as well as to develop new areas on the fringes. In all these cases, investment in warehouses is important because warehouses are among the important infrastructures in promoting businesses. The interventions can be in the form of provision of warehouses for bus and rail terminals, retail shops, wholesale shops, and industries (URT 2000b).

16.3.6 Tourism infrastructure

Developing historical sites, displaying goods, and promoting conservation of wildlife increase the number of tourists in the country, which in turn promotes the country's economy. Promoting natural sites (e.g. waterfalls), establishing camping sites, preserving land resources, connecting historical sites to major centres in the country, opening shops to sell locally made goods, recruiting experts to preserve and display more of the national heritage—these actions will open up more of Tanzania's historical potentials and tourism in

the country than at present, increase the number of tourists, and boost revenue collection.

16.4 Stages in infrastructure planning

Infrastructure planning starts with the identification of problems related to the lack or shortage of economic infrastructure. By using the secondary data in place, the planner compares supply and demand of economic infrastructure. To analyse linkages between economic problems and opportunities, the planner collects additional data and information on the problems. The second stage involves collection of data for the purposes of establishing linkages between population growth and infrastructure demand. The third stage is plan formulation. In response to the implications of growth in population and in demand for economic infrastructure, stakeholders determine the present and project the future needs for economic infrastructure. The stakeholders develop a core scenario based on the central population projection and a number of key assumptions within each of the main infrastructure sectors. The fourth stage is implementation of proposals for the development of economic infrastructure, and the fifth stage involves evaluation of this development of infrastructure.

16.5 Conclusion

Economic infrastructures—in terms of facilities such as transport, communication, energy production, oil and gas, irrigation, buildings (warehouses), and tourism—are basic physical and organizational structures required by all. A planner cannot do without economic infrastructure if he/she is to facilitate processes for local development. Not only should the planner know the dynamics of such infrastructures, but the different stakeholders in the planning for local development should be versed in these infrastructures in terms of knowing their presence, their value, and their use, so that they can bear them in mind when participating in planning processes and be able to plan for them in a sustainable manner.

References

- Aigbokan, B.E. (1999). 'Evaluating investment on basic infrastructure in Nigeria,' Proceedings of the Eighth Annual Conference of the Zonal Research Units (Organized by Research Dept., Central Bank of Nigeria, at Hamada Hotel, Kaduna, 11–15 June, 1999), p. 208.
- Hatibu, N. & Mahoo, H.F. (eds) (2000). Rainwater harvesting for natural resources management: A planning guide for Tanzania. Regional Land Management unit, Relma Nairobi, Kenya, p. 144.
- United Republic of Tanzania (URT) (2000a). Local Government Finance Act 9, 1982. Government Printer, Dar es Salaam, Tanzania.
- United Republic of Tanzania (URT) (2000b). National Human Settlements Development Policy. Ministry of Land and Human Settlement Development, Government Printer, Dar es Salaam, Tanzania.
- United Republic of Tanzania (URT) (2003). National Transport Policy. Ministry of Communication and Transport Government Printer, Dar es Salaam, Tanzania.
- United Republic of Tanzania (URT) (2013). National Natural Gas Policy of Tanzania of 2013. Government Printer, Dar es Salaam, Tanzania.

17

Transportation Planning

Adalbertus Kamanzi, Stanslaus Msuya

17.1 Introduction

Transportation is a shaper of people's economic life and their quality of life in the area in which they live. Not only does the transportation system provide for the mobility of people and goods; it also influences patterns of growth and economic activity by providing access to different resources. Poor performance of transport systems affects public policy concerns such as air quality, environmental resource consumption, social equity, land use, urban growth, economic development, safety, and security. The non-enforcement of and/or poor enforcement of transport policies negatively affects the performance of transportation. Transportation planning needs to recognize the critical links between transportation and other societal goals, which include social and economic goals. The planning process is more than merely putting in place roads; it requires developing strategies for operating, managing, maintaining, financing, and updating an area's transport system in such a manner that there is an advance in the area's long-term development.

Transportation planning involves the evaluation, assessment, design, and setting of transport facilities. These facilities are streets, highways, bike lanes, and public transport lines. Transportation planning has, generally, been guided by two ways of thinking: the transportation planning theory, and the concept of sustainable development.

Transportation planning theory relies on the equilibration theory of Manheim (1979), whereby a transportation system is said to be tightly interrelated with the socio-economic system. The transportation system will affect the way in which the socio-economic system grows or changes; similarly, the socio-economic system will call for changes in the transportation system. Transportation as a system is a single and multimodal complex with variables such as transport machinery, what is being transported, and traffic flows.

Moreover, a transportation system cannot be separated from the social, economic, and political system in which it exists.

Given that sustainable development is a basic requirement for any development planning, transportation systems are equally affected. In this regard, the process of transportation planning needs to address the issue of a sustainable transportation system—that is, a transportation system that is ‘satisfying current transportation and mobility needs without compromising the ability of future generations to meet these needs’ (Black 2000). Akinyemi and Zuidgeest (2000) see a sustainably developed transportation system as one that meets people’s needs in terms of mobility, accessibility, and safety, within the limits of available or affordable environmental, financial, and social resources. In this regard, sustainable transportation development is a process of improving a transportation system towards a sustainably developed system.

Central to transport planning theorization are the two critical elements of socio-economic dynamics and sustainability. Traffic congestion in the urbanized and fast-urbanizing areas in Tanzania poses an increasing challenge to these two cardinal elements of transportation planning theory. It is in this regard that a planner needs to view transportation planning in terms of its link with the economy, general challenges, and organizing structures, on the one hand (Section 2), and how planners are to meet transport challenges in urbanized and fast-urbanizing areas, on the other hand (Section 3).

17.2 Transport sector in Tanzania

17.2.1 Transport and economy in Tanzania

Tanzania is among the least developed countries in the world. Its GDP of \$695 per capita⁶ is significantly lower than the average GDP per capita in Africa (\$2,883). The country’s economy depends heavily on agriculture, which accounts for 25% of GDP, provides 85% of exports, and employs approximately 80% of the rural population. Recent indicators, however, show that the country’s economy is growing quickly, at a rate of 6% per annum, while the inflation rate is stable around this same percentage. Sectors that demonstrate high growth rates include mining, manufacturing, construction, trans-

6 World Bank (2013) (<http://data.worldbank.org/indicator/NY.GDP.PCAP.CD>)

port, and communications. In particular, the contribution of tourism and service industries to GDP has increased. With discoveries of natural gas, the mining industry is also expected to grow. Economic growth manifests itself in higher levels of rural–urban migration and commuter flows, raising the requirement for a more efficient transport system. The transport system in Tanzania consists of the six modes: roads, rail, water, air, communication cables, and pipelines. In this chapter, however, the concern is with roads. A high proportion of the infrastructure has not been modernized over time due to limited resources to invest and the large amount of infrastructure and equipment required. The economic reforms triggered by the Structural Adjustment Programs (SAPs) in the 1990s delivered significant change to the structure of the economy through the introduction of market-based pricing and loosening controls on trade. There is no doubt that transport is one of the key sectors playing a critical role in day-to-day economic development processes. Not only does it facilitate movement of inputs to production points and serve to evacuate products to storage or to market places; it also facilitates the mobility of people to and from work.

However, for market forces to be successful, good transport services are essential. The latest government statistics in Tanzania revealed that 19% of national roads and just 2% of district roads were paved in 2013. The transport sector in Tanzania has helped to integrate market-strengthening competition, increase access to farming techniques, and promote trade, tourism, and foreign investment, and it has contributed to government revenue. This was made possible through the implementation of a number of transport development and maintenance programmes and reforms aimed at enhancing the provision of an efficient, cost-effective, and safe transport system in the country. Tanzania has approximately 87,600 km of public roads. The ability of the country to upgrade and improve its road infrastructure will be one of the key factors in whether it can continue the impressive rates of economic growth achieved across various sectors in recent years. For example, to come to grips with this issue, the Ministry of Works (MoW) was allocated Tshs 1.2 trillion (approximately USD 730 million) in the 2014/15 budget, and a significant proportion of this will be allocated to maintaining and improving the road network in Tanzania.

17.2.2 Selected transportation statistical overview

The vehicle fleet in Tanzania grew at an annual average of 38.2% between 2005 and 2010 (Table 17.1). Such statistics have implications for a planner,

as they point to the fact that a planner should think in terms of ensuring the existence of roads and parking spaces to accommodate such growth.

Table 17.1
Changes in the vehicle fleet in Tanzania (2005-2010)

Vehicle type	2005	2006	2007	2008	2009	2010	Annual growth %
Motorcycles	31,006	47,888	76,282	121,710	207,460	323,192	59.8
Tricycles	369	639	1,089	2,406	4,531	6,556	77.8
Light passenger vehicles	113,138	148,872	171,821	200,810	238,785	279,120	19.8
Heavy passenger vehicles	18,943	24,443	27,200	30,630	34,592	28,809	15.4
Trailers	4,491	7,220	9,014	10,746	12,907	15,299	27.8
Construction equipment	1,030	1,378	1,741	2,199	2,832	3,609	28.5
Total	168,977	230,440	287,147	368,501	501,107	666,585	38.2

Adapted from ADB (2013)

Road accidents cause more injured people than fatalities, but both the number of fatalities and injured are increasing. While fatalities have more than doubled, the number of injured has increased by almost a half, even though it is likely that the statistics for the injured show a very much lower figure than the reality (ADB 2013). Table 17.2 shows the numbers of fatalities and injuries in road accidents from 2000 to 2011 (ADB 2013):

Table 17.2
Fatalities and injured in road accidents in
Tanzania (2000–2011)

Year	Fatalities	Injured
2000	1,737	14,094
2001	1,866	12,568
2002	1,994	15,150
2003	2,155	16,825
2004	2,366	17,231
2005	2,430	16,286
2006	2,884	15,676
2007	2,594	16,308
2008	2,905	17,861
2009	3,223	19,263
2010	3,582	20,656
2011	3,981	20,802

Looking closely at the fatalities in Tanzania from 1998 to 2010, statistics show that passengers, pedestrians, and bicycle riders were the most affected (Figure 17.1).

The quality of the roads is still in need of improvement. Table 17.3 shows the quality of roads in terms of paved and non-paved for some selected cities and growing towns.

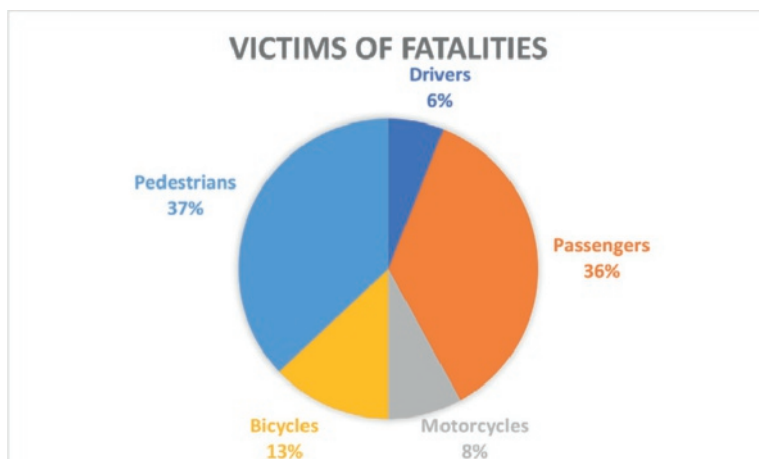


Figure 17.1
Fatalities of road accidents in Tanzania (1998–2010)
 Source ADB (2013)

Table 17.3
Paved and unpaved roads in selected cities and growing towns in Tanzania

City	Paved	Unpaved
Arusha	408	4,628
Dar	5,382	27,180
Dodoma	214	1,482
Mbeya	385	1,867
Mwanza	317	5,307
Total	7,156	40,464

Source: URT (2014)

The comparison shows there is strong disproportionality between the number of paved and unpaved roads: the paved make up only 15%, while the unpaved make up 85%.

What these statistics show is that there is a considerable growth of the vehicle fleet on poor roads and that the roads are fraught with accidents, with

pedestrians, passengers, and cyclists the most affected in these accidents. According to Chiduo and Minia (n.d.), road accidents in Tanzania are due to the poor institutional set-up of road safety activities, poor traffic legislation, poor law enforcement, poor training and education, poor vehicle safety and inspection, poor road traffic management, and poor post-collision assistance. A planner needs to have this overview in order to gain an idea of the problems and their extent regarding the transportation sector on the roads.

17.2.3 General transport challenges in Tanzania

Transportation in Tanzania is facing a number of changes, among which are the following:

1. Inadequate transport network length, leading to inadequate accessibility to areas with economic potential. Although in some areas there is tarmac coverage—particularly along the highways—there are still roads that cannot be used the whole year round. There are also roads that are in poor condition, with many potholes. This is due to insufficient investments in the sector.
2. High transport costs. Transport costs are quite high. High costs are faced in the construction of roads and their operation. Apart from the lack of manpower, there are additional problems associated with high costs: low-quality services, a large backlog of infrastructure maintenance and rehabilitation requirements, and low monitoring and evaluation of roads.
3. Long travel times. The long travel times are caused by a number of factors: long distances; unnecessary speed control rules, regulations, and practices; many speed bumps on the highways; numerous signs and cameras to control speed; and large amounts of time wasted due to the high frequency of checks by traffic police.
4. Poor urban mobility, especially in towns and cities. Due to poor road maintenance, narrowness of the roads, and the increasing number of vehicles and people on the roads, there is heavy congestion of cars and people.
5. Accidents. Tanzania has registered a large number of fatal accidents on its roads. A number of causes are responsible for such accidents: poor quality roads, narrowness of the roads, poor driving, incompetent driving, and bad conditions of vehicles.
6. Institutional problems. Many institutional arrangements, such as laws, regulations, and procedures, are outdated. In fact, there are a huge number of safety procedures, laws, regulations, and procedures, stemming from two main pieces of legislation which control transport operations in

Tanzania: the Road Traffic Act (1973) and the Transportation Licensing Act (1973). The Road Traffic Act (1973) defines the classification of motor vehicles, application for registration of motor vehicles, offences and penalties related to registration of motor vehicles, matters related to driving licenses, prohibition from driving without a valid driving license, classification of motor vehicles for driving licenses, learner driving license, driving tests, certificate of competence, mandatory cancellation or suspension of driving license, discretionary power of cancellation or suspension of driving license, offences related to the use of motor vehicles causing bodily injury or death through dangerous driving, causing bodily injury or death through carelessness, reckless or dangerous driving, driving under the influence of drink or drugs, and enforcement issues. The Transportation Licensing Act (1973), on the other hand, defines the establishment of licensing authorities, licensing of transport, classes of licenses, procedure on application for licenses, and conditions, variations, revocation, and suspension of licenses and penalty for non-compliance of licenses.

7. The problem is that there is a low level of enforcement of these safety laws, regulations and procedures. Not only are there few personnel to enforce them, but in most cases the enforcers are corrupt officials. For example, the traffic police are supposed to be enforcers, but they are frequently caught up in many incidences of corruption associated with bribery on the road. Instead of paying a complete fine that would necessitate losing more time, it is often more convenient to give a bribe. This avoids the delays involved in preparing official documents for the fine—for example, sometimes having to go to a police station quite far from where the traffic police are encountered, in order to pay the fine or get an official receipt; sometimes having to face the judiciary and therefore file a case to prove oneself not guilty; having to make appointments to come and collect the official receipt if one opts to pay a fine; and so on. It has proved very difficult to deal with bribery on the road because it is the police that take bribes, an institution that should be arresting bribe givers and takers. So far, people have sometimes used the tactic of refusing to pay bribes; but, as said above, it is inconvenient. Devising a system of reporting on the spot when a bribe is demanded might work best to address the problem of bribery on the roads. For example, an emergency number could be created and once a bribe is asked for or the circumstance leads to a request for a bribe, then a number could be dialled and the person asking for the bribe could be reported immediately.

17.2.4 Transport organizing structures

Broadly speaking, the transport sector is embedded in four structures: the National Transport Policy (URT 2011), the Ministry of Works, Tanzania National Roads Agency (TANROADS), Prime Minister's Office – Regional Administration & Local Government (PMO-RALG), and the Road Fund Board (RFB).

The National Transport Policy 2011 is strategically clear in its mission. It provides the basis for the development and management of the transport sector toward its key function of facilitating the optimal development of the national economy. It also assists in guiding and coordinating the functions of policy formulation, planning, financing, implementation, and monitoring and evaluation of the transport sector. It mentions the stakeholders involved in executing these functions as including the public sector, such as ministries, departments, and agencies, the private sector and civil society, and development partners. This policy is guided by the key development programmes of Tanzania, namely Vision 2025, Millennium Development Goals (MDGs), the MKUKUTA, Civil Service Reform programme, parastatal sector reform, private sector involvement in economic development, strategic environmental sustainability, gender issues, eradication of diseases, literacy campaign, and other sector development programmes.

The MoW has been in existence since independence. It is responsible for all road-related activities in Tanzania, including the formulation of policies, coordination of development programmes, and oversight of the Tanzania National Roads Agency (TANROADS) and the RFB. According to Section 12 of the Roads Act 2007, public roads in Tanzania are divided into two categories: national roads and district roads.

The national roads are under the TANROADS. This was established in 2000 under the MoW as an executive agency charged with responsibility for the maintenance and development of national roads in mainland Tanzania, which, at the moment, include approximately 13,000 km of trunk roads and 21,000 km of regional roads.

The district roads are under the President's Office – Regional Administration & Local Government (PO-RALG). The Ministry took over responsibility in 1998 when the Ministry for Regional Administration and Local Government was abolished. PO-RALG took the responsibility for the development and maintenance of approximately 53,000 km of district roads in Tanzania.

The RFB is a body established by the Road & Fuel Tolls Act (RFTA) 2006. The main function of the RFB is the management of the Road Fund. In this fund, fuel toll levies, transit fees, overloading fees, and other monies are deposited. It is prescribed in the RFTA that at least 90% of the Road Fund is to be used for maintenance and repair of public roads; the remaining 10% is to be used for road development and administrative costs. It is among the responsibilities of the RFB to advise the MoW on new sources of road and fuel tolls, to disburse funds from the Road Fund to TANROADS and other agencies, and to enter into corresponding performance agreements.

17.3 Planners meeting transport challenges

17.3.1 Urbanization and transport challenges

There is a fast-growing urbanization process underway in a number of cities in Tanzania, particularly in Dar es Salaam. For example, the poor conditions of existing roads is a major factor in the severe congestion often experienced by drivers both in Dar es Salaam and on major trunk roads leading to and from the city. Congestion has been estimated to cost the Dar es Salaam economy alone as much as Tshs 411 billion (approximately USD 250 million) every year, with projections that this figure will rise further without significant investment in road infrastructure, due to the ever-increasing number of vehicles on the roads. There are more or less similar scenarios of transport problems related to urbanization processes in the cities of Arusha and Mwanza. This is a situation that is going to apply to some other fast-growing towns, such as Dodoma and Mbeya. These are urban areas that are fast-growing due to their economic possibilities. Many people move to such cities for formal employment in central and local governments and in the private sector. So, the increase of people in these places is due to migration, characterized by the pull factors of possibility of employment.

These growing cities are characterized by old transport systems. Some of the roads therein are those which were constructed by the colonial administration; in some places, some new roads have been constructed, but they are small and built with outdated standards, have no possibilities of being upgraded, are without clear road signs, without traffic lights, etc.

These growing cities have not considered other possibilities for transport systems for the population: those who come in for work and go out to their

residential areas every day. This has resulted in much time wasting and environmental pollution in the long queues getting in and getting out of the cities, especially during the rush hours—that is, times when people are going to and from work.

17.3.2 Cases to learn from

Planners can learn and provide input by efforts to improve on the transport systems in cities. There are precedents occurring in the country, from which planners can derive ideas and also learn.

17.3.2.1 Dar es Salaam–Chalinze Toll Road

The government of Tanzania has announced plans for the upgrade to expressway standard of a significant portion of the Dar es Salaam to Morogoro trunk road. The plans involve the upgrade of approximately 100 km from Dar es Salaam to Chalinze in order to ease traffic congestion along the route. This project is of national importance to Tanzania, given that it is the main westbound arterial route from the main commercial hub and port, Dar es Salaam, and serves much of mainland Tanzania in addition to the neighbouring landlocked countries of Malawi, Zambia, the Democratic Republic of Congo, Rwanda, and Burundi. It is estimated that the road carries up to 70% of the freight from the port of Dar es Salaam. Chalinze is also the point at which the main Dar es Salaam to Morogoro road meets the Tanga road, which links Dar es Salaam to Mombasa in Kenya.

The project, which is estimated to cost USD 535 million, will involve the construction of a 6-lane expressway for the first 50 km from Dar es Salaam, reducing to a 4-lane expressway for the remainder of the way to Chalinze, with grade separated junctions and service roads on both sides in addition to toll collection facilities and amenities for road users. TANROADS advertised tenders for contracting financing proposals (February 2013) and preliminary design work (June 2014), both of which have now closed. It is envisaged that a second phase of this project will upgrade the section of this road continuing from Chalinze to Morogoro at some point in the future when funding and priorities allow. The project should significantly improve the safety, speed, and reliability of journey times along the route.

Other cities such as Mwanza and Arusha, together with other fast-growing towns such as Dodoma and Mbeya, need to learn from this project. They

should not wait until the situation becomes critical, as it was in the case of Dar es Salaam. Such urban concentrations should already reserve land and begin the processes of upgrading their roads to allow people commute easily to and from town.

17.3.2.2 Dar es Salaam Rapid Transit Project

In an effort to relieve pressure on the road network by improving the public transport system in Dar es Salaam and encourage large numbers of citizens to choose this over private cars, the government of Tanzania has constructed the Dar es Salaam Rapid Transit System (DART) along a 20.9 km stretch of the Morogoro road from the city centre. The system being put in place is a bus rapid transit system, which has been successful in several cities in other developing countries, notably Curitiba (Brazil), Quito (Chile), and Bogota (Colombia), with construction costs only 5–10% of the investment required for a corresponding metro or light rail system, and operational costs of approximately half.

The design involves constructing segregated bus lanes in either direction in the centre of the carriageway, with raised platforms in the centre of the road for passengers to embark and disembark. Either side of the bus lanes is expected to have two lanes of private traffic, a cycle lane, and a footpath. The rapid transit buses are extended tram-like buses. Feeder services on conventional buses will be used to transport passengers to and from areas not served directly by the service. The PMO-RALG, which oversees the implementation of DART, has plans for six phases of DART, in order to cover all the main arterial routes into Dar es Salaam, in addition to several radial routes.

17.3.2.3 Mwakymbe train

The Dar es Salaam commuter rail, famously known as *Treni ya Mwakymbe*, is an urban and suburban commuter rail network serving the people of Dar es Salaam. It is an initiative taken to ease travel within the congested city. The main mode of transport in Dar es Salaam has been the use of private commuter minibuses, known as *daladalas*.

One track of this rail covers a 25 km distance between Dar es Salaam's Mwakanga and Tazara railway stations; the second one runs for 20 km between Ubungo-Maziwa and City railway stations. The trains operate during

the morning and evening, which are the peak hours of transport inconvenience in Dar es Salaam. With the two tracks, approximately 30,000 passengers are ferried a day.

17.4 Transportation planning process

Transportation planning is a cooperative process designed to foster involvement by all users of the system—the business community, community groups, environmental organizations, the travelling public, freight operators, and the general public—through a pro-active public participation process conducted by the Metropolitan Planning Organization (MPO), state Department of Transportation (state DOT), and transit operators.

The three cases addressed in Dar es Salaam concern the facilitation of people getting to and from the middle of the city. While the road toll and rapid transit project are more modern and capital-intensive, the commuter rail is very efficient and cost-effective. The commuter rail made use of available resources that lay idle: the railway and the locomotives were there already, but it was a matter of creativity and putting them to use. For planners, these are good examples to learn from. In other cities such as Mwanza and Arusha, together with other fast-growing towns such as Dodoma and Mbeya, there is need to learn from these projects. Planners should not wait until the situation is critical, as was the case in Dar es Salaam.

Given the stressful situation of the growing traffic jams, the related inconveniences, and the accidents that cause fatalities and injuries, a planner can look into the possibilities of facilitating a participatory process of demanding and organizing the improvement of the road infrastructure, bearing in mind the need to plan for the following:

1. By-pass or ring roads
2. Traffic lights
3. Reduction of the number of junction roads by constructing fly-overs, service roads, and tunnels
4. Traffic segregation for motorable (cars and motorcycles) and non-motorable (pedestrian, bicycle, and cart) traffic
5. Service roads to reduce interference from traffic entering and leaving the main road
6. Adequate parking spaces (cars, motorcycles, bicycles) and their management (including restriction and metered parking spaces)

7. Priority for bus routes and access control (1-way options, restriction of vehicle by size or function)
8. Incentives to use public transport and car sharing
9. Land use that aims at removing public offices in central business spaces and planning for the provision of satellite towns
10. Re-scheduling of some business working hours.

In order to facilitate the processes of transport planning, there are a number of steps that can be followed:

Step 1: Monitoring existing conditions: A planner needs to look at what the current situation of transportation is. S/he needs to observe what kind of transport mechanisms are being used, by whom, and for what purpose. A planner needs to observe the points of connectivity in these transport mechanisms.

Step 2: Forecasting future population and employment growth, including assessing projected land uses in the region and identifying major growth corridors. It is crucial for the planner to look at the population trends, particularly the growth patterns in the different areas. A planner needs to be able to identify the potential economic growth areas, because it is for such areas that transport mechanisms will be needed to transport people and goods in and out.

Step 3: Identifying current and projected future transportation problems and needs, and analysing, through detailed planning studies, various transportation improvement strategies to address those needs.

Step 4: Developing long-range plans, short-range programmes of alternative capital improvement, and operational strategies for moving people and goods.

Step 5: Estimating the impact of recommended future improvements to the transportation system on environmental features, including air quality.

Step 6: Developing a financial plan for securing sufficient revenues to cover the costs of implementing strategies.

References

- ADB (2013). Tanzania Transport Sector Review, Dar: ADB, Transport & ICT Department.
- Akinyemi, E.O. & Zuidgeest, M.H.P. (2000). 'Sustainable development & transportation: Past experiences and future challenges,' *World Transportation Policy & Practice* 6(1): 31–39. <http://www.ecoplan.com/wtpp>

- Black, W.R. (2000). Toward a measure of transportation sustainability. Preprint Transportation Research Board Annual Meeting 2000, Washington, DC, USA.
- Chiduo, C.W. & Minia, P. (n.d.). Road safety in Tanzania: What are the problems? Available at: http://ntl.bts.gov/lib/12000/12100/12140/pdf/CHIDUO_PHILEMON.PDF. [Accessed 6 November 2015].
- Manheim, M.L. (1979). *Fundamentals of Transportation Systems Analysis*. Cambridge, Massachusetts: MIT Press.
- United Republic of Tanzania (URT) (2011). National Transport Policy 2011. Dar es Salaam: Ministry of Works (MoW).
- United Republic of Tanzania (URT) (2014). Statistical Abstract 2013. Dar es Salaam: National Bureau of Statistics (NBS).

18

Social Infrastructures Planning

Benedict Kilobe, Godrich Mnyone, Martha Nhembo, Christina Geoffrey Mandara, Mafuru Solomi

18.1 Introduction

Infrastructure consists of the basic physical and organizational structures and facilities, such as buildings, water pipe lines, and storage tanks. When the infrastructure enables the provision of social services such as water, education, health, and recreational services, then one is in the realm of social infrastructure (Kyessi 2002). School and hospital buildings, water pipes, residential houses, and water closets are among the vital social infrastructures for human health and development. Actors are determined to build standard infrastructure systems to support residents' needs, bolster the growth of the economy, and improve quality of life for everyone.

Since independence, the Tanzanian government has been struggling to ensure an adequate supply of social infrastructures for social service provisions. This has been through various policies and programmes that have been reviewed regularly to cope with changing social demands and future prospects. Available policies specify requirements, standards, or levels of supply for various social infrastructures for improved quality of life. Community participation in the development of these infrastructures, providing space to other stakeholders to engage in the development of infrastructures, and issuing mandates to some authorities to foresee and manage their development—these have been the main focus for programmes and strategies for social infrastructure development in the country. This focus has been for the purpose of ensuring sustainability, as well as being the means of fast-tracking infrastructure development.

This chapter aims to describe the nature of social infrastructure and the planning processes around it. The chapter proceeds with a section on the regulatory frameworks that govern social infrastructure in Tanzania. Section 3 deals with the social infrastructure planning processes; Section 4 attempts

to make a linkage between population growth and social infrastructure; Section 5 describes the different types of social infrastructure in the different sectors; and the last section provides the conclusion for the chapter.

18.2 Regulatory frameworks

Social infrastructure planning is guided by the National Education Policy 1995, the National Human Settlements Development Policy of 2000, the National Water Policy of 2002, the National Health Policy 2007, and related regulations, and also by reflections on national and international reforms. These national policies describe standards for the services offered in particular sectors. For instance, the water policy describes access whereby one water point will serve 250 people and be within 400 m of the users' households. Another example comes from the education policy which stipulates that one classroom ought to host 40 pupils so as to have a teacher-to-pupil ratio of 1:40. Also a school is required to be within 5 km of a pupil's home.

Policies and regulations for the social infrastructures require that no development of the infrastructure can be undertaken without the approval of the relevant authorities, which include both central and local government authorities depending on what kind of infrastructure is involved. In this case, any construction, alteration, addition to, or demolition of a building or structure, change in the current use of land, or anything that modifies a designated heritage item constitutes development, as defined in the policies and regulations, and requires formal development approval by the relevant authorities.

Apart from various participatory approaches and consultation of various development policies (Payne & Majale 2004), it is important to consider groups with special interests and needs, in order to install for them infrastructures which cater to their needs—if for example, they have physical and/or mental impairment.

18.3 Social infrastructure planning processes

The aim of social infrastructure planning is to ensure that both rural and urban areas have the infrastructure required for the delivery of social services in the areas where the population live, work, study, and do business. In the process of social infrastructure planning, stakeholders first focus on the pressure that the service users—in terms of current population and their growth

as forecasted for specific areas—will exert on the infrastructure; then they consider why infrastructure is vital to the area's competitiveness. Stakeholders also discuss the policies and development issues which form the basis of the stakeholders' work. Finally, they set out the scope of their work and how they approach it in theoretical and practical terms.

Planning of social infrastructure concerns not only the installation of new infrastructure, but also the rehabilitation or extension of existing infrastructure and the delivery of services attainable from such infrastructure. Rehabilitation of social services' infrastructures is undertaken primarily for maintenance purposes. Sometimes it is undertaken to accommodate changing users' perspectives and other changes resulting from policy and social, economic, and demographic attributes. For instance, when the capacity of the infrastructure is diminishing, the aim of planning is to rehabilitate the existing infrastructure to better cater for growth over the long term and to ensure that rural and urban areas are habitable despite the changing variables. Therefore, the plans formulated need to improve the well-being of the residents and project their future needs. A social infrastructure plan emphasizes the need for a plan which makes room for future improvement of the provision of social services in a sustainable manner.

Let us take as a case study the example of a planning officer at the local and central government. Apart from other roles, the planning officer is responsible for area development planning and budgeting. This demands collaboration with all other development sectors in the area and beyond, and this implies that planning officers in collaboration with other key functionaries at the district and/or regional levels need reliable, timely, adequate, and consistent information to perform their roles. Therefore, planners need to be competent and need to have correct and up-to-date information for the realistic planning of social infrastructures and provision of services to serve current and future needs.

In order for planners to have correct and up-to-date information, the statistics unit of the planning department needs to keep 'a live district profile database', containing both spatial and non-spatial data. A live district profile database means a database that provides real-time information as a result of regular updating. To achieve this, Geographical Information System (GIS) facilities and expertise are required for the proper capture and management of data. Involvement of other local government functional officers in the district in updating the database in line with their sectors is important in keeping the database live.

18.4 Population growth and social infrastructure

There is a direct relationship between population growth and infrastructure demand: the higher the population, the higher the demand for social infrastructure. Presently, there has been rapid population increase due to population migration and natural increase. As a result, the demand for social infrastructure is high. Population projections show that in both rural and urban areas, there is rapid population growth. The local government authorities, as the main social services provider at sub-national level, primarily use the most current population data to plan for new service projects. Whenever the population data seems outdated, projections are made to actualize the population information. However, projections are affected by internal migration, and they estimate only population size rather than its composition and spatial distribution, although the latter are very important in determining access to public services such as water, health, and education.

Previously low levels of investment in infrastructure mean that the necessity for infrastructure planning over the coming years will become inevitable (World Bank 2011). The growth in population alone will increase demand, both for existing and for new infrastructure, while reducing the capacity of actors to invest in sufficient infrastructure. Studies indicate that in both rural and urban settings, the rates of investment in social infrastructure are not promising, due to the declining capacity of central and local governments to promote social infrastructure.

The following sections focus on sector-specific services.

18.5 Sector-specific services

18.5.1 Education infrastructure

The main task of schools, universities, and colleges is to provide education through a series of programmes and activities. This is possible when proper infrastructure is available. The term physical education infrastructure entails the physical facilities of the education institutions. Examples of the education infrastructure include buildings, playgrounds, furniture and apparatus,

dormitories, offices, staff quarters, projectors, computers, and chairs, desks, and tables.

Urban areas have much competitive strength, which in the case of provision of education infrastructure includes access to qualified staff, to markets, and to competitive working environments, as well as the agglomeration of benefits that result from a dense clustering of education infrastructure and services. People are attracted to urban areas by the variety of pull forces, such as modern classrooms, adequate books, desks, chairs, qualified teachers, and a variety of teaching aids. All these 'higher-level' competitive strengths depend on effective provision of education infrastructure. While urban areas regularly top the rankings of global performance in terms of competitiveness, rural education infrastructure is often inadequate, as a number of evidence-based reports testify. Rural areas are often ranked low on perceptions of quality of overall provision of education infrastructure and of quality of education offered.

Historical levels of underinvestment in education infrastructure have placed rural areas at a disadvantage, and public investment in education infrastructure in rural areas has been consistently below that of the expected level. It is obvious that more needs to be done to ensure that urban and rural areas possess a world-class education infrastructure, particularly in relation to constructing new classrooms, constructing new toilets, purchasing new books, building teachers' quarters, and improving kitchen facilities and printing facilities. Stakeholders call for a number of changes at all planning levels to allow better working at all planning levels, including more flexibility around funding.

Planning of education infrastructure involves national, regional, district, ward, and village representatives. Planning is through bottom-up planning and feedback. Such an approach ensures the active participation of all actors at various planning levels. Traditionally, residents participate in various planning stages. However, more stages are accomplished by parents' committees. Projects for supplying education infrastructure fall under two broad categories: infrastructure rehabilitation, and provision of new infrastructure. Based on community needs, actors opt for either rehabilitation of existing infrastructure or creation of new infrastructure. A plan for provision of infrastructure intends either to expand a service to remote areas or form part of its re-development in a built-up area.

When making decision on the location of an education building, important physical infrastructure aspects include the provision of adequate space with tree shade in the area and distance from the noise of the crowded city and polluting atmosphere. There should be a calm and quiet atmosphere conducive to teaching and learning. The building should have space, utility, and attractiveness. It should have adequate lighting, comfortable seating, useful service facilities such as library, multi-purpose rooms, functional playground, classrooms, chalk and bulletin boards, sinks, working areas, filing and storage space, and lockers for pupils and teachers. The education building should be well planned, spacious, functional, and with pleasing architectural features. The rooms of the building should be ventilated. When constructing school, university, and college buildings, actors provide different facilities, such as different types of laboratories, drawing and printing units, craft rooms, staff offices and quarters, multimedia rooms, theatres, assembly grounds, and gymnasias. Any education institution that has aimed at the total development of children should have enough facilities for indoor as well as outdoor activities.

For example, for a primary school, government policy has specified several standards: a school should be within a distance of 5 km from the pupil's home, as noted above, with 40 pupils per classroom and a teacher-pupil ratio of 1:40; dustbins, water drainage systems, toilets, and water supply systems should be in place; and adequate human resources are required. For the toilets, the policy specifies 20 pit latrines for boys and 25 for girls.

Financing social infrastructure is the responsibility of local government. However, due to the low capacity of local governments, more funds come from the central government and development partners. Consequently, due to unreliable funds, the rate of supplying education infrastructure in public schools is low; and in the majority of these schools, the quality of education is low.

18.5.2 Health infrastructure

Health infrastructure includes buildings for wards, stores, surgery, and training. The provision of health infrastructure has been undertaken by different actors at various locations, and in different ways this has made the case for better infrastructure provision in urban areas and rural areas. Infrastructure provision that meets the people's needs forms a critical element of the vision of Tanzania's health policy. The policy identifies the shortage of health

infrastructure as the gravest crisis currently facing urban and rural areas. Although the delivery of health services is increasing, it is still far short of the net new demand that is required every year in order to provide health services to the growing population and meet the backlog of need.

The health infrastructure improvement strategy for urban and rural areas sets out a range of proposals to increase health infrastructure and health service delivery across all population segments and improve the health services offered. It includes proposals to provide the long-term stable funding necessary to deliver new health infrastructure to meet the needs of the population in the growing cities and hinterlands. Health infrastructure and services focus on meeting the goal and strategies of providing high-quality health services. The key principles include provision of health services, awareness creation, research, innovation, and planning for the future.

Health infrastructure planning includes the preparation of project design briefs for all health facility types and the delivery of health facility types. As regards scoping of work, planned infrastructure work must have a clear plan of the scope of work prior to commencement. At a minimum, the scoping of planned projects must include infrastructure assessment, risk assessment, and scope of building services. A business case may be required to compare re-development costs with a new building project. Strategies include introducing modern infrastructure that is practical and flexible to support the delivery of innovative health services, research, education, and the extension of facilities and services to areas where the services are lacking.

In re-development projects and additions to existing facilities, only that portion of the total facility affected by the project will be required to comply with applicable sections of the plan. Where the amount of work is equal to or exceeds 50% of the total facility area, the entire facility will be upgraded to comply with current standards and health standards. Relevant health infrastructure projects include extensions, expansions, and refurbishments of existing buildings and construction of new buildings. Levels of services differ between hospitals, health centres, dispensaries, nursing homes, mobile clinics for inpatients, and outpatients' clinics.

Concerning maintenance, this is important to keep a building's condition compliant with the health standards. Some of the money from cost-recovery programmes has been used for this purpose. The dispensaries, health centres, and hospitals are required to establish an asset management programme to ensure that infrastructure is maintained to an appropriate stand-

ard. Factors impacting maintenance costs include building materials, finishes, fittings, and access for maintenance purposes. Maintenance work should be a combination of preventive maintenance, condition-based maintenance, and maintenance to meet mandatory, statutory, and health and safety requirements (Kyessi 2002).

Infrastructure requirements cover individual rooms, including enclosed and semi-enclosed rooms or spaces where a clinical, non-clinical, public, or private function occurs. Departments and wards are the sum of the individual rooms that form that department. In addition, health facilities also include corridors for circulation and connecting rooms or spaces together, service risers, service cupboards and fire-hose reels, stairs (including internal fire stairs) and ramps, lift lobbies, parking places, transport facilities, beds, equipment, and storage facilities. On financing the health infrastructure, the full devolution of financing mechanisms to local actors' enables urban and rural areas to increase investment in health infrastructure. However, current provision of health infrastructure is not sustainable; as a result, the quality of health services is unsatisfactory.

18.5.3 Water and sanitation infrastructure

Water and sanitation are inseparable and very important services for human health and development. Water supply and sanitation services are among the basic requirements in life when planning for social infrastructures. In Tanzania, provision of public water services differs between urban and rural areas. Most of the urban areas depend on urban water supply authorities which use billing systems, while in the rural areas water services are provided through community management systems, such as village water committees and/or private operators, with the users paying user fees through agreed mechanisms. Sanitation services also differ between urban and rural settings. Compared with water, sanitation has been given less priority in development plans, and hygiene practices are not addressed well in communities, which in turn leads to unhygienic conditions both in rural and urban areas of the country.

Large numbers of people in urban and rural areas in Tanzania still lack access to sanitation, solid waste management, drainage, and adequate water supply services. Apart from knowing the socio-economic and geographical features of the area, planning for water and sanitation services requires timely and correct information on the population size, composition, and distribution. Moreover, other local contexts need to be taken into consideration because

they have a bearing on management and future development of water and sanitation infrastructures. Users' perspectives are required to be taken seriously alongside all the 'hardware' and 'software' aspects. In the planning process for water supply and sanitation services, the following modalities may be applied:

1. Planners should estimate the size of population in 10–20 years' time, to be able to determine the service level required.
2. In rural areas, planners may mobilize residents to form water users' associations. Whereas the local government can support part of a water system (be it a piped water or well-water system), the other part can be contributed by residents. Then the water users' association will be charged with the responsibility to oversee the whole management of the water system, from fee collection to maintenance of the system. Leaders of these associations should be trained in, among other things, leadership, book-keeping, and mobilization skills.
3. In urban areas, government should delegate the planning for water supply and sanitation services to agencies such as urban water authorities, through which people are supplied with water on the basis of a user-pay principle.

When planning for water and sanitation systems in both rural and urban settings, the local context needs to be taken into account in terms of appropriate capacity development of all actors at all levels in line with the managerial and technical roles assigned to them. Another vital aspect is that the planning approach should reflect on all the structures involved in the management and the feedback mechanisms among these structures. The relationship between the proposed water and sanitation services and the national and international frameworks is also of great importance. Lastly, where water and sanitation intervention is undertaken jointly, it is important to consider that the two services depend on each other but technically have specific requirements—such as selection of cost-recovery mechanisms, technology, location, terrain, management approaches, and local institutions. For example, socio-cultural aspects to consider in the planning and designing of sanitation systems include postures (preferences), cleansing materials (water & dry materials), privacy, gender, age, and orientation (Kyessi 2002; Payne & Majale 2004; World Bank 2011).

18.5.4 Housing

Housing is one of the social infrastructures a household needs to carry on its livelihood activities. In practice, housing involves both provision of shelter and provision of basic social infrastructure (Nkya 1995; Kyessi 2002; Sheuya 2004). Housing is, therefore, both an economic activity and, on completion of housing after the provision of accommodation, a social infrastructure. As an economic activity it has intrinsic multiplier effects. The importance of housing is shared among other sectors of the economy. Provision of housing loans, selling and purchasing building materials, and land transactions are triggered by housing. Housing is important in the execution of livelihood activities. It is important also to note that the functional housing supply rationale underpins the need for housing development plans at various levels (Sheuya 2004).

Currently, the rate of housing development in urban and rural areas does not match long-term needs in either rural or urban settings, particularly when viewed from a sustainability point of view. The problems in urban and rural housing development are numerous: prices of building materials are exorbitant; restrictive building rules are applicable; building technology is still rudimentary; and municipalities currently have low capacity to meet the demand for surveyed and serviced land, which is exacerbated by the high urbanization rate. In addition, urban residential plot sizes are excessively large; as such they increase the costs of land acquisition. The large plots also escalate the costs for provision of linear infrastructure (Payne & Majale 2004). Many housing areas lack the basic infrastructure; and where such services are available, they are generally in poor condition.

Many actors participate in housing provision as joint efforts between the private and public sectors. From the private sector, the key actors in housing include individuals, households, housing companies, private banks, and non-bank financial institutions such as Habitat for Humanity Tanzania. The role of the private sector is to mobilize resources such as cash and building materials, construct housing, and provide housing loans.

With regard to the public sector, the central government, local authorities, the Tanzania Building Agency (TBA), and the National Housing Corporation (NHC) are involved. The central government, through its ministries, formulates housing policies and regulations. The local authorities, in collaboration with the utility agencies, translate the international and national policies on

housing to fit local areas and implement various housing schemes. The TBA and NHC construct housing for sale and rent (URT 2009).

Opportunities for enhancing housing in urban and rural areas are many. Abundant natural building materials, formal and informal housing finance institutions, the private sector, the existence of public–private sector partnerships, and community-based organizations—all are potential enablers in promoting housing. It is the responsibility of the planner to identify the opportunities and work out strategies to effectively utilize the opportunities. Lastly, it can be concluded that provision of housing is inevitable in both urban and rural areas. The government should adopt and vigorously pursue a housing delivery strategy that is ‘end-user driven’, through the use of cooperatives, development agents, and public–private partnerships (PPPs). For example, banks and other financial institutions should collaborate with real estate companies to buy houses on a credit basis and sell to people who can fulfil their criteria. Currently, this practice is performed by the NHC and several banks in the country.

Furthermore, since most housing delivery projects are long-term investments and capital-intensive, financial institutions should be encouraged to finance some of these projects. Similarly, cooperative housing should be encouraged, because most individuals are able to achieve their goals through cooperative societies. Building materials are believed to constitute 55–65% of the total cost of construction input. To achieve sustainable housing delivery in Tanzania, housing developers should shift from over-dependency on imported materials to the use of local materials, such as walls, roofing, and floor materials that are affordable and durable. Successful implementation of this better housing for the urban and rural population entails at least five prerequisites:

1. Strengthening of macro-economic reforms that lead to economic stability and alleviation of poverty, including a review of taxation on building materials and of interest rates on loans.
2. Creation of stable institutions that have the capacity to perform and are well supervised. This includes facilitating and empowering local governments to play a greater role in providing housing, reducing administrative delays in the processes, creating specialized financial institutions for housing development, and strengthening training and housing research institutions.
3. A financial sector that supports establishment and smooth operation of mortgage banks and secondary market institutions.

4. Development of residential infrastructure and services. This means sufficient provision of water, sanitation services, electricity, telecommunications, public transport, schools, moderate distances to working places, and recreational facilities.
5. An efficient regulatory environment. This includes avoiding or eliminating laws, rules, regulations, and standards that are too restrictive to allow smooth development of the housing sector or unnecessarily increase the costs of housing (URT 2009).

18.6 Conclusion

Provision of quality social services is important for community well-being. This requires well-coordinated planning, informed by institutional frameworks in order to provide better services at various levels, while taking into consideration community involvement for sustainability of the exercise. Planners for social infrastructure are required to coordinate the process.

References

- Kyessi, A.G. (2002). Community participation in urban infrastructure provision-servicing informal settlements in Dar es Salaam. Dortmund: SPRING Research Series No. 33.
- Nkya, T. (1995). *Shelter Cooperatives in Tanzania: Contributions of the Cooperative Sector to Shelter Development*. Nairobi, Kenya: UN-HABITAT.
- Payne, G. & Majale, M. (2004). *The Urban Housing Manual: Making Regulatory Frameworks Work for the Poor*. London: Earthscan.
- Sheuya, S. (2004). *Housing Transformation and Urban Livelihoods*. Dortmund: Dortmund University.
- United Republic of Tanzania (URT) (2009). Tanzania Housing Development Policy. Draft VI. Dar es Salaam. Dar es Salaam University Press.
- World Bank (2011). Africa's water and sanitation infrastructure: Access, affordability, and alternatives. The World Bank Group, New York.

19

Sanitation and Development Planning

Stanlaus Msuya, Adalbertus Kamanzi, Emmanuel Nyankweli

19.1 Introduction

Sanitation has always been an issue of concern in human history and has different meanings in different societies. In one society, sanitation issues were considered taboo and something not to talk about (van der Geest 2007; Black & Fawcett 2008; George 2010; Ernest 2011; Akpabio 2012), while in another society it was part of socialization (van der Geest 2007; Pathak 2011). To others again, sanitation is a source of raw materials as well as income, which is why different people have organized it differently so as to meet the different kinds of demands that come with it, given the different contexts they live in (van der Geest 2007; Wall et al. 2012; Berling, Mgabo & Salu 2013; Simiyu 2014).

In developed countries, sanitation challenges are primarily how to increase the capacity and efficiency of the technology in place, to ensure that sanitation facilities remove human excreta and urine to avoid health risk from contamination. These countries also concentrate on researching the best way to recycle and to extract important minerals for industrial development (Smith 2002; Rigg et al. 2009). For developing countries, on the other hand, the major sanitation challenges include efforts to increase access to toilet facilities and to reduce open defecation practices (Kasper 2013). Given the necessity of sanitation, the link between sanitation and health, and the growing population, there is clearly a need for planning to take sanitation into consideration.

This chapter is organized in a number of sections. After this introductory section, the chapter deals with theoretical perspectives on sanitation. Section 3 addresses the sanitation issues in Tanzania, followed by a section that pre-

sents issues regarding planning for sanitation in Tanzania. The final section presents a conclusion.

19.2 Theoretical perspectives on sanitation

Formerly, the word sanitation was taken as a synonym for garbage. Starting from 1939, the notion of sanitation was adopted for the first time to mean the promotion of hygienic conditions through preventing human excreta from contaminating communities. According to the World Health Organization (WHO), sanitation means approaches to collecting and disposing of human excreta, urine, and waste waters from the community in such a manner that human and community health are not negatively affected (Global Dry Toilet Club of Finland 2005; Langergraber & Muellegger 2005; WHO/UNICEF 2008; URT 2009). The United Nations Millennium Development Goal (MDG) No. 7C had a target to halve the percentage of people who had no access to basic sanitation and extend access from 54% to 77% of the global population by 2015 (Kar 2008; WHO 2014; UNICEF/WHO 2015a). The target was not met, despite the effort made by the United Nations General Assembly in December 2006 to declare 2008 ‘The International Year of Sanitation’ (Mara & Alabaster 2008; UNICEF/WHO 2012; WHO/UNICEF 2015a, 2015b). Furthermore, in 2010 the United Nations General Assembly added sanitation to the list of human rights (Kasper 2013). In this context, sanitation is taken to be an important element in the facilitation of good health in people and an aspect of their dignity (WSP 2004; URT 2009; George 2010).

19.2.1 Theories of sanitation

In the past, sanitation was influenced by miasma theory, which stated that occurrence of diseases was caused by inhaling bad air. Up to the middle of the 19th century, cholera, a water-borne disease which claimed many lives in Europe, was believed to spread through polluted air (Pathak 1995; Wall et al. 2012). It was later on that researchers of the time—such as Louis Pasteur (1822–1895), a French chemist and microbiologist who discovered the principles of vaccination, microbial fermentation, and pasteurization, and Joseph Lister (1827–1912), a British surgeon who discovered antiseptic surgery—came up with the theory that germs transmit diseases (Smith 1920; Pathak 1995; Wall et al. 2012). In 1854, John Snow, a medicine doctor, proclaimed that cholera was a water-borne disease. He made the claim after he carried out a study in an unplanned part of London’s urban area. He discovered that

water from a borehole in the area had been infected by germs, which in turn caused the spread of cholera disease. However, people at the time did not believe this theory, and there was strong doubt (Wall et al. 2012) before the explanation was finally accepted.

Sanitation theory now emphasizes the importance of cleanliness, of the absence of germs, and of the necessity to provide facilities to achieve such absence (Wasike 2010). According to Wall et al. (2012), sanitation theory states that microorganisms are responsible for infectious diseases.

19.2.2 Models of sanitation

By a model of sanitation is meant anything that a planner or any other actor can use to make predictions about how a sanitation system will respond to its use. There are several models in planning which act as tools in solving people's day-to-day sanitation problems (Patton et al. 2012). Advancements in the supply of affordable technologies that facilitate access to improved sanitation and hygiene practices are taken as feasible answers for eliminating cases of occurrences of controllable diseases and death. Efforts have been made on the basis of theoretical models, explanatory frameworks, and decision-making models that attempt to influence behaviour change interventions associated with sanitation (Dreibelbis et al. 2013). Most sanitation models aim to provide a conceptual and practical tool for scaling up our knowledge and skills in evaluating different factors that influence sanitation and hygiene practices in different contexts. An important aspect for consideration is the issue of the sustainability of a model. The following sections provide details on a number of models.

19.2.2.1 *Integrated behavioural model for water, sanitation and hygiene*

The integrated behavioural model for water, sanitation, and hygiene (IBM-WASH) focuses on the ability to promote and sustain behaviour change at the individual, household, community, and structural/institution levels. The model relies on the contextual, psycho-social, and technological dimensions of WASH practices.

1. *Contextual dimension.* The contextual dimension refers to the characteristics of the setting, personal or environmental, that are in most cases outside the range of influence of programme activities but can affect acceptance of certain products and/or behaviours. Examples are the capacity to

get sanitation products; access to enabling resources (e.g. water for hand washing); socio-economic, demographic, and household characteristics; and the physical environment. The context in which behaviour occurs is dynamic and changes throughout the day—children go to school, adults go to work, household members go to the market. The final level of the contextual dimension explicitly addresses these by identifying other opportunities or the lack of other opportunities to repeat and continue practising an improved behaviour. Understanding hand-washing behaviours among school children at home must be understood within the context of hand-washing water, soap, and facilities available at schools. The IBM-WASH framework provides a simple, adaptable tool for understanding WASH behaviours and habit formation that is informed by existing theoretical insights at multiple levels and dimensions (Dreibelbis et al. 2013: 6).

2. *Psycho-social dimension.* The psycho-social dimension in this model refers to issues that can influence direct acceptance of introduced sanitation actions. These are taken as behavioural determinants. An example is disgust, which has been used as one of the psycho-social determinants in WASH to foster hand-washing with soap and to stop open defecation. In community-led total sanitation (CLTS), elicitation of disgust at the community level is a key step in mobilizing support for sanitation improvements. Social norms and/or social desirability and aspirations are also widely acknowledged to influence WASH practices as well as play a central role in diffusion of innovation theory. Knowledge and perceived threats of illness—particularly diarrhoeal/cholera disease—are often key components of behaviour change promotion strategies (Dreibelbis et al. 2013: 6)
3. *Technological dimension.* In this context, the issue for consideration is how the introduced technology can have an influence on behavioural outcomes. Technology includes its placement, because sometimes the location of the technology that was expected to facilitate good behaviour towards sanitation practices may inhibit instead of facilitating good practice. Having soap or water at a convenient location for hand-washing was associated with improved hand-washing practices following faecal contact in rural Bangladesh (Dreibelbis et al. 2013: 6).

19.2.2.2 Rational decision-making model

This organizational behaviour model is used for making logically sound decisions. It is a multi-step model that logically starts from studying the ex-

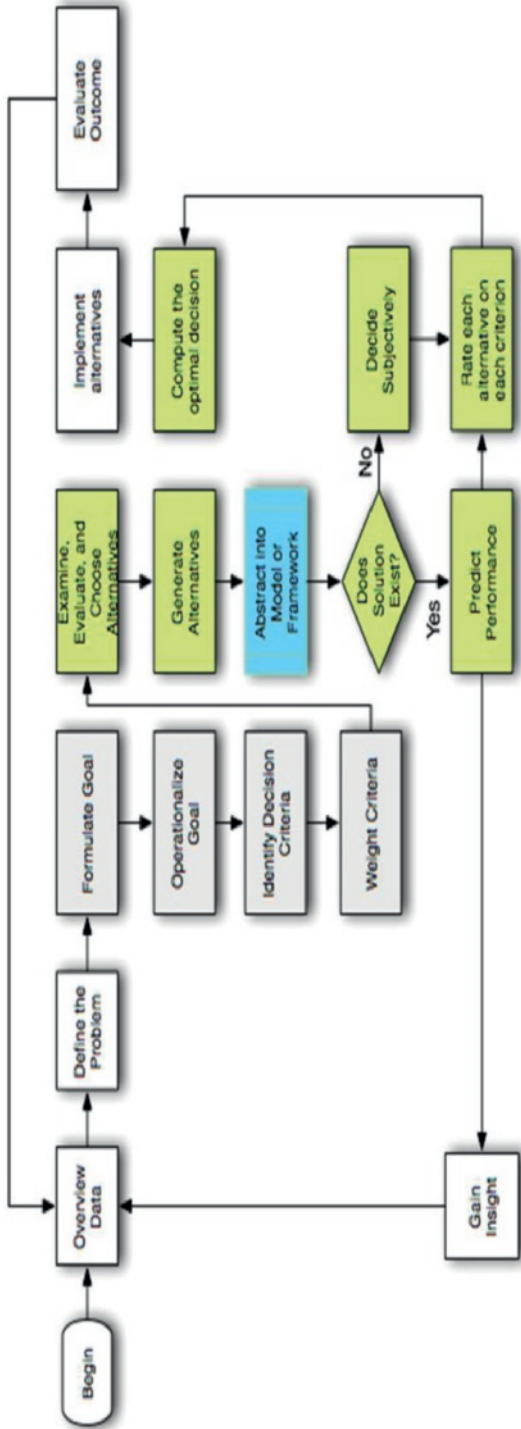


Figure 19.1
Rational decision-making model

isting situation, to identifying the problem, and through to determining the solution (Figure 19.1). This is one of the models that can be used to determine sanitation problems in particular localities and to discover desirable solutions to such problems, given the circumstances of the community in question.

19.2.2.3 Consumer-led aspirational sanitation services (CLASS) model

This model takes people's aspirations as the major focus and proposes that these aspirations become the starting point, rather than taking the conventional pit latrine alternatives designed by experts as the starting point for sanitation services development. The model acknowledges many challenges associated with it. People's aspirations can be very diverse and, hence, it is difficult to put them together for a comprehensive sanitation development plan. There are also sometimes contrasting views between the expertise thinking and the local people's thinking in regard to sanitation planning processes.

19.2.2.4 WASH map model

The WASH map model uses social media and mapping tools to gather data on water and sanitation. Important data on sanitation coverage and occurrences of open defecation are collected and mapped. The collected information can then be used to motivate communities and/or decision makers to engage in action, taking community-led total sanitation approaches as an inspiration. This is a model that can easily be used in urban areas but is very difficult to operationalize in rural areas.

19.2.2.5 Progress-linked finance (PLF) model

The progress-linked finance (PLF) model is designed to provide incentives and to give support to WASH service providers to meet the needs of low-income consumers in a financially sustainable manner. In this model, multi-lateral financing institutions make commitments to provide concessional finance in a stated time set during agreement with urban WASH service providers. The urban WASH service provider receives the agreed financial support after demonstrating that it can provide commercially viable service delivery to poor communities and that it has built its capacity to a level of readiness for scale-up of services to low-income consumers (WSUP 2014).

The PLF model proposes, among others, the use of the IBM-WASH model, which is built in the form of a matrix with three dimensions, as discussed above (contextual, psycho-social, and technological). As the three dimensions work together, they reflect the notion of shared determinism in ‘social cognitive theory’, which defines reciprocated interfaces between the individual, the behaviour, and the environment in which the behaviour is practised (Dreibelbis et al. 2013).

In addition, five aggregate levels (rows) are identified that are similar to levels in ‘multi-level models.’ These include the following:

1. The societal/structural level, which includes general organizational, institutional, or cultural factors that influence behaviours in each of the three dimensions (contextual, psycho-social, and technological)
2. The community level, which includes the physical and social environment and the formal and informal institutions that form personal know-hows
3. The interpersonal/household level, which shows relations among persons and other people they closely associate with, such as household members, friends, and neighbours
4. The individual level, which describes socio-demographic factors such as age, sex, income, and level of education
5. The habitual level. This level is nested within the individual level.

19.2.3 Models of sanitation planning

The various models of sanitation are summarized in Table 19.1.

Table 19.1
Models of Sanitation Planning

Theories/models and issues raised	Planning concern
The integrated behavioural model for water, sanitation, and hygiene (IBM-WASH)	To identify the contextual, psycho-social, and technological dimensions which are to be matched with levels from multi-level models
Rational decision-making model	To identify a problem, set and appraise planning criteria, generate alternatives, implement alternatives, and monitor progress of the alternative

Consumer-led aspirational sanitation services (CLASS) model	To consider people's objectives as its focus and use people's aspiration as a starting point for developing sanitation service models that are market-driven and meet people's demand
City sanitation management model	To plan and mobilize financial resources at city level and to foster inventive faecal sludge management
WASH map	To collect information on water and sanitation using social media and data mapping tools. Such information on toilet coverage and prevalence of open defecation are to be used as motivation in community-led total sanitation (CLTS) approaches.
Progress-linked finance (PLF)	To look for multi-lateral financing institutions that will enter into financing agreements with urban WASH service providers. The provider must be ready and have ability to scale-up WASH services to low-income consumers

19.3 Sanitation issues in Tanzania

Until 2009, Tanzania had no independent policy to guide sanitation and hygiene provision in the country in its full context (Mufaddal 2011; Tremolet & Binder 2013). The National Sanitation Policy of 2009 focuses on the sanitation and hygiene which prevents faecal matter from reaching the mouth (URT 2009). It is noted that improved sanitation and hygiene status in the country will facilitate a better standard of life, comfort, and dignity. This is in line with the main objective of the policy: to improve sanitation and hygiene practices in the community, with an emphasis on better-quality health and quality of life. To achieve this objective, the policy set four specific objectives (UTR 2009: 11–12):

1. To create awareness in the community on behavioural changes towards improved hygiene and sanitation practices
2. To organize people to form water, hygiene, and sanitation user groups responsible for sustained, enhanced water supply, hygiene, and sanitation
3. To enhance collaboration for transformed hygiene practices, sanitation, and water supply in crucial areas, including households, schools, and institutions, and in public and in private places
4. To reduce morbidity and mortality caused by poor hygiene and sanitation by improving water supply, sanitation, and hygiene in an integrated manner.

The government continues to work together with the private sector in the delivery of sanitation services at all levels. The policy requires international organizations and development partners to be involved in the government and community actions to improve sanitation services financially and technically. In Tanzania, information about sanitation is scattered over different government ministries and public institutions such as universities and a few international and local NGOs. Regarding data sharing, the major source of data in Tanzania is the National Bureau of Statistics (NBS). For planning purpose, data from households and community and health officials at the district level are still the most reliable sources, as well as supplemental data from literature reviews, including books, research, and sanitation reports.

There are several issues with regard to sanitation in Tanzania. The underlying purpose of sanitation interventions is to protect public health. In protecting public health, the major sanitation issues should be taken into consideration. These include sanitation practices as influenced by the livelihood system a person finds her/himself in at the time of attending to a call of nature. That is, sanitation practices are influenced by sanitation institutions operating in the livelihood system a person finds her/himself in.

In rural areas, people's livelihood systems are not stable and in other cases they involve movement from place to place. This affects their sanitation practices negatively to the extent that people have no time to construct and use toilets, and hence they practice open defecation. In society in rural areas it is taboo to talk about defecation, which is supported by norms and beliefs. However, in rural areas there is the possibility to access fields, water bodies, and bushes, which facilitate open defecation (Ernest 2011; Berling et al. 2013). For example, farmers who cannot access toilet facilities near their farms may be obliged to defecate in their farms, but they may have to use the old style of making a hole and covering it after defecation. This will pose little danger, rather than exposing human faeces to flies and other transmitting agents. For effective sanitation interventions, it is important in this case to understand the characteristics of each livelihood system, as well as people's traditional beliefs associated with going to the toilet.

In urban areas where formal institutions are more effective than their counterparts in rural settings, sanitation practices are more improved. There are some cases where sanitation practices have not improved, but these are primarily in unplanned settlements. In urban areas livelihood systems are more stable and stationed in permanent positions, where it is possible to have shared and/or public paid toilets that help to overcome some of the toileting

costs. Toileting is a social agreement that is widely exercised and strengthened by traditional beliefs, which relate not only to the practice itself, but also to latrine use. In urban areas there are both on-site and off-site sanitation technologies. The on-site systems (e.g. latrines) store and/or treat excreta at the point of generation, while in off-site systems (e.g. sewerage) excreta is transported to another location for treatment, disposal, or use. On-site systems include ventilated improved pit (VIP) latrines, double-vault composting latrines, pour-flush toilets, and septic tanks. Dry sanitation or eco-sanitation, though uncommon in Tanzania, is an on-site disposal method that requires the separation of urine and faeces. On-site sanitation systems such as septic tanks and pit latrines in urban areas reach a point when they require sludge to be pumped out and treated off-site. However, in Tanzania the situation in many unplanned settlements does not provide space for constructing septic tanks. Due to congestion and lack of adequate roads, emptying of pit latrines is very difficult in unplanned urban settlements. Even in planned areas, small plot sizes do not allow the construction of septic tanks and/or cess pits, contrary to existing regulations for environmental hygiene. Some people empty liquid waste indiscriminately, causing an unsanitary environment and threats to public health (URT 2009: 14).

Sewerage systems are commonly used in densely populated areas to transport wastes off-site where they can be treated and disposed of. Generally, sewerage systems entail expensive infrastructure and large quantities of water to transport the human excreta. The cost of a sewerage system, which can be as much as 70 times more expensive than on-site alternatives, and its requirement of a piped water supply preclude its adoption in many communities in less industrialized countries that lack adequate sanitation. In specific circumstances, cost-effective alternatives to conventional sewerage systems have been developed, including small-diameter gravity sewers, and vacuum and pressure sewers. Simplified sewer systems have been successfully used in Brazil, Ghana, and other countries.

19.4 Planning for sanitation in Tanzania

The government of Tanzania wishes to promote sanitation and hygienic practices and to eradicate negative attitudes, behaviour, and cultural beliefs and taboos that support bad sanitation and hygiene practices (URT 2009). The government will consider the different approaches currently used in Tanzania for the promotion of behaviour change, including revised Participatory Hygiene and Sanitation Transformation (PHAST), community-led total san-

itation, social marketing, and other variations and approaches, and provide guidance on the most appropriate model for specific circumstances. It will also investigate and apply social marketing strategies to change attitudes and behaviour, increasing awareness regarding sanitation and hygiene practices (URT 2009).

The choice of an excreta disposal system will be determined primarily by traditional sanitation practices in latrine construction (Devine 2009). Planner should always take into account local sanitation practices, methods of anal cleaning, preferred position (sitting or squatting), the need for privacy, segregation of sexes and other groups, cultural taboos, special orientation of latrines, etc.

In rural areas, planners should give special consideration to safe use of latrines for the population, during the day and at night. Each household needs to have a latrine. And at schools, standards should be established regarding the number of users per pit—for example, 10 to 15 people per pit. Where livelihood systems involve movement, such as during travel moments, planners should take into consideration the construction of a sufficient number of clean toilet facilities along the bus stands and stops. Having latrines in every household, having adequate pit latrines at schools, and having clean toilet and/or latrine facilities at bus stands and stops can be achieved through a wide and targeted sensitization of all members of households, communities, local and national governments, civil society, and private companies to work together. Latrines will be used only if culturally acceptable and when they are clean and easily and safely accessible. If people have to walk a considerable distance to a latrine, they will defecate in a more convenient location regardless of the health hazard. Suggested latrines types for rural areas are VIP and flush pit latrines for areas with an adequate supply of water.

In urban areas, planners should consider the possibility of having septic tanks. In some urban areas where there are wealthier and middle-class populations, each household tends to have an individual septic tank. However, given the growing population in urban areas and given the need to centralize some of these health-related services, it is time for planners to think of shared septic tanks. A number of households—up to 50, for example—could be organized in order to have faecal material disposed of in a single septic tank. Then these septic tanks can regularly, when full, be emptied by specialized vehicles and the waste transported to stabilization ponds. Furthermore, it can be organized that these septic tanks are connected to the sewerage systems in order for the waste to make its way to the stabilization ponds.

In cases of urban settlement planning, it is important that sewerage planning goes together with the street plan. In places such as Dar es Salaam, there is a need for the establishment of connections between sewerage systems that will lead to stabilization ponds. In addition, in cities that have access to open water bodies such as rivers and the ocean, waste can be disposed of there, as long as there are mechanisms to purify the water.

The community-led total sanitation (CLTS) approach—an initiative of Kamal Kar, who devised it when he was evaluating a traditional water and sanitation programme under WaterAid and Village Education Resource Centre in Bangladesh—can be used to plan for sanitation in Tanzania. His invention led to the discovery of CLTS, which uses participatory rapid appraisal (PRA) methods. The methods are used to facilitate local communities to analyse their sanitation status and together seek a solution after discussing the effect of open defecation on public health and on the entire community. This approach is recommended for sanitation planning in Tanzania. It demands following a number of steps, as summarized from Kar and Chambers (2008).

Step 1: Pre-triggering. This is a crucial stage. People respond differently to CLTS; in some places, the reaction is positive and immediate, while in others it is the opposite. Consider using natural local leaders, who are of various types—poor, wealthy, women, men, youth, and respected people with skills who provide services, such as village midwives, religious leaders, teachers, and so on.

Step 2: Selecting a community. It is wise to start CLTS in a favourable place where people are friendly, use their success story, gain experience and confidence, and then use their natural leaders to take the programme to more challenging areas. Introduce yourself and build a rapport. Ask how they currently deal with sanitation issues. Do not make yourself look like sanitation agents who just want to promote sanitation regardless of local reactions.

Step 3: Triggering. The process of triggering has to make clear that people are free to continue with the sanitation practices they used before. Tell them you just want to understand the reasons for the community decision to continue practising sanitation the way they do. Triggering is concerned with creating a collective sense of disgust and shame in the community as they learn the truth about open defecation and the health problems associated with it. The CLTS approach assumes that people will be motivated when they learn that they are eating other people's faeces. It is at this juncture that a facilitator

expects people to decide themselves to look for solutions to deal with the problem.

Step 4: Participatory sanitation profile analysis. Facilitate the community to draw a village sketch map on the ground to show areas for defecation, water points, and residential areas, to stimulate discussion. Let them discuss toileting timing and difficulties involved in toileting practices. Ask them to identify the direction of storm water from open defecation areas to water bodies that cause contamination.

Step 5: Ignition moment. At this point, the facilitator has to be cautious not to interrupt the discussion. This moment is the moment of collective awareness that they have been eating others' faeces and will continue to do so unless they stop the practices of open defecation. If this happens, there is no need to proceed with other activities. Usually at this point people start to think of a way to stop open defecation. It is possible to get questions from participants. Be careful about this. Let them know that they are experts in their situation and you expect them to solve their own problem.

Step 6: Post-triggering. At this step, people may start to discuss different solutions regarding open defecation practices. Ask if they know the cost involved in constructing a toilet in their community and if they have the technology. Share with them your experience of low-cost latrines constructed elsewhere, and that one can be constructed for less than USD 10. Most of them will not believe this is true. Ask those who are interested to raise their hands. If they do so, use chart paper to explain with details. Make a sketch of a simple pit latrine which they can adopt. This may happen to draw volunteers from the participants, who declare that they would like to see the construction of a simple pit latrine. Ask how long he or she would take to construct it, and ask if there is anybody who would like to see the construction of a simple pit latrine. Clap loudly and encourage.

Step 7: Action planning by the community. To initiate early action, call those who made decisions to come forward. Then ask permission to take a group photo of those who said they wanted to stop open defecation and start immediate action. Tell them to raise their hands and take a snap. After that seek their permission for another picture/photograph of the entire community mixing those who are ready to stop open defecation and those who want to continue with it. Usually you may experience some tension and confusion. Do not do anything; give them time to resolve it themselves. Let them make individual household plans to stop open defecation. At the beginning en-

courage related households to construct shared latrines to reduce cost. Others can start by digging pits and use them temporarily as makeshift latrines. Better-off households are to be encouraged to start constructing latrines as soon as possible. It is better to explore availability resources for latrine construction within the community before other options are taken on board.

Step 8: Follow-up. Triggering without follow-up is bad practice and should be avoided. Try as much as possible to identify natural leaders and ask them to lead the process of ensuring that action plans are implemented and good sanitation practices are sustained. Take note that your task is to facilitate, ignite, and encourage the community-led initiative to eliminate open defecation. Your job is not to do it yourself.

Step 9: Scaling up and going beyond CLTS. The success stories from the CLTS approach in facilitating people to stop open defecation practices need to be taken to other locations beyond the programme areas. For this to be a success, such scaling up must be considered from the beginning.

19.5 Conclusion

Many issues have been presented in this chapter on sanitation planning. Sanitation is extremely important, and a planner cannot ignore it when dealing with development planning. Apart from the theoretical issues raised in this chapter, steps have been provided in order to deal with sanitation. These steps are open to change, according to specific situations. They are not rigid, and it is the duty of the planner, who is a facilitator, to understand the situation and act accordingly. Further adaptations of the CLTS approach should address specific contextual challenges.

However, as stated earlier, sometimes it will be difficult to meet all the challenges involved in sanitation in Tanzania, due to the nature of livelihood systems and the institutions binding them. Pastoralists and other mobile populations may not construct and use sanitation facilities, for example, but this does not mean that there cannot be a way of thinking and implementing good sanitation practices in such communities. Planners, from this perspective, need to try more creative ways to accommodate sanitation demands for mobile people such as pastoralists, fishermen and -women, and people who are in transit along the highways.

References

- Akpabio, E. (2012). 'Water meanings, sanitation practices and hygiene behaviours in the cultural mirror: A perspective from Nigeria,' *Journal of Water, Sanitation and Hygiene for Development* 2(3): 168–181.
- Berling, S.M., Mgabo, M.R. & Salu, M. (2013). 'The persistence of open defecation in fishing communities of Lake Victoria: A reflection on inconsistent use of toilets in Ukerewe Island, Tanzania,' *International Journal of Research in Social Sciences* 3(2): 293. <http://www.ijmra.us>.
- Black, M. & Fawcett, B. (2008). *The Last Taboo: Opening the Door on the Global Sanitation Crisis*. Earthscan Publications Ltd, London, UK, and Sterling, VA, USA.
- Devine J. (2009). Introducing SaniFOAM: A framework to analyse sanitation behaviors to design effective sanitation programs. Washington, DC: The World Bank, Water and Sanitation Program. Working Paper, 2009: 22.
- Dreibelbis, R., Winch, P., Leontsini, E., Hulland, K., Ram, P., Unicomb, L. & Luby, S. (2013). 'The integrated behavioural model for water, sanitation, and hygiene: A systematic review of behavioural models and a framework for designing and evaluating behaviour change interventions in infrastructure-restricted settings,' *BMC Public Health* 13: 1015. <http://www.biomedcentral.com/1471-2458/13/1015> [Accessed 27 November 2015].
- Ernest, S. (2011). Toilet shame in Tanzania. A report by TWESA: Tanzania: TWESA.
- George, R. (2010). *The Big Necessity: The Unmentionable World of Human Waste and Why It Matters*. London: Philip Wilson.
- Global Dry Toilet Club of Finland (2005). A guide to sanitation and hygiene for those working in developing countries. Tampere Polytechnic. Finland. University of Applied Sciences. <http://kirjasto.tpu.fi/julkaisu.html> [Accessed 24 June 2015].
- Kar, K. & Chambers, R. (2008). *Handbook on Community-Led Total Sanitation*. London: Plan International (UK).
- Kasper, S.M.P. (2013). 'Conflicting discourses of participatory post development in community-led total sanitation.' Honours Projects. Paper 9 at http://digitalcommons.maclester.edu/envi_honors/9 [Accessed 11 November 2013].
- Langergraber, G. & Muellegger, E. (2005). *Ecological Sanitation—A Way to Solve Global Sanitation Problem?* London. Environment International.
- Mara, D. & Alabaster, G. (2008). 'A new paradigm for low-cost urban water supplies and sanitation in developing countries,' *Water Policy* 10(2): 119–129.
- Mufaddal, H. (2011). Pollution risk. Accumulation from households in Dar-es-Salaam: A thesis submitted in partial fulfilment of the requirements of Lund University International Master's Programme in Environmental Studies and Sustainability Science.
- Pathak, Bindeswar (1995). History of toilets. Paper presented by Dr. Bindeswar Pathak, PhD, DLitt., Founder, Sulabh Movement at International Symposium on Public Toilets held in Hong Kong on 25–27 May 1995.

- Pathak, Bindeswar (2011). 'Sulabh sanitation and social reform movement', *International NGO Journal* 6(1): 14–29. Available online at <http://www.academicjournals.org/INGOJ>. DOI:10.5897/INGOJ10.018.
- Patton, C., Sawicki, D. & Clark, J. (2012). *Basic Methods of Policy Analysis and Planning* (3rd ed.). New York: Pearson.
- Rigg, J., Bebbington, A., Gough, K., Bryceson, D., Agergaard, J., Fold, N. & Tacoli, C. (2009). 'The World Development Report 2009 reshapes economic geography: Geographical reflections', *Transactions of the Institute of British Geographers* 34(2): 128–136.
- Simiyu, S. (2014). *Where is the Toilet, Please?* University of Stellenbosch. New Voices in Science 2014.
- Smith, R. (2002). 'Sanitation: Controlling problems at source', Geneva. WHO document, WHO/WSH/WWD/TA, no.89
- Smith, W.R. (1920). *The theory and practice of sanitation in country places, including the bacteriolytic tank system*. R.E.E. Rogers, Government Printer, North Terrace.
- Tremolet, S. & Binder, D. (2013). 'Evaluating the effectiveness of public finance for household sanitation in Dar es Salaam, Tanzania'. London: WaterAid and SHARE.
- UNICEF/WHO (2012). Progress on Sanitation and drinking water, Joint Monitoring Programme 2012 Update. At www.wssinfo.org [Accessed 23 May 2013].
- United Republic of Tanzania (URT) (2009). National sanitation and hygiene policy. Dar es Salaam: Ministry of Health and Social Welfare.
- Van der Geest, S. (2007). 'The social life of faeces. System in the dirt', in: R. van Ginkel & A. Strating (eds) *Wildness and Sensation: Anthropology of Sinister and Sensuous Realms*. Apeldoorn, Antwerpen: Het Spinhuis. pp. 381–397.
- Wall, K., Genthe, B., Steyn, M. & Norje, K. (2012). Health perceptions—Some parallels (and remedies) two continents and two centuries apart. Pretoria. CSIR Natural Resources and Environment.
- Wasike, C.K. (2010). 'Hygiene and sanitation theory and practice: Implications of severe water shortage to hospitality industry in Kenya, water shortage to hospitality industry in Kenya', Ontario International Development Agency. *International Journal of Sustainable Development* 1(8): 99–103.
- WHO (2014). Investing in water and sanitation: Increasing access, reducing inequalities. UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water. GLAAS 2014 Report.
- WHO/UNICEF (2008). The Joint Monitoring Programme of WHO and UNICEF: definitions.
- WHO/UNICEF (2015a). WASH Post-2015—Proposed indicators for drinking water, sanitation and hygiene. Joint Monitoring Programme for Water Supply and Sanitation. <http://www.wssinfo.org/post-2015-monitoring/> [Accessed 1 November 2015].
- WHO/UNICEF (2015b). Progress on sanitation and drinking water—2015 update and MDG assessment. WHO Press, 20 Avenue Appia, 1211 Geneva 27, Switzerland.

http://apps.who.int/iris/bitstream/10665/139735/1/9789241508087_eng.pdf [Accessed 2 November 2015].

WSP (2004). Sanitation and hygiene in Kenya: Lessons on what drives demand for improved sanitation. New York. World Bank.

WSUP (2014). The urban programming guide: How to design and implement an effective urban WASH programme. London. DFID.

PART IV

Macro-Economic Planning in Tanzania

Macro-Economic Planning in Tanzania

Macro-level economic planning has been an integral part of Tanzania's institutional structure and government policy ever since independence. This kind of planning is largely dependent on national policies and linked to budgeting for it to be effectively implemented. Any failure to link planning, policy, and budgeting is likely to contribute to poor performance in macro-economic indicators in the respective country. It is unfortunate that in many developing countries the systems are fragmented. Planning, policy making, and budgeting take place independently of each other. Consequently, most developing countries are faced with poor budget outcomes at various levels. This reality points to the need for planners to be adequately informed on various macro-economic dimensions, notably on macro-economic policy mechanisms and how they guide development planners in the preparations and management of development plans and budget. This part of the Handbook presents a wide range of macro-economic issues, from macro-policies, planning, and budgeting, to the relationship between policies, planning, and budgeting. Also presented are the frameworks and tools for linking macro-economic policies to local-level planning. The purpose is to enable planners to understand key policies and planning strategies prevailing in Tanzania and the link between policy, planning, and budgeting. In doing so, planners will understand the planning structure, the actors concerned, and the process. They will also understand the budgeting structure and its process.

This fourth part of the Handbook is divided into three chapters. The first chapter focuses on a presentation of national development policy and planning. The main argument in this chapter is that effective national development planning depends on the policies formulated or adopted by a nation. Hence, the chapter discusses the relationship between policies and planning and provides a brief description of various policies and planning strategies implemented in Tanzania. The second chapter looks at macro-economic and policy mechanisms for planning. Its main argument is that Tanzanian macro-economic planning is highly influenced by policy mechanisms at the macro level. Almost all planning units and institutions are guided by macro-economic policies, such that, in order to attain better planning results, institutions are required to abide by the guidelines, rules, and regulations provided by institutions at the centre. The last chapter is on planning and

budgeting in Tanzania. This chapter presents detailed information on Tanzania's planning and budgeting process, with the aim of enabling planners to understand the planning and budgeting process prevailing in the country.

20

National Development Policy and Planning

Daniel Mpeta, Batimo Sebyiga

20.1 Introduction

Effective national development planning depends to a large extent on the policies formulated and adopted by a nation. National development policy and planning concerns the formulation of effective development policies and measures (Waterston 1965). Planning entails achieving the best central coordination and allocation of resources to correct or avoid market failure. It is argued in the literature (Rweyemamu 1970; van Raay et al. 1989) that planning is an efficient instrument of economic policy. National planning especially is regarded as a wonderful instrument for the implementation of policies directed towards the national economic development and improvement of welfare of all the people in a nation. Recently, in development economics thinking, there has been an increasing interest in and a return to a tradition of developing long-term development plans whose articulation of development goes beyond the present poverty-reduction strategy papers (PRSP). Indeed, Tanzania is one of the countries with long-term development planning—the Tanzania Long-Term Perspective Plan (LTPP, 2011/12–2025/26), whose implementation is divided into portions of 5-year plans, where the first one was the Five-Year Development Plan (FYDP) (2011/12–2015/16) (URT 2012). This brings back afresh the need to revisit and reflect on the relevance of planning. In particular, it emphasises the need to have comprehensive planning frameworks for guiding development processes in order to realize national development aspirations, since effective national development planning depends to a large extent on the policies formulated and adopted by a nation.

This chapter aims to describe the relationship between policies and planning in Tanzania. The chapter proceeds in Section 2 with a discussion of the development policy and planning debate. In Section 3, the chapter presents the

development policies in Tanzania. Section 4 deals with the planning strategy in Tanzania. In Section 5, there is discussion about the present planning structure in Tanzania, followed by a section on planning and budgeting, a section on development planning and finance, and a final section on dependence on foreign aid.

20.2 Development policy and planning

Traditionally, planning has always meant central planning in socialist states or those countries in transition to socialism. Central planning is an exclusive activity of the state planning machinery, the Planning Commission. The importance of central planning under socialism arises from two major facts. The first is the fact that the development of a socialist society itself constitutes a human purposeful activity; it requires guided efforts. Therefore, planning under socialism is a conscious and deliberate use of the resources of the society with a view to achieving certain targets of production and welfare of the people. It is undertaken based on the prevailing circumstances and some principles and rules, such as effective involvement—using different participatory techniques—of the population in the planning process. The activities of a socialist state therefore have to be planned, and people's needs are the foundation of the planning process. Second, under socialist policies, central planning not only accomplishes an economic mission but also political and ideological purposes, the ultimate goal being to build a nation that is prosperous and economically classless. The state makes choices and distributes scarce resources to ensure the objective is met of satisfying the basic human needs of the entire society. And, usually, such choices are made politically.

Most developing countries, after gaining their political independence from colonial domination, adopted planning which is developmental: a kind of planning that is comprehensive, covering not only the public sector but also the private sector, with the main objective of achieving rapid economic growth to accelerate development. Comprehensive planning was the most crucial exercise common in those newly independent countries that opted for a socialist course of development, such as Tanzania. In order to coordinate the allocation of scarce resources by the government, planning was understood as a just and rational economic policy since, it was thought, under the then existing historical conditions development would not take place automatically.

Comprehensive planning, as defined by Killick (1976), ought to do the following:

1. Define policy objectives, especially as they relate to the future development of the whole economy.
2. Set out strategies by which the stated objectives are achieved; better still, translate these objectives into specific targets.
3. Present a centrally coordinated and internally consistent set of principles and policies meant to effect implementation of the strategies and targets, intended to be used as a framework to guide subsequent day-to-day decisions.
4. Cover the whole economy, and hence comprehensively cover both public and private sectors.
5. Apply a formalized macro-economic model in order to ensure optimality and consistency in production.

Under a market economy system, on the other hand, regardless of whether the economy is a developed or a developing one, planning remains indispensable mainly in the form of indirect or indicative planning that takes the form of ‘corrective planning’ to ensure economic stability. Corrective planning refers to planning that essentially adjusts for the known market failures; a less developed economy is characterized by pervasive market failures, and corrective planning attempts to get the prices right, unleash the markets, and rein in the state (Mkandawire & Soludo 1999). Moreover, considerations about welfare economics provide a rationale for planning, whereby a coherent argument for government action to correct market failure is derived.⁷ Thus, plans are opportunity-based plans; the main economic function of the state under a *laissez-faire* economy is largely regulatory. The state supports and protects private enterprises and regulates the economy to minimize crises inherent in the open and free market system. It issues monetary and fiscal policies to be followed by entrepreneurs and, in particular, financial institutions. However, it may also bail out strategic private firms/companies in times of need.

20.3 Development policies in Tanzania

As noted in Chapter 3 of this Handbook, the policy content in post-independence Tanzania was largely informed by the observation that the majority

⁷ According to the Second Fundamental Theorem of Welfare Economics (SFTWE), a society can attain any Pareto Efficient allocation of resources by making a suitable assignment of initial endowments and then letting people freely trade with each other; i.e. if one considers the results of a market process inequitable, the economics wisdom would be planning to get the prices right to unleash the markets and rein in the state (Mkandawire & Soludo 1999).

of the people were living in a pervasive state of poverty. Thus, to entrench people-centred development on a wider and longer-term basis, the Arusha Declaration was adopted, which coherently articulated the ideological and developmental vision for the country and informed the subsequent plans. Ujamaa na kujitegemea (socialism and self-reliance) became a guiding development philosophy, focused on the elimination of poverty, ignorance, and disease through collective efforts in communal agriculture and self-reliance.

It is instructive to note, however, that following the economic crises of unprecedented depth and intensity experienced during the mid-1970s and early 1980s, socialism policy was abandoned. Policy statements and strategies ceased to reflect the socialist ideology; markets, prices, and incentives, instead, became the central concern in policy making. The country switched its policies and programmes from state-led socialism to neo-liberal policies. The influence of donors, particularly the World Bank and IMF, became distinctive in shaping Tanzanian development policies and their implementation, especially after the advent of the Structural Adjustment Programme (SAP) process in the mid-1980s (Nord et al. 2009).

The Tanzania Development Vision 2025 adopted in 1999 (URT 1999) was intended to be a new framework policy document guiding the country's national development. It outlined Tanzania's social, economic, and political aspirations for the first quarter of the 21st century. The underlying drive is to attain middle-income status by the year 2025, where the economy is characterized by high levels of industrialization, competitiveness, quality livelihood, and the rule of law, and has in place an educated and pro-learning society. The Tanzanian Development Vision 2025 focuses on both human development and macro-economic indicators. Various policies continue to be formulated or adopted to realize this development vision. These include the National Strategy for Growth and Reduction of Poverty (NSGRP I & II), the FYDP (2011/12–2015/16), MDGs, and the ruling party manifesto.

The latest development policy lead by the government of Tanzania since early 2013 is Big Results Now (BRN).⁸ BRN is based on the Malaysian growth model of focusing on key sectors with time- and performance-based indicators. The BRN priority areas are energy and natural gas, agriculture, water, transport, education, and mobilization of resources. BRN has a specific

8 The Big Results Now (BRN) initiative aims at adopting new methods of working under specified timeframes for delivery of the step-change required. See <http://www.pmoralg.go.tz/quick-menu/brn/>

approach: it employs outcome-based management with performance-based indicators for these key sectors, and it is considered to be well aligned with the current FYDP, as they both give priority to only a few sectors.

20.4 The planning strategy in Tanzania

The economy of Tanzania has been guided by three types of plans: long-term, medium-term, and short-term plans. The long-term perspective plan covers ten years or more. The current long-term perspective plan is a 15-year plan (2011/12–2025/26). The medium-term plan covers three⁹ to five years, while the short-term plan is usually of 1-year duration. All long, medium, and short development plans are designed to be the means of implementing the Tanzania Development Vision 2025 (TDV 2025) (URT 1999). At the same time, Tanzania responds to international development policy processes in its planning process. For example, in the context of Heavily Indebted Poor Countries (HIPC) initiative, and with the help of development partners, Tanzania adopted short- and medium-term poverty-reduction strategies (PRS) as a safety net for the poor.¹⁰ Prior to the formulation of the current FYDP (2011/12–2015/16), PRS served as the tool to implement the Nation Development Vision 2025. PRS have been consecutively adopted starting from PRS (2000–2004), followed by the first 5-year NSGRP I (2005–2010), and then the NSGRP II (2010–2015).

Following indications that Tanzania is off-track in achieving its aspirations as enshrined in Vision 2025, the government revisited the economic planning tradition; and, as a result, the new FYDP (2011/12–2015/16) was formulated. It is implemented simultaneously along with the NSGRP II (2010–2015). The primary motivation for the FYDP was the realization that Tanzania has been an economy with multiple national development strategies leading to incoherence and a lack of focus in implementing the Vision 2025 (URT 2012). The re-adoption of the FYDP is regarded as a step towards making planning more Tanzanian and doing away with PRS, which are seen as donor-driven processes. The main aim of the FYDP is to unlock the growth potential in Tanzania that was not sufficiently addressed in previous policies and plans.

9 e.g. Rolling Plan and Forward Budget of the early 1990s and the current Medium-Term Strategic Plans.

10 A stronger focus in that initiative was placed on the social side of development and on the non-income aspects of poverty reduction (Gould & Ojanen 2003)

Previous policies, as conceived under the SAPs of the IMF and the World Bank before 2000, were not considered to be favourable for Tanzania, as they failed to attract sufficient financial resources and appropriate coordination and allocation of resources to realize expected growth and development. Consequently, the economic growth rate recorded throughout the 1980s to 1999 was not satisfactory, and the well-being of the people deteriorated. As a result, the development agenda in Tanzania after 2000 has focused on poverty reduction. It has been informed by several processes, including the PRS and the NSGRP I & II, all of which, however, are considered to be lacking sufficient local ownership. The FYDP is considered to be a more domesticated plan, as it is in principle an opportunity-based plan whereas the PRSPs (i.e. NSGRP I & II, and previous policies) have technically been needs-based plans. In the former (opportunity-based plans), resources are merely a means to realize the country's aspirations, while in the case of the latter (needs-based plans), the nation's ambition to develop is limited solely to available resources (URT 2012). The main tools of strategic intervention to realize this plan include special economic zones (SEZs), public–private partnerships (PPPs), institutional reforms, improvement of the business environment, environment management, adaptation to climate change, enhancement of the skill base, and adaptation of technological innovation in all fields (URT 2012).

20.5 Present planning structure in Tanzania

Tanzania pursues planning at two levels. The first level is central planning performed by the Planning Commission under the President's Office. The Planning Commission is a technical planning tool; it guides the planning in all sectors of the economy and ensures that planning is guided by the national development aspirations and is based on available data and resources. It determines investment programmes and undertakes national policy formulation and analysis. It involves different stakeholders, the ministries, departments, and other agencies (MDAs) in the planning process. The President and senior ministers in particular are an important part of this process. The Planning Commission undertakes comprehensive planning—that is, it takes into account overall national development goals and policy objectives, to ensure that there is sectoral integration and balances within the economy. The National Plan spells out in some detail the macro-economic and sectoral objectives and the policies to be adopted for their achievement, and it is premised on the principles of accountability, equality, credibility, integrity, and effective resource utilization.

The second level of planning is at local government and institutional levels. The importance of planning at two levels arises from the fact that planning technocrats at the centre cannot know the actual needs of the people in all parts of a country. Thus, local governments (LGAs) and institutions are mandated to become involved in the planning process through their planning units, to enhance innovativeness and ownership of the process. The Regional Consultative Committee (RCC) and the District Consultative Committee (DCC) have authority to coordinate and scrutinize plan proposals at their respective levels before they are forwarded to the parent ministry, the Prime Minister's Office – Regional Administration and Local Government (PMO-RALG). The LGA development forums, which comprise all stakeholders—local people, private sector, NGOs, and CBOs—identify and set priorities for short- and long-term planning for district councils and regions. Local authorities facilitate the planning process, which must include all aspects of participation, integration, and coordination (URT/GTZ 2010). At the regional and district levels, the plans formulated ensure that they cover the whole area, and involvement of people in the process covers areas beyond departments and institutions. The process of developing such a plan has to be politicized in a way; it is necessary that people of the LGA are fully aware of the process and that this process and the results belong to them. Participation of people is an issue of central concern.

The planning office at the LGA level is responsible for data management, planning, coordination, and monitoring and evaluation. The planning department is the supreme office for data management. The process of data collection involves accumulation of sectoral data from respective department sectors and, in cases when such data are not available or are insufficient, the planning office will conduct and use surveys and socio-economic studies to fill the data gaps in question. Information/data gathering includes review of the national policies and guidelines, the national FYDP, and BRN, to ensure that the plan is within the policy framework of the country. This review ought to include also the development achievements and challenges encountered in the past several years and developing trends for at least five years, if not more. It is important to ensure that the LGA's plans are integrated and in harmony with the Nation Vision, MDGs, the National Five-Year Development Plan, and the ruling party manifesto.

In this two-tier approach to planning, the elements of participation, integration, and coordination are central—hence the involvement of all development stakeholders at different levels seeks to accommodate not only different demands for short- and long-term planning, but also their contribution to

the national development vision. The Planning Commission has the overall supervisory role of managing and controlling development of the whole economy through appropriate directives, which includes issuing of the set strategies to realize the specific intended targets. Planning in Tanzania therefore is both a top-down and bottom-up process, and a dynamic private sector is expected to be at the forefront of the growth drives outlined in the plans, along with an efficient, well-functioning, and effective public sector providing the enabling environment.

20.6 Planning and budgeting

Planning and budgeting are two mutually reinforcing aspects complementary in nature. Planning elaborates on the national goals and objectives in the process of formulating the implementation of medium- and long-term plans, while budgeting translates these broad goals and objectives into necessary resources for implementation. Both plans and budgets are concerned with policy analysis and allocation of resources. The difference between planning and budgeting lies in the emphasis between financial and economic aspects. While plans emphasize economic aspects, budgeting takes financial aspects as core elements. Moreover, national plans are comprehensive plans normally concerned with the whole economy, while the government budget is concerned with the government sector. Budgets are operational documents and view different sectors of the economy in terms of procedures of revenue collection and systems of control over the use of funds by government agencies. The monitoring of both plans and budgets is used to measure management performance and hence provide useful tools for management control. The budget primarily mobilizes resources to a required level, allocates them according to the agreed plans, and executes the plans. The budget therefore is the supreme tool for efficient management of the plans. No management is possible without it. A plan without a budget cannot be implemented, regardless of how good it may be. In Tanzania, the Public Expenditure Review Medium-Term Expenditure Framework (PERMTEF) guides expenditures so that they are driven by policy priorities and disciplined by budget realities.

20.7 Development planning and finance

The national development process equally entails planning for resource mobilization. A plan needs resources for its implementation, and planning should be based on available rather than potential resources. This includes

human, material, and financial resources. The ability of a country to finance its own development plans depends on how much it can mobilize needed resources. Resources can be mobilized internally and externally. In both cases, resource mobilization plans are important. An economic structure that strengthens the productive sectors of the economy to create expanding employment and broaden the tax base for domestic revenue collection is important and needs to be established. Under the market economic conditions, this may entail ensuring a functioning private sector in all sectors of the economy, where all sectors are interlinked in a way that adds local value and benefits the economy as a whole. It is necessary to carefully consider strategies for economic transformation to ensure there is effective domestic resource mobilization. It is also important to examine the taxation structure in the economy. The taxation structure needs to be reformed in such a way that the taxation developed is progressive and that there is room for improving the taxation so the poorest segments of society bear a relatively lower burden than the richer ones. Economic expediency needs to be achieved also in advancing the large infrastructure projects, which in turn may increase the motivation to exploit natural resources. Resource mobilization, however, should not lead to increased debt-taking by the state. Seed funds need to be spent efficiently, and in the right areas. In its development vision, Tanzania states its strong aspirations to become an aid-independent economy, but in practice it still experiences severe budget deficits, and this necessarily calls for a need to turn to external resources.

To supplement domestic resources, Tanzania needs to plan for the best external resource mobilization approach, priority being given to trade and foreign direct investments promotion rather than to aid search. Thus, appropriate real exchange rate and real interest rates which are competitive and predictable need to be developed and maintained. Tanzania cannot rely upon foreign assistance for its real development.

20.8 Dependence on foreign aid

Dependence on foreign aid is a serious constraint in planning and development in Tanzania. Budget financing dependence on foreign aid has remained as high as 14.8% of the total budget (FY2014/2015). Such dependence curtails efficiency and effectiveness in the implementation of plans, as grants may not be approved or may not be granted by donors when needed. Such dependence also undermines the planning and economic independence of a country, as the economy remains vulnerable to external shocks. Development based

on foreign aid cannot achieve balanced growth and tends to be lopsided, because donors often decide in which sectors to allocate their funds and in which ways, an approach that may not be in line with the national development priorities. Most foreign-based programmes and project plans in Tanzania are only partially completed, because expected foreign aid is not forthcoming or is not granted when required. Realistic planning ought to be based on available resources, and foreign aid should serve only as supplementary resources to domestically mobilized resources and efforts. Unplanned externally funded development creates for a country haphazard developments which are hard to sustain.

In this chapter, we have shown that the overall view of economic conditions typical of a newly independent country or of a developing country, for example, determine the national policies (political decisions), which in turn determine the kind of national development plan framework to be crafted. And often the economic policies cover a large part of the factors such as financial resource allocations, which are important for national development plans. Any planning process therefore must begin by discussing policies, as most important decisions in the planning process are of a political nature. Planning remains indispensable in the management of any economy, regardless of whether the economy is a market or state-planned economy. While a market economy stresses incentives and right prices, a state-planned economy stresses collectiveness in production and equality in consumption patterns. Planning in both types of economy entails selecting the best means to achieve the desired ends, and a plan estimates the future development and changes for the whole economy. In developing economies, planning is essentially comprehensive planning aimed at meeting people's needs in the long term.

References

- Gould, J. & Ojanen, J. (2003). Merging in the circle: The politics of Tanzania's poverty reduction strategy. Institute of Development Studies Policy Papers 2/2003, University of Helsinki.
- Killick, T. (1976). 'The possibilities of development planning,' *Oxford Economic Papers* 28(2): 161–184.
- Mkandawire, T. & Soludo, C. (1999). *Our Continent, Our Future: African Perspectives on Structural Adjustment*. CODESRIA, Dakar.
- Nord, R. et al. (2009). Tanzania: The story of an African transition. African Dept. IMF, Washington, DC.

- Rweyemamu, A. (ed.) (1970). *Nation-building in Tanzania. Problems and Issues*. Nairobi: EAPH.
- United Republic of Tanzania (URT) (1999). *The Tanzania Development Vision 2025*. Planning Commission, Dar es Salaam.
- United Republic of Tanzania (URT) (2012). *The Tanzania Five-Year Development Plan 2011/2012–2015/2016: Unleashing Tanzania's latent growth potentials*. President's Office, Planning Commission. Dar es Salaam
- Van Raay, H., Dolman, A. & Kazi, C. (eds) (1989). *Tanzania Planners' Handbook: A Guide for Regional and Rural Development Planning*. The Hague: ISS.
- Waterston, A. (1965). *Development Planning: Lessons of Experience*. Baltimore, Maryland: Johns Hopkins Press.

21

Macro-economic Policies for Planning

Andrew Komba, Allan Mfuru, Tafuteni Chusi

21.1 Introduction

The aim of this chapter is to provide knowledge and skills related to macro-economic policy mechanisms and how they guide both national and local-level development planners in the preparation and management of development plans. Section 2 of this chapter presents issues regarding macro-economic policies and macro-economic planning. In Section 3, there is a presentation of macro-economic policies that have impacts on development planning. In the fourth section, there is a presentation of the dynamics of macro-economics with respect to planning.

21.2 Macro-economic policies

A policy is a plan or course of action—for example, of a government, political party, or business—intended to influence and determine decisions, actions, and other matters. Policies can be in the form of law, acts, actions, programmes, regulations, and procedures bound by legal frameworks, and they must affect a substantial section of the population.

The economic rationale for policies and planning is that policies are there to address the problems that underlie the competitive market system aspects that lead to market failures. These are situations in which decentralized behaviour does not lead to efficiency. Market failures manifest as circumstances in which social surplus is larger under some allocation alternative to that resulting in market equilibrium. There are four commonly recognized market failures: market imperfection and natural monopolies; public goods; externalities; and information asymmetries. In order to address market failures, a government sets both macro- and micro-economic policies. Macro-eco-

conomic policies include four different sets of economic policies: monetary policies, fiscal policies, balance of payment policies, and labour policies.

21.2.1 Monetary policy mechanisms

Monetary policy refers to actions taken by central banks to affect monetary and financial conditions with the aim of achieving the broader macro-economic policy objectives of low inflation and sustainable economic growth. Financial markets are important for monetary policy for at least three reasons. Firstly, the desired stance of policy is achieved by reserve bank operations in these markets. Secondly, financial markets are the channel through which the effects of policy are most immediately transmitted. And thirdly, these markets provide feedback to policy makers—for instance, financial markets contain information that is of value to central banks in considering monetary policy.

The transmission mechanism of monetary policy is the process by which interest rate changes affect inflation. The transmission mechanism is essentially a 3-stage process (Figure 21.1).

1. The first stage is that a change in the official interest rate set by the central bank will affect other interest rates. Banks, building societies, and other financial institutions have to react to any official rate change by changing their own savings and loan rates. The change will also affect the prices of many assets, shares, houses, gilt-edged securities, and so on. Finally, there may also be an effect on the expectations of both firms and individuals as they may become more or less confident about the future path of the economy.
2. The second stage is that all these changes in markets will affect the spending patterns of consumers and firms. In other words, there will be an effect on aggregate demand. Higher interest rates are likely to reduce the level of aggregate demand, as consumers are affected by the increase in rates and may look to reduce spending. There will also be international effects, as the levels of imports and exports change in response to possible changes in the exchange rate.
3. The third stage is the impact of the aggregate demand change on GDP and inflation. This will tend to depend on the relative levels of aggregate demand and supply. If there is enough capacity in the economy, then an increase in aggregate demand may not be inflationary. However, if the economy is already at bursting point and producing as much as it can, then any further aggregate demand increase may be inflationary.

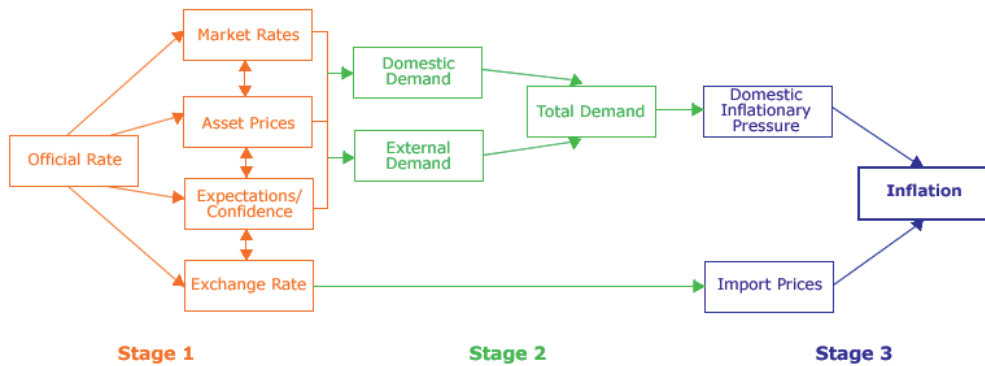


Figure 21.1
Monetary policy transmission mechanism

In the Tanzanian context, since the inception of the Bank of Tanzania in 1966, monetary policy has undergone profound changes. The 1960s and 1970s were broadly characterized by direct monetary controls, marked by stringent exchange controls and credit directed to priority goals. The mid-1990s marked a major turning point in Tanzania’s monetary policy landscape. Given a decade of economic and financial sector reforms, Tanzania adopted a more focused approach to monetary policy, with a single objective of price stability as mandated in the Bank of Tanzania Act of 1995. The recent practices of monetary policy allow the Bank of Tanzania to use the following indirect monetary policy instruments: open market operations; repurchase agreements; discount window and Lombard facility; foreign exchange market operations; statutory minimum reserve requirements; and moral suasion. There are various frameworks that a central bank can use to conduct monetary policy. They include monetary targeting, inflation targeting, foreign exchange targeting, and interest rate targeting.

In contrast to the current practice, the financial sector is faced by a number of challenges. These include the following: (a) thin and shallow financial markets, where markets are characterized by a limited number of participants and banks are the only major participants—hence lowering the competitiveness of price setting; (b) unpredictability of government budgetary flows, coupled with large and unpredictable expenditure floats; (c) a weak monetary policy transmission mechanism, since banks are not sensitive to interest rate movements in the primary market, primarily due to structural rigidities in the economy and weaknesses in the legal framework; and (d) dominance of currency in circulation in the reserve money, as Tanzania is

basically a cash economy, which impairs the effectiveness of monetary policy actions (BoT 2011).

21.2.2 Fiscal policy mechanism

Fiscal policy achieves its objectives through a specific tax mechanism that meets the structural and functional objectives through the following basic elements: (a) institutional authority; (b) fiscal strategy; (c) fiscal targets; (d) tax rules; and (e) channels for transmitting the tax signals.

The logical relationship between these fundamental elements is as follows: institutional authority sets the strategy, the fiscal objectives, and the legal framework by which these can be obtained; the fiscal objectives can be achieved by modifying the fiscal targets; the instruments of fiscal and economic policy and the fiscal signal move between the institutional authority and fiscal targets through the transmission channels.

Therefore, the fiscal policy transmission mechanism can be defined as a gear composed of processes, tools, and techniques of carrying and setting the fiscal policy, compared with the normal course of business process requirements, and ensuring the necessary public funds for a general consolidated budget.

In order to understand the mechanism, it is useful to identify the essential features of the transmission channel. The transmission channel is a functional element that ensures the connection between the fiscal rule and targets. Without this, the mechanism cannot work. In this context, the following characteristics can be identified:

1. The transmission channel stability is seen in the light of budgetary stability and fiscal legislation to the extent that regulations are clear, precise, robust, and linked together in such a way that it ensures a consistent and continuous process.
2. The transmission channel length is given by the structural and organizational environment that must pass through it, from the legislative authority to the fiscal target; this is represented by the organizational nodes through which passes the transmission channel, namely the hierarchy of the public authorities with fiscal responsibilities.
3. The tightness of the transmission channel is given by the conservation degree of the tax signal, the entire length of the channel, and the degree of

the tax distortion of the signal (at the time of its reception by the target of tax) compared with the initial signal.

Within the fiscal policy mechanisms, Tanzania has undergone three main budgetary reforms that have been enunciated in the past decade. These are cash budgeting, Public Expenditure Reviews (PERs), and Medium-Term Expenditure Frameworks (MTEFs). The cash budget system aims at improving expenditure management and is managed by the Ministry of Finance (MoF). It limits aggregate expenditure in a month to average revenue collection in the previous three months plus programme aid. The ministry exercises this control by allowing vote holders to spend monies from their votes only to the amount it releases every month. Priority sectors get their releases every quarter. Since the cash budget system's introduction in 1997, there is proof that Tanzania has improved its fiscal discipline. The deviations between budgets and actual spending have notably shrunk.

The cash budget system enhances planning and improves efficiency in resource use. The spending units are required to submit to the treasury quarterly budget execution reports in order to improve transparency of execution at the detailed level of expenditure. The system also allows the wide use of the Integrated Financial Management System (IFMS) in producing such quarterly reports and projections.

Under the cash budget system, donors front-load their assistance at the beginning of the fiscal year, hence avoiding resource volatility and cash flow problems. In order to achieve this, the donors channel their support through general budget support. This ensures reliability of planned results and effective implementation.

21.2.3 Balance of payments policy

The balance of payments (BoP) is the method countries use to monitor all international monetary transactions at a specific point of time. Usually, the BoP is calculated quarterly in every calendar year. All trades conducted by both the private and public sectors are accounted for in the BoP in order to determine how much money is going in and out of Tanzania.

If Tanzania has received money, this is known as a credit; and if it has paid or given money, the transaction is counted as a debit. Theoretically, the BoP should be zero, meaning that assets (credits) and liabilities (debits) should

balance, but in practice this is rarely the case. Thus, the BoP can tell the observer if a country has a deficit or a surplus, and from which part of the economy the discrepancies stem.

The BoP is divided into three main categories: the current account, the capital account, and the financial account.

1. The current account is used to mark the inflow and outflow of goods and services into a country. Earnings on investments, both public and private, are also put into the current account.
2. The capital account is where all international capital transfers are recorded. This refers to the acquisition or disposal of non-financial assets (e.g. a physical asset such as land) and non-produced assets, which are needed for production but have not been produced (e.g. a mine used for the extraction of diamonds).
3. The financial account is where international monetary flows related to investments in business, real estate, and stocks and bonds are documented. Also included are government-owned assets such as foreign reserves, gold, special drawing rights (SDRs) held with the International Monetary Fund (IMF), private assets held abroad, and direct foreign investment. Assets owned by foreigners, private and official, are also recorded in the financial account.

The current account should be balanced against the combined capital and financial accounts; however, as mentioned above, this rarely happens. It should be noted that with fluctuating exchange rates, the change in the value of money can add to BoP discrepancies. When there is a deficit in the current account, which is a balance of trade deficit, the difference can be borrowed or funded by the capital account. If Tanzania has a fixed asset abroad, this borrowed amount is marked as a capital account outflow. However, the sale of that fixed asset will be considered a current-account inflow (earnings from investments). The current-account deficit will thus be funded. When a country has a current-account deficit that is financed by the capital account, the country is actually foregoing capital assets for more goods and services. If Tanzania is borrowing money to fund its current-account deficit, this will appear as an inflow of foreign capital in the BoP.

In Tanzania the BoP covers all transactions of government, households, individuals, and enterprises resident in Tanzania with non-residents. Tanzania's current-account deficit is falling slowly. Positive influences that will help to bring down the deficit are likely to be increased production, higher prices of

gold, discoveries of gas and oil, increase in tourism earnings, better trends in some commodity prices, and political stability.

21.2.4 Labour policy mechanism

In Tanzania, labour policies are multi-sectoral, and different bodies regulate the resulting multi-sectoral demands. Due to this multi-sectoral aspect, there is a large number of labour-related policies in Tanzania. Table 21.1 shows a number of recently formulated labour policies.

21.3 Macro-economic policies in reference to price and quantity controls

The macro-economic policies can be subdivided into two main categories: price controls and quantity controls.

21.3.1 Price controls

The market price moves to a level at which the quantity supplied equals the quantity demanded. But this equilibrium price does not necessarily please all buyers or all sellers. Therefore, the government intervenes to regulate prices by imposing price controls, which are legal restrictions on how high or low a market price may go. Price ceiling is the maximum price sellers are permitted to charge for a good or service. Price floor is the minimum price buyers are required to pay for a good or service. Price ceilings are typically imposed during crises, because these events often lead to sudden price increases that harm many people but produce large gains for a lucky few.

21.3.2 Quantity controls

A quantity control, or quota, is an upper limit on the quantity of some product that can be bought or sold. The total amount of the product that can be legally transacted is the quota limit. An example is the food and drugs importation system in Tanzania. A license gives its owner the right to supply a product. The demand price of a given quantity is the price at which consumers will demand that quantity. The supply price of a given quantity is the price at which producers will supply that quantity. A quantity control, or quota,

drives a wedge between the demand price and the supply price of a product; that is, the price paid by buyers ends up being higher than that of the sellers.

The difference between the demand and supply price at the quota limit is the quota rent, the earnings that accrue to the license-holder from ownership of the right to sell the good. It is equal to the market price of the license when the licenses are traded.

Since Tanzania is a market-based economy, price and quantity controls are limited to a number of goods. These involve public goods and externalities—that is, water, electricity, services such as health, education transport, and communication, and sugar. Several bodies, such as the Surface and Marine Transport Regulatory Authority (SUMATRA), Energy and Water Regulatory Authority (EWURA), Tanzania Communication Regulatory Authority (TCRA), Fair Competition Commission (FCC), and Sugar Development Corporation (SUDECO), have been established to control both price and quantity of respective goods and services.

In addition, Tanzania's economy is characterized by regulatory policies on quantity and prices as they are influenced by international and regional policies. The most effective regional integration is the East African Common Market Protocol of 2009 and the Southern African Development Community (SADC) protocol of 2005 on trade.

21.4 General remarks

Macro-economic policies have a large influence on local-level planning. The linkage is that all macro-economic aspects such as economic growth, inflation, money, employment, BoP, and national budget affect local-level planning and poverty reduction at the micro level. This means that development planners at national and local level are required to acquire and link the skills of macro-economic policies in their development plans. Frameworks and tools for linking macro-economic policies to local-level planning include the National Five Years Development Plan of 2011, National Strategy for Growth and Poverty Reduction, Millennium Development Goals (MDGs), Sector Strategies, MTEF, and Strategic Budget Allocation System (SBAS).

Table 21.1

List of Labour policies in Tanzania

Policy Category	Policy title	Policy description
National Level	Development Vision	Enhanced human development; employment is one of vision's attributes
	NSGRP 2010	Enhanced growth with focus on employment creation
Cross-cutting policies	Women Gender Development Policy 2002	Gender equality in employment and labour conditions
	National Employment Policy 2008	Employment creation and decent working conditions
	National Youth Development Policy 2007.	Youth employment and youth development
	National Social Security Policy 2008	Social security and development
	National Policy for Disability 2004	Disability rights and employment development of people living with disability
	National Population Policy 2007	Population development and employment development
	Information and Communication Policy 2003	Information and communication development; integration of employment information in dissemination centres
Sector policies	Agriculture Sector Development Programme 2006	Agriculture development and employment creation from agricultural-based investments
	Small- & Medium-Scale Enterprises Development Policy 2002	SMEs' development and youth employment creation
	National Trade Policy	Trade development and employment creation
	Education Sector Development Programme 2001	Linking employment creation aspects in education development
	Mineral Policy of Tanzania 1997	Mineral policies and employment creation
	National Cooperative Policy 1997	Cooperation development and employment creation
	Sustainable Industrial Development Policy 1996-2020	Industrial development and employment creation

Tanzanian macro-economic planning is greatly influenced by policy mechanisms at the macro level. Almost all planning units and institutions are guided by macro-economic policy. In order to attain better planning results, institutions are required to abide by the guidelines, rules, and regulations provided by the central bank (Bank of Tanzania), the Planning Commission, Ministry of Finance, the Fair Competition Commission, and other sectoral-based regulatory bodies. Therefore, country planning frameworks, at both central and local levels, are greatly determined by the interpretation and use of macro-economic policy directives.

References

Bank of Tanzania (BoT) (2011). Monetary Policy Statement, BoT. Dar es Salaam.

22

Planning and Budgeting Processes in Tanzania

Jane Mbilinyi, Provident Dimoso, Andrew Komba

22.1 Introduction

This chapter aims to provide detailed information on Tanzania's planning and budgeting process, with a view to enabling planners to understand the planning and budgeting process, revenue and expenditure forecast, and the prevailing budget framework popularly known as the Medium-Term Expenditure Framework (MTEF). In Section 2, the chapter proceeds with a description of the two core institutions dealing with planning and budgeting. The third section presents the planning and budget process in Tanzania. The final section deals with issues of forecasting revenues and expenditure.

22.2 Planning and budgeting core institutions

The national economy is determined by performance in both planning and budgeting. In Tanzania, the national planning is operationalized through budgets. Both planning and budgeting are determined by the state of the economy (see Figure 22.1). Budgeted revenues, especially domestic revenues, are determined by the GDP. This means that the stronger the GDP, the higher the fiscal space for revenue forecasting and expenditure determination. It is in this regard that the two institutions, the Planning Commission and the Budget Guidelines Committee, become crucial.

22.2.1 Planning Commission

The Planning Commission is under the President's Office. It is the custodian of national development planning in Tanzania. The role of the Planning Commission is to coordinate the macro-planning and policy process. The

Planning Commission is also responsible for formulating and translating national development plans into priorities and targets to be used in budgeting. In other words, the Planning Commission is responsible for co-ordinating long-term policy development under the Tanzania Development Vision 2025.

22.2.2 Budget Guidelines Committee (BGC)

The Budget Guidelines Committee (BGC) has the role of formulating the national Budget Guidelines. These guidelines are developed by considering the national development priorities and targets as developed in the National Strategy for Growth and Reduction of Poverty (NSGRP) II, the National Five-Year Development Plan, and the Big Results Now (BRN) (URT 2015). This means national plans and policies have to be reflected in the national budget, as Tanzania is implementing the NSGRP II, together with the Five-Year Development Plan (2010/11–2015/16) and the BRN. The recent national plans and policies frameworks have been targeting the eradication of poverty through enhancement of economic growth, human development, and governance and accountability by year 2025 (URT 2014). The committee has to ensure that these become cardinal points of reference.

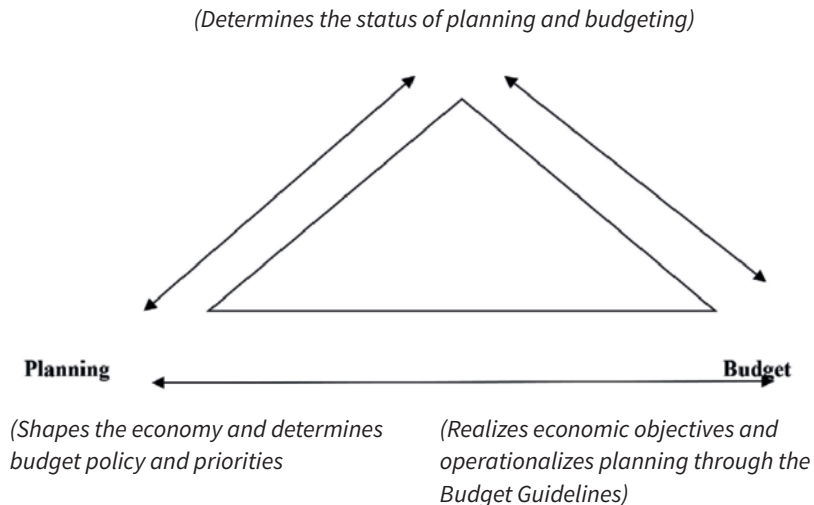


Figure 22.1
Speculative relationships between economy, planning and budgeting economy

22.3 Planning and budget process in Tanzania

In Tanzania, planning and budgeting processes adhere to the following major stages: (a) formulation of budget policy and resource projections; (b) budget authorization by Parliament; (c) budget execution; and (d) monitoring and evaluation (Haki Elimu & Policy Forum 2008). The details of the process are described in the subsequent sub-sections.

22.3.1 Formulation of budget policy and resource projections

The process starts with formulation of budget policy and resource projections. The formulation of budget policy objectives, priorities, and resource projections is undertaken after a macro-economic performance review, which is conducted by the BGC. This committee is also charged with the responsibility of preparing the annual Budget Guidelines. The review of macro-economic performance starts with an assessment of the performance of the previous budget assumptions and targets to determine the level of achievement. Other variables which are reviewed include economic growth rate, inflation, and government finance. The macro-economic review is followed by the setting of macro-economic policy targets. The framework for macro-economic policy targets includes the following: (a) projected economic growth (GDP); (b) level of inflation; (c) external sector performance; (d) sector performance; (e) budget frame; and (f) financing (URT 2014).

The macro-policy performance review and resource projections are supplemented with the setting of objectives and budget priorities, which are determined for three years (the current year and the next two years of the MTEF). During the setting of budget objectives and priorities, ministries, departments, and agencies (MDAs) / regional secretariats (RSs) / local government authorities (LGAs) are asked to fill in the Strategic Budgetary System (SBAS) to verify their budget requests. This stage usually involves stakeholders in planning and budgeting. For instance, at LGAs the process starts with villages or mitaa meetings through participatory plans guided by the opportunity-and-obstacles-for-development (O&OD) approach. At this stage, again, the Public Expenditure Review (PER) process and Annual Review are conducted by involving members of academic institutions, political parties, CSOs, and CBOs in the budget process.

Another step within budget policy formulation and projections is that of distribution of resources. The resource distribution, firstly, considers the al-

location of resources from the Consolidated Fund Service (CFS). The second consideration are outlays to meet current expenses for MDAs, RSs, and LGAs. The current expenditures contain both personal emoluments (PE) and other charges (OC). While PE covers salaries and wages of government employees, OC covers outlays for financing goods and services required for government operations. Another important area of resource allocation is the development expenditure budget for projects and programmes. These include programmes and projects supported by development partners (URT 2013).

The Budget Guidelines are submitted to the Inter-Ministerial Technical Committee (IMTC), the Cabinet, and Parliament for discussion and approval, after which they are distributed to spending agencies. The activity of budget estimates preparation continues and consists of estimates of revenue and recurrent and development expenditures by MDAs, RSs, and LGAs. This involves linking institutional strategic plans and the budget (i.e. recurrent expenditure and development projects) and the MTEF. Essentially, this process is concerned with linking institutional objectives and departmental targets and activities, and with identifying inputs and their prices and costing them for each year of the MTEF period. Institutional budget committees are responsible for carrying out all these activities.

22.3.2 Budget authorization

Finalization of budget formulation involves scrutiny of budget estimates. Government MDAs submit estimates to the Inter-Ministerial Technical Committee (URT 2014). After the budget scrutinization, the estimates are followed by submission of the Budget Cabinet Paper to the Cabinet for approval of the proposed budget frame. The budget frame contains both revenue and expenditure. At this stage, the government consults the development partners to confirm their financial commitments in the coming annual budget and MTEF period.

22.3.3 Budget execution

Budget execution is the stage where actual revenue collections and service delivery takes place. The implementation of the budget considers both collection and spending of revenues. The Tanzania Revenue Authority (TRA) collects taxation-based revenues, while MDAs collect non-tax revenues. The

accounting officers of MDAs are entitled to spend money at their respective institutions.

22.3.4 Monitoring, control and evaluation

The budget process ends with monitoring and evaluation. The monitoring and evaluation is undertaken at the field level. Practical government MDAs are responsible for budget implementation. Therefore, budget monitoring is conducted through periodic reporting and follow-up. Specific formats have been issued for budget monitoring and follow-up in the Plan and Budget Guidelines (PBG). Internal audits and external audits are conducted quarterly and annually, respectively. The Parliament of Tanzania, through the Public Accounts Committee (PAC), Local Authorities Accounts Committee (LAAC), and Parliamentary Budget Committee are responsible for monitoring, control, and evaluation of the implementation of the national budget. The Ministry of Finance produces the PER reports and budget reviews and adjustments. Civil societies have the opportunity to conduct public expenditure tracking and physical project inspection of the budget. Finally, the government, in collaboration with other stakeholders, conducts the planning and budget evaluation.

22.4 Forecasting revenues and expenditure

The budget frame is comprised of total resources and total expenditures (URT 2005). In Tanzania, forecasting of revenues is performed by the Ministry of Finance and Economic Affairs (MoFEA) in the Policy and Research Department, and the TRA. Thereafter, the MoFEA prepares a consolidated budget document, which includes estimates of revenue and expenditure, which is later scrutinized by the Parliamentary Budget Committee and sector committees. Under the new bill of the Budget Act of 2014, the MoFEA is obliged to incorporate recommendations made by the Parliamentary Budget Committee and other Parliamentary sector committees before it submits the budget to Parliament for scrutiny and approval.

22.4.1 Basis and process of setting resource projections

The budget frame is comprised of total resources and total expenditures. Revenues as an element of the budget frame consist of domestic and foreign

funds. Normally, domestic revenues are made up of tax and non-tax revenues. In Tanzania, tax revenues are primarily collected by the TRA. The main categories are income taxes, excise duty on domestic sales and on imports, Value Added Tax (VAT), and miscellaneous taxes (URT 2005).

The MDAs, RSs, and LGAs collect non-tax revenues. The non-tax revenues include dividends, royalties, user fees, and charges, in accordance with the Public Finance Act of 2001, Annual Financial Act, and various other laws.

On the other hand, foreign funds are comprised of grants provided through budget support, basket arrangements, and project support; grants provided through the Highly Indebted Poor Countries (HIPC) relief initiatives; and loans through foreign borrowing under concessional and/or non-concessional borrowing from different multi-lateral and/or bilateral loan schemes (IGC 2012).

22.4.2 Forward projections and aggregate estimates

In Tanzania, tax revenue projections are made using a macro-economic model (MACMOD). The model is a framework which projects revenues from various sources, such as the market for goods and services, the money market, and the market for foreign exchange. The exogenous internal variables of the model are primarily government consumption, government investment, and money supply. The exogenous external variables of the model are foreign transfers, commodity prices, and the weather. Endogenous variables include income (GDP), real interest rate, government revenue, exports, imports, and the current account. The projections are developed jointly by the MoFEA and the Bank of Tanzania. The macro targets generated by MACMOD are reviewed together with the IMF. Adjustments are then made and jointly agreed.

Under the MACMOD, revenue targets for all revenue sources are jointly agreed with the TRA, taking into account trend relationships with GDP, the expected impact of on-going revenue policy, and administration reforms. Additional measures need to be consistent with the MoF's long-term objective of increasing revenue as a share of GDP.

Conversely, the projection of non-tax revenues is performed by the respective MDAs. These estimates are included in neither the national budgets nor the consolidated fund. The non-tax revenue (NTR) includes revenue from

fees, rents, royalties, and sale of public goods and services, as well as dividend payments from the Bank of Tanzania. Normally, the government commissions a study on NTR to provide a practical base for NTR expansion in the country.

Forecasting of external financing is based on estimates provided by donors for both budget support and project financing. HIPC savings are not identified separately in the budget. In recent years, the accuracy of the macro-fiscal projections has improved significantly. Generally, all resource projections are reviewed through the MTEF/PER exercise. The review is performed annually by members of the Macro Group of the Tanzania PER Working Group. The PER is normally commissioned by the World Bank.

22.4.3 Basis and process of setting expenditure projections

The process of determining expenditure involves projection of both recurrent and development expenditures. The recurrent expenditure is facilitated through CFS, which is broken down into domestic and foreign interest payments, amortization of foreign and domestic debts, and other expenditures (PE and OC) (URT 2005).

Development expenditures are outlays on programmes and projects, and they are normally financed through domestic or foreign funding. Resources are allocated to all relevant institutions based on the budget frame and requests. These requests are essentially the aggregation of activities into targets through the SBAS Micro version submitted by respective institutions.

22.4.3.1 MTEF allocations and expenditure limits

The MTEF allocations are incorporated into the resource ceilings contained in the Budget Guidelines. The out-year ceilings from the previous MTEF provide the starting point for determining these resource ceilings, which are then adjusted to reflect the updated fiscal projections and subsequent policy changes. Expenditure aggregate limits are broken down into wage bill, non-wage recurrent, domestic development, and donor development categories. In principle, the aggregate limit for preparation of the annual budget estimates is the same as the expenditure figure from the MTEF, although it is adjusted to take account of subsequent updating of the budget frame. In ap-

proving the Budget Guidelines, Cabinet confirms the setting of the resource ceilings for the priority sectors and for the individual spending agencies.

22.4.3.2 Revisions during the preparation process

Line ministry resource ceilings are generally respected. For the Recurrent Budget, the adjustments that are made reflect primarily the following: (a) further updating of the macro-fiscal framework; (b) final decisions on payroll and wage bill adjustments taken by the Civil Service Department (consistent with the overall wage bill constraints set out in the MTEF); and (c) evaluation of spending agency requests and proposals.

22.4.3.3 Role of donors in determining allocations

Donors can influence resource allocations primarily through the PER process. Their influence is now primarily through consultation and participation rather than through conditionality. Donors also finance, through the PER process, cross-sector and sector studies that aim to provide a stronger basis for planning resource allocations between and within sectors.

22.4.4 Revisions to the framework

The MTEF does not analyse changes in organizational and programme allocations between MTEF exercises. Procedures for reviewing budget performance also appear not to be well developed. The Budget Department in the MoF undertakes a limited performance review of the previous year's budget in August of each year that looks at variations between budget allocations and preliminary outturn expenditures. However, the review does not cover all votes and the conclusions are not published.

Preparation of the MTEF is undertaken in two distinct stages. There are differences in the way that proposals are developed in each stage:

Stage 1: Preparation of the Budget Guidelines. This is primarily a top-down process, with the Policy Department in the MoF taking lead responsibility for the development of the proposals and the determination of resource ceilings. While there are no formal ministry submissions at this stage, MDAs in the PRSP priority sectors provide an update on policy development and im-

plementation together with a costing of their sector programmes (including those elements implemented through RSs and LGAs). Sector ministries are further involved through their participation in the Budget Guidelines Committee.

Stage 2: Preparation of forward expenditure (MTEF) proposals. MDAs are required to present their budget proposals in the form of detailed 3-year forward budgets. Because these are presented at the institutional level, the analysis is not sector-wide and the proposals do not cover spending by regions (which are required to make separate presentations) or LGAs (which are not directly involved in the MTEF exercise). The format of the spending proposals links costing to activities, targets, and objectives. The accompanying submission also includes a wider overview of policies and strategies, stakeholder and SWOT (strengths, weaknesses, opportunities, threats) analysis, and review of past budget performance.

In practice there is no clear distinction between the MTEF and detailed preparation of the Budget. In other countries (e.g. Uganda), the MTEF exercise would equate with Stage 1 and preparation of the detailed annual budget with Stage 2. Adopting this distinction, the following comments can be made about current practice in Tanzania: The costing of MTEF is based on the forward budget proposals which are prepared using the IFMS budgeting module. This has allowed proposals to be costed by activity at a very high level of detail and to include the specification of unit costs.

Financing requirements in the priority sectors are explicitly considered in the Budget Guidelines, and to this extent priorities are reflected in the setting of expenditure ceilings. Implementation of the MTEF and the Budget is undertaken at the level of MDAs. The Public Finance Act of 2001 specifies how to implement the national budget by MDAs.

Prior to the spending of funds, MDAs are required to prepare annual action plans and quarterly reports for both their non-wage recurrent budget and for projects in the development budget. This includes a description of activities to be undertaken and of progress achieved. The reports also include information on financial performance (although this information is also available from the IFMS).

In general, effective planning and budgeting in Tanzania can be achieved through high commitment and professionalism. Planning and budgeting officers at MDAs and other institutions involved in the budget process, such as

Parliament and the Control and Auditor General, need to possess extensive skills on planning, budget formulation, scrutiny, and monitoring and evaluation. This will influence the effectiveness, relevance, applicability, and impact of national planning and budgeting techniques in respective MDAs and the economy as a whole.

References

- Haki Elimu & Policy Forum (2008). Understanding the budget process in Tanzania: A civil society guide. HakiElimu: Dar es Salaam.
- International Growth Centre (IGC) (2012). Fiscal challenges facing Tanzania Department of Economics. University of Oxford.
- United Republic Tanzania (2005). Medium-Term Strategic Planning and Budgeting Manual, Working Document.
- United Republic of Tanzania (URT) (2013). Guidelines for the Preparation of Annual Plan and Budget for 2013/14 in the Implementation of the Five-Year Development Plan 2011/12–2015/16.
- United Republic of Tanzania (URT) (2014). Guidelines for the Preparation of Annual Plan and Budget for 2014/15 in the Implementation of the Five-Year Development Plan 2011/12–2015/16.
- United Republic of Tanzania (URT) (2015). Guidelines for the Preparation of Annual Plan and Budget for 2015/16 in the Implementation of the Five-Year Development Plan 2011/12–2015/16.

PART V

Selected Facets and Planning Issues

Selected Facets and Planning Issues

This part of the Handbook deals with hands-on issues. A planner has to be practical in his/her role of facilitation. For example, a planner needs to be familiar with issues of research, project planning, and ICT; he/she needs to be practical in knowing how to deal with such issues as conflict management, mainstreaming of cross-cutting issues, migration, and settlement planning; and he/she needs to facilitate the processes of human resource recruitment and increasing employability, together with the involvement of different stakeholders for planning purposes.

In dealing with such issues, Part V begins with a chapter about project planning and management: different skills are highlighted for the planner in order to facilitate the promotion of development projects. Thereafter, issues regarding settlement and land use planning are presented. This is an important chapter; as everything takes place on land, its planning is critical. A chapter on migration follows as a practical follow-up to the issues raised in the earlier population chapter. Next there is a chapter on urban planning and one on rural development planning; these chapters are key for the planner, as they point to seeing local economic development taking place in a precise locality. A chapter on participation and development planning pays attention not only to an understanding of participation, but also to the issue of stakeholder analysis—because of the different interests of stakeholders in development planning. This part of the Handbook proceeds with a chapter on research methodology, which is important for the planner because he/she cannot make an informed decision without having conducted some research. This is followed by a chapter on mainstreaming the two issues of gender and HIV/AIDS. The argument is that the researcher needs from time to time to know what is cross-cutting, so that he/she always incorporates it in the facilitation of development planning. Next is a chapter on human resources. As the planner needs to deal with the issue of determining whether the area in which planning takes place has adequate human resources to cope with the existing and potential resources and/or industries/business, he/she has to deal with the facilitation of processes for raising the competencies and employability of the people for the localized economic development; in this regard, a discussion of human resources planning and management is impor-

tant for any planner. A researcher is now embedded in a world whose modus operandi makes use of cybernetics; it is for this reason that Information and Communication Technology (ICT) has become key and requires the attention of planners. Last but not least, as planning has much to do with land use and decision making concerning different interests, conflicts are an inevitable phenomenon; for this reason, the final chapter looks at the essential area of conflict management in development planning.

23

Project Planning and Management

Baltazar Namwata, Tiberio Mdendemi, Andrew Komba, Emmanuel Nyankweli, Juma Kidunda

23.1 Introduction

The purpose of this chapter is to outline the essential aspects of project planning and management for local government planners and other functional officers. The chapter provides a description of project planning in local governments and project scenarios, with emphasis on the project cycle management model and bottom-up approach to problem identification and planning. The need to align plans and projects with different policies and implementation is also emphasized in the chapter. A logical framework approach to shaping planned interventions and project objectives suiting larger national goals and specific local government objectives is essential and emphasized. A clear presentation of a project's aims and objectives is key if a proposal is to be accepted. Monitoring and evaluation of development projects are presented in the chapter, and project implementation in Gantt charts is also summarized.

After this introduction, the chapter continues with a section about policies, projects, and programmes, followed by Section 3 on project planning and project management. Section 4 deals with the logical framework approach to project planning, and Section 5 deals with monitoring, evaluation, and reporting. The chapter ends with a general observation.

23.2 Policies, projects, programmes

23.2.1 Policy

A policy is a set of coherent guidelines and procedures with common long-term objectives designed to guide and, usually, to determine present and future decisions for a government, institution, organization, or group. Policies describe a general direction for achievement. Examples are the Millennium Development Goals and national policies such as Vision 2025, the National Strategy for Growth and Poverty Reduction (MKUKUTA), and Zanzibar Strategy for Growth and the Reduction of Poverty (MKUZA). These offer long-term guidance to the government or organization rather than short- or medium-term guidance, and they are all-encompassing. Specific examples of policies include the Agricultural Policy and Livestock Policy 1997, the National Water Policy 2002, the Cooperative Development Policy 2002, the National Trade Policy 2003, and the Mineral Policy 2010. Policies offer general guiding statements such that, from each policy, it is possible to establish many more focused interventions, known as programmes. Programme objectives can be achieved through a variety of specific projects.

23.2.2 Project

A project may be defined as a specific undertaking in which resources are committed over a specific period of time to produce benefits. A project requires formal planning and implementation as a unit under an agreed financial and managerial framework. However, a comprehensive definition of a project hardly exists since projects differ in their characteristics. The general characteristics of a project are as follows:

1. It has a specific starting and finishing point.
2. It is the smallest operational element prepared and implemented as a unit, comprising a number of activities in a programme or organization.
3. It has a well-defined sequence of investment and production or service provision activities and specific benefits that can be identified, quantified, and valued.
4. It sometimes has intangible benefits.
5. It has a geographical area of concentration and beneficiaries in the area whom it is intended to reach and whose traditional social patterns it will affect.

Examples of development projects are the following: production of crops, livestock, livestock products, and manufactured goods; construction of buildings for community uses (e.g. schools, dispensaries, water supply infrastructures, and warehouses); executing business and trade plans; delivery of social services; and environmental conservation.

A project cycle identifies a sequence of stages for planning a project, to enable planners to organize their thinking about the project. Project planning is undertaken to increase the likelihood that a project will be implemented efficiently, effectively, and successfully. Project planning covers the first three stages of the project management cycle. This cycle, illustrated in Figure 23.1, describes the various stages for conceptualizing, planning, implementing, and evaluating a project; and it recognizes that even when a project is finished, it may provide the starting point for a new one.

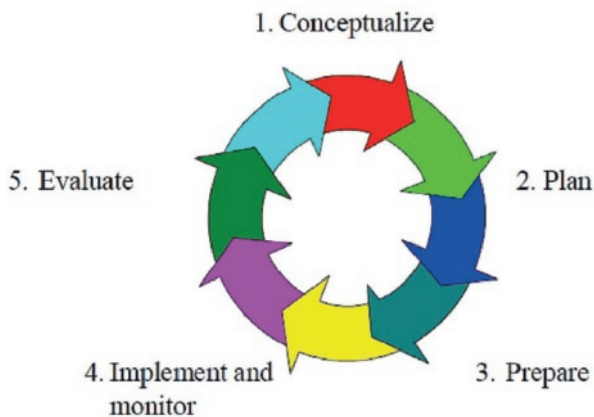


Figure 23.1
A typical project life cycle

The project life cycle stages are as follows:

1. Conceptualize the project scope and objectives: explore the problem; identify priority needs; consider project solutions; and evaluate organizational capacity.
2. Plan the project: establish the project scope; clarify goals and objectives; choose the most appropriate course of action; identify the inputs and resources required in terms of people, materials, time, and money; develop a budget; and draft a project plan.

3. Prepare project proposal: present the project to important stakeholders; receive their feedback; and secure the necessary material, human, and financial resources.
4. Implement the project: implement the project by following a work plan and completing predetermined tasks and activities; monitor progress and adjust as necessary.
5. Evaluate the project: review what has happened; consider the value of what has been achieved; and learn from that experience in order to improve future project planning.

Policies, programmes, and projects go hand in hand, as projects contribute towards the achievement of various policies and are guided by specific programmes (ILO 2010).

23.2.3 Programme

A programme is a set of projects which may be very diverse in nature and scope and widely diffused both in time and space, and which are typically continuing interventions without fixed finishing dates. Programmes are larger than projects, take a longer time to complete than projects do, and usually comprise a number of projects under a single programme. Therefore, in this chapter, the term programme should be understood in this broad sense.

23.3 Project planning and project management

Planning is choosing among the best alternative interventions to address needs and goals. Humans (individuals and communities) have unlimited wants, but the resources available are scarce and cannot address all the needs at once. A need for prioritizing arises, which necessitates addressing one need first while others are kept waiting.

23.3.1 Project planning

Project planning is deciding in advance what is to be done, when, where, how, and by whom. It bridges the gap between where one is and where one wants to go. Based on given policies, planning includes the selection of objectives, procedures, courses of action, agreements among stakeholders, and material use from among alternatives. A plan is a predetermined course of action to

achieve a specified goal within an indicated period and for a predetermined budget. It is an intellectual process characterized by thinking before doing. It is an attempt on the part of a manager and/or planner to anticipate the future in order to achieve specific goals. Planning is the primary function of management, and hence of project management. During the planning phase, analysis and appraisal also take place. Such analysis and appraisal may be conducted in reference to the prevailing policy directives or in reference to the outcome of a cost–benefit analysis (Dreze & Stern 1987; Bridger & Winpenny 1991; Dixon et al. 1992; Curry & Weiss 1993; Lee & Kirkpatrick 1997; Farrow & Toma 1998; Kayunze 2002).

23.3.2 Cost–benefit analysis

A cost–benefit analysis (CBA) is used to evaluate the total anticipated cost of a project compared with the total expected benefits in order to determine whether the proposed implementation is worthwhile undertaking. If the results of this comparative evaluation method suggest that the overall benefits associated with a proposed action outweigh the incurred costs, then the undertaking is worth following through with implementation, and vice versa.

In performing the CBA, three perspectives are important: the private, public, and social perspectives. Whereas the private looks at the financial and commercial attractiveness of a project, the public viewpoint looks at the national economic perspective. For the social perspective, the CBA focuses on the distribution of project costs and benefits between population groups. Due to the different purposes guided by the three perspectives, it is important that the database for the proposal of a project is made in such a way that the different types of analysis are possible—that is, the private (financial) profitability, the national economic, and the social cost–benefit analyses.

Generally speaking, a CBA has three steps. The first step is concerned with examining all potential costs that will be incurred by implementing a proposed action. The second step is to record all anticipated benefits associated with the potential action. The third step deals with subtracting all identified costs from the expected benefits to determine whether the positive benefits outweigh the negative costs.

Step 1: Identifying costs. In this step, there is identification and quantification of all costs associated with a proposed action. In order to successfully identify all potential costs, the following steps are necessary:

1. Make a list of all monetary costs that will be incurred upon implementation and throughout the life of the project. These include start-up fees, licenses, production materials, payroll expenses, user acceptance processes, training, and travel expenses.
2. Make a list of all non-monetary costs that are likely to be absorbed. These include time, lost production on other tasks, imperfect processes, potential risks, market saturation or penetration uncertainties, and influences on one's reputation.
3. Assign monetary values to the costs identified in steps 1 and 2. To ensure equality across time, monetary values are stated in present value terms. If realistic cost values cannot be readily evaluated, consult with market trends and industry surveys for comparable implementation costs in similar businesses.
4. Add all anticipated costs together to get a total costs value.

Step 2: Identifying benefits. The next step is to identify and quantify all benefits anticipated as a result of successful implementation of the proposed action. To do so, the following steps are necessary:

1. Make a list of all monetary benefits that will be experienced upon implementation and thereafter. These benefits include direct profits from products and/or services, increased contributions from investors, decreased production costs due to improved and standardized processes, and increased production capabilities.
2. Make a list of all non-monetary benefits that one is likely to experience. These include decreased production times, increased reliability and durability, greater customer base, greater market saturation, greater customer satisfaction, and improved company or project reputation.
3. Assign monetary values to the benefits identified in steps 1 and 2. Be sure to state these monetary values in present value terms.
4. Add all anticipated benefits together to get a total benefits value.

Step 3: Evaluating costs and benefits. The final step when creating a CBA is to weigh the costs and benefits to determine if the proposed action is worthwhile. The following steps are necessary:

1. Compare the total costs and total benefits values. If the total costs are much greater than the total benefits, one can conclude that the project is not a worthwhile investment of time and resources.
2. If total costs and total benefits are roughly equal to one another, it is best to re-evaluate the costs and benefits identified and revise the CBA. Often, items are missed or incorrectly assigned, which are common errors in a CBA.

3. If the total benefits are much greater than the total costs, one can conclude that the proposed action is potentially a worthwhile investment and should be further evaluated as a realistic opportunity.

23.3.3 Project management

All planned project activities need to be implemented. Given that most project activities are diverse and have complex interrelationships, a need arises to plan, coordinate, and control the implementation process for all such project activities. This brings us to the concept of project management, which is a skilful, controlled, and coordinated process of initiating planning, executing all aspects of a project, and motivating all those involved in it, in order to achieve the project objectives while optimizing the use of resources such as time, labour, space, money, materials, energy, provisions, communication, and quality. Alternatively, project management is the application of knowledge, skills, tools, and techniques in organizing and managing resources for a broad range of project activities, in order that the project is completed within defined limits of time, labour, space, money, materials, energy, provisions, communication, and quality. These activities are those that fall into each of the stages of the project cycle—that is, in programming, identification, appraisal, financing, implementation, monitoring, and evaluation. Project management is the discipline of planning, organizing, and managing resources to bring about the successful completion of specific project goals and objectives. In this chapter, project management is defined as the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. It entails a set of technical parameters, clusters of processes, and steps in view of achieving a result. It is comprised of tasks and activities, grouped in phases as presented in the project life cycle. Each phase completion is assessed before moving to the next phase.

There are nine 'knowledge areas' recognized in project management. These all have to be taken into account in the design of the project, although they do not necessarily have the same weight in each and every project:

1. Scope management: the processes required to ensure that the project includes all the work required, and only the work required.
2. Time management: the processes required to ensure timely completion of the project.
3. Cost management: the processes required to ensure that the project is completed within the approved budget.

4. Quality management: the processes required to ensure that the project will satisfy the needs for which it was undertaken.
5. Human resource management: the processes required to make the most effective use of the people involved with the project.
6. Communications management: the processes required to ensure timely and appropriate collection, dissemination, and storage of project information.
7. Risk management: the processes concerned with identifying, analysing, and responding to project risk.
8. Procurement management: the processes required to acquire goods and services for the project implementation.
9. Integration management: the processes required to ensure that the various elements of the project are properly coordinated.

The primary challenge of project management is to achieve all of the project goals and objectives while honouring the preconceived project constraints. Typical constraints are scope, time, and budget. The secondary challenge is to optimize the allocation and integration of scarce resources necessary to meet predefined objectives.

23.4 Logical framework approach (LFA)

The logical framework approach (LFA) is a prominent method for project planning and management. It is a way of structuring the main elements in a project, highlighting logical linkages among objectives, inputs required, planned activities, assumptions, and expected results. It also aims at linking the objectives of a project to a sectoral goal and final developmental goals.

The LFA is also known as objectively oriented project planning (OOPP). The product of LFA is a logical project framework consisting of a planning matrix which depicts the basic structure of the project. The matrix is also called a logical framework matrix (LFM), a project matrix (PM), or a project planning matrix (PPM).

The LFA approach ideally incorporates a planning session in which groups of participants representing a variety of disciplines related to the planned intervention are brought together for a 2–3-day workshop. Participants form groups in which specific intervention projects are discussed. An experienced facilitator leads the group work and its discussions. The procedure consists of two main aspects: (a) the analysis phase; and (b) the project planning matrix

formulation phase. Three analyses are performed: problem tree, objective tree, and alternative tree.

In formulating the PPM, the following is described:

1. Overall goal, project purpose, results, and main activities
2. Indicators and their means of verification of the overall goal, project purpose, and results
3. Assumptions and their indicators.

The LFA has a number of advantages:

1. It ensures that fundamental questions are asked and weaknesses are analysed, in order to provide decision makers with better and more relevant information.
2. It guides systematic and logical analysis of the interrelated key elements which constitute a well-designed project.
3. It improves planning by highlighting linkages between project elements and external factors.
4. It provides a better basis for systematic monitoring and analysis of the effects of projects.
5. It facilitates common understanding and better communication between decision makers, managers, and other people involved in the project.
6. Management and administration benefit from standardized procedures for collecting and assessing information.
7. The use of LFA and systematic monitoring ensures continuity of approach when original project staff members are replaced.
8. As more institutions adopt the LFA concept, it may facilitate communication between governments and donor agencies.
9. Widespread use of the LFA format makes it easier to undertake both sectoral studies and comparative studies in general.

Despite having many advantages, the LFA also has a number of disadvantages, which include the following:

1. Rigidity in project administration may arise when objective and external factors specified at the outset are over-emphasized. This can be avoided by regular project reviews where the key elements can be re-evaluated and adjusted.
2. LFA is a general analytic tool. It is policy-neutral on questions of income distribution, employment opportunities, access to resources, local participation, cost and feasibility of strategies and technology, and effects on the environment.

3. LFA is, therefore, only one of several tools to be used during project preparation, implementation, and evaluation, and it does not replace target-group analysis, CBA, time planning, impact analysis, etc.
4. The full benefits of utilizing LFA can be achieved only through systematic training of all partners involved and methodological follow-up.

Furthermore, LFA enhances planning, analysis, and communication in the following ways:

1. Clarification of the purpose of, and the justification for, a project
2. Identification of information requirements
3. Clear definition of the key elements of a project
4. Analysis of the project's setting at an early stage
5. Facilitation of communication between all parties involved
6. Identification of how the success or failure of the project should be measured.

23.4.1 Logic in a project planning matrix

A development project is based on its input of resources and the implementation of certain activities, and it will result in a number of outputs that are expected to contribute to the desired objectives. Inputs, activities, and outputs are elements of a project; they are not in themselves a measure of success or failure. The extent to which a project is going to succeed or not depends both upon a number of factors that can be controlled by the project management and upon a number of factors that are beyond the control of the project management (external factors). During planning and implementation, it is extremely important to identify, monitor, and analyse external factors, since they may cause a project to fail even if it is implemented as planned.

The LFA is a procedure which is performed to produce a logical framework matrix (LFM)—also called a project matrix (PM) or a project framework (PF). It is considered to be a causally linked sequence of events. These are described at the levels of inputs, outputs, immediate objectives, and development objectives. Since it is not certain that these events will actually occur, the process is seen as a sequence of development hypotheses, which can be analysed as described in Figure 23.2.

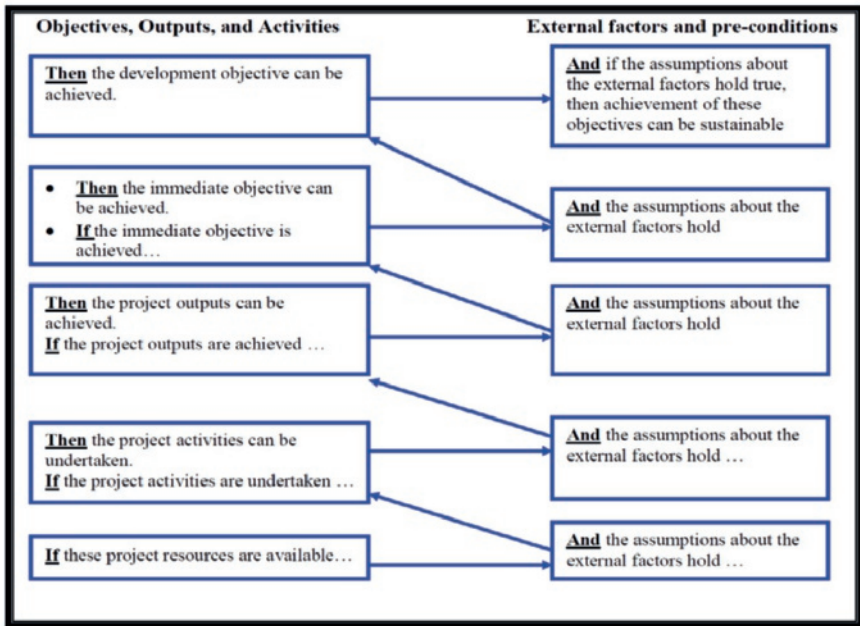


Figure 23.1
A typical project life cycle

Normally, a PM is a table which has four rows and four columns (Table 23.1). However, PMs with five rows are also common. Another format for a PM is one with three columns; in this case, the PM can have four or five rows. It is worth noting that PMs with five rows and/or three columns are less popular than the standard PM, which has four rows and four columns. A PM which has five rows has inputs in the first column in an additional row below activities. People who use this format assert that inputs are the most basic needs and the basis of the vertical logic. The argument is relevant. An example of such a PM is given in Table 23.1.

Table 23.1

The format of a standard project matrix

Narrative summary	Objective verifiable indicators (OVIs)	Means of verification (MOVs)	External factors (important assumptions)
<p>1. Development objective The high-level objective towards which the project is expected to contribute (the target group must be mentioned)</p>	<p>1. Indicators Direct and/or indirect measures to verify the extent to which the development objective has been fulfilled</p>	<p>1. Means Means by which the attainment of the development objective will be verified</p>	<p>1. External factors Important events, conditions, or decisions necessary for sustaining objectives in the long run</p>
<p>2. Immediate objective The effect which is expected to be achieved as a result of the project (the target group must be mentioned)</p>	<p>2. Indicators Direct and/or indirect measures to verify the extent to which the immediate objectives has been fulfilled</p>	<p>2. Means Means by which the attainment of the immediate objective will be verified</p>	<p>2. External factors Important events, conditions, or decisions outside the control of the project management which must prevail for the development objective to be attained</p>
<p>3. Outputs The results that the project management should be able to guarantee (the target group must be mentioned)</p>	<p>3. Indicators Direct and/or indirect measures to verify the extent to which the outputs are produced</p>	<p>3. Means Means by which the realization of the outputs will be verified</p>	<p>3. External factors Important events, conditions, or decisions outside the control of the project management which are necessary for the achievement of the immediate objectives</p>
<p>4. Activities The activities that have to be undertaken by the project in order to produce the outputs</p>	<p>4. Inputs Goods and services necessary to undertake activities of the project</p>	<p>4. Means Means by which the execution of the activities stipulated will be assessed</p>	<p>4. External factors Important events, conditions, or decisions outside the control of the project management which are necessary for the production of the outputs</p>

23.4.2 Using the logical framework approach

The LFA can be used not only during initial planning, but also as a management tool during project implementation. During the planning exercise, the participants involved make a step-by-step analysis of the prevailing situation and what measures should be undertaken. The PM is the end result of the LFA planning process. The PM should then be used as a starting point for formulating the technical part of the formal project agreement as well as the detailed plan of operations. It serves as a major point of reference throughout the project, particularly for monitoring and evaluating the project. The PM is also used during project implementation in connection with project reviews, planning of project extension, re-designing, and so on. Besides the use of the PM for development projects, it can also be used for other types of activities.

Any PM with four or five rows can have three columns. If the format of having three columns is adopted, the column 'Means of verification' is removed. It should be noted that this removal will lead to difficulties during monitoring and evaluation of the project, since managers and evaluators will have to start from scratch in thinking of the means of verification. However, their work of devising means of verification will be facilitated by the objectively verifiable indicators (OVIs) that will already be in the PM. Whatever format is adopted, the PM can be brief, an internal exercise carried out at an early stage in order to decide whether or not to continue planning the project. In the example case shown in Table 23.1, it covers hardly a page. Alternatively, a PM can be extensive, depending on whether the project is new and large or on-going. In such a case, a PM can have a number of pages.

23.4.3 The vertical logic of the project planning matrix

The vertical logic is applied in the first column of the logical project matrix. It is called the vertical logic because the objectives in the column are arranged in such a way that there is a vertical relationship whereby every objective depends on the results and activities below it.

1. The vertical logic is the reasoning that 'connects' the three levels of objectives in the matrix: the outputs, the purpose, and the goal. For example, achievement of all the output level objectives should lead to achievement of the purpose.
2. Each of these links between the objectives is connected by a hypothesis—for example, at the bottom level (the implementation hypotheses)

the implication is 'we believe' that in the environment of this project, the planned outputs will produce the planned results. At this level, the hypotheses are usually supported by research or experience. The explanation of the hypotheses at the other levels is similar. It is the hierarchy of objectives of a project.

3. The top-most item in the left-most column is the goal or development objective. It is the overall development objective describing the anticipated long-term objective toward which the project will contribute. This justifies the project. However, it should not be over-ambitious. There should be only one goal.
4. The second item in the left-most column is the purpose. It is the immediate objective, which describes the intended direct effects of the project for the beneficiaries as a precisely stated future condition. There should be only one purpose.
5. The third item in the left-most column is outputs, which are expressed as objectives the project management must achieve and sustain within the life of the project. Their combined impact should be sufficient to achieve the immediate objectives. The project management should be able to guarantee the project's outputs.
6. The fourth item (last in Table 23.1) in the left-most column of the project matrix is 'Activities', which are expressed as processes. Only basic structures and strategies of the project should be indicated, avoiding details of the activities. Every activity should be numbered, relating it to the corresponding number of output and input.

23.4.4 Horizontal logic of the logical framework

The horizontal logic connects the second, third, and fourth columns of the project planning matrix. For a given level of objective (equivalent to a horizontal row of cells), the horizontal logic describes the following:

1. How the achievement of the objective will be measured or verified
2. How information will be obtained
3. What the external factors are that could prevent the project manager and staff from achieving the next-level objective. Since the last column is involved in the diagonal logic with the first column, one could argue that the horizontal logic applies in the second and third columns only; however, this argument can be counteracted by the argument that the first column is also involved in the diagonal logic, besides being involved in the vertical logic.

The horizontal logic has features similar to those of the vertical logic. In this case, the links between the levels of objectives are the items in the 'External factors' column. For example, if the project is successful in implementing all of the planned activities, we ask ourselves: What circumstances or decisions (outside the project's control) could prevent the delivery of the project outputs? A project planning matrix for a project to improve soil fertility for increased agricultural productivity might look like the one presented in Table 23.2.

23.4.5 Use of Gantt Charts with a project matrix

In order to ensure that the activities planned are accomplished in a timely manner and the outputs and objectives of a project are realized within the time constraints, a Gantt chart is normally used alongside a project matrix. A Gantt chart is a type of bar chart that illustrates a project schedule, specifying the start and finish dates of the project and the time when inputs will be obtained, specific activities will be performed, outputs will be produced, and objectives will be attained. With high-tech development, personal computers have allowed for widespread creation of complex and elaborate Gantt charts (<http://www.ganttchart.com>). Nowadays, such charts are widely used in the planning and monitoring of project activities. For example, if the project to improve soil fertility for increased agricultural productivity has to be implemented for 4 years (e.g. 1 April 2011 to 31 March 2014), a simple Gantt chart for it might look like the one in Table 23.3.

Table 23.2

A logical framework matrix for a project to improve soil fertility for increased agricultural productivity

Narrative summary	Objective verifiable indicators	Means of verification	External factors
<p>Goal To contribute to increased food security and income levels among rural households</p>	<p>1. Foods insecurity incidences by adult equivalent per day halved (18-19%) within the 3 years of project 2. Household income per capital increased by 50% in households which are not in the projects, and by 100 % in households participating in the projects withing the 3 years of the project</p>	<p>1. Conduct a social economic survey on income and food poverty levels after the prescribed time of 3 years 2. Impact and altitudinal studies to interview community members on the impact of the project on food security and income</p>	<p>If people in the project area continue using the knowledge gains and skills acquired during the project and perform other economic activities, the levels of food security and income attained will be sustainable and even increased</p>
<p>Purpose To improve soil fertility for increased agricultural productivity</p> <p>Specific Objectives</p> <ol style="list-style-type: none"> 1. To increase maize yield per ha. 2. To increase soil fertility 3. To ensure more farmers use inorganic and organic fertilizers 4. To supply timely inorganic fertilizers up to at least ward headquarters 5. To educate farmers on the correct uses and amounts of various fertilizers and on soil fertility-friendly agronomic practices 	<ol style="list-style-type: none"> 1. Maize production increased from 500 kg to 4000 kg per ha before the end of project 2. Top soil clearly defined and darker than subsoil; soil holding water for more than a week without ponds after heavy rainfall; and crops being greener than previously within the 3 years of the project 3. Households using inorganic fertilizers for maize production in the project area increasing from 8% to 50% within 2 years 4. At least 20% and at most 80% of the households in the project area getting fertilizers of various types and amounts at the village and ward levels at least 2 weeks before the expected date of starting of using fertilizers 5. At least 1 person from every household under the project trainees within the first year of the project on corrects uses and amounts of various fertilizers and proper agronomic practices for maize production e.g. tilling accross a slope, intercropping with leguminous and creeping plants, crop rotation, land flowing, timely weeding, undercultivation of weeds 	<ol style="list-style-type: none"> 1. Compare maize production per acre 'before and after' and 'with and without' the project 2. Inspect farms to assess soil fertility in view of the indicators of soil fertility stated 3. Compute the promotion of the households using inorganic fertilizers vis-à-vis the promotions planned 4. Interview participating households and local government leaders on the types and amounts of fertilizers they received at the ward and village levels 5. Documentary review of documentation records, and interview members of household participating in the project 	<p>The economy and political stability will be favourable to enabling the target groups to get income from other sources to buy food and other necessities</p>

<p>Output</p> <ol style="list-style-type: none"> 1. Increase maize production per unit area of land 2. Land on which fertilizers are used increased 3. The number farmers using fertilizers is increased 4. Tons of various types of fertilizers supplied up to ward headquarters 5. Specification of amounts of various fertilizers to be supplied per unit area of land <p>1. kg of maize harvested per ha vis-à-vis previously</p>	<ol style="list-style-type: none"> 1. kg of maize harvested per ha vis-à-vis previously 2. Average land areas on which inorganic fertilizers are used increased from 0.05 ha to 1 ha per household within the 3 years of the project. 3. Farmers using correct amounts of inorganic fertilizers increased from 0% to 25% within the first year of the project and to 50% within the 3 years of project 4. An average of 100 kg of phosphoric fertilizers (e.g. DAP) and 200 kg of nitrogenous fertilizers (e.g. CAN) supplied to every household under the project yearly 5. 100 kg of phosphoric and 200 kg of nitrogenous fertilizers to be applied per ha 	<ol style="list-style-type: none"> 1. Interview farmers 2. Ascertain amounts of land on which inorganic fertilizer are used and those on which they are not used 3. Follow up farmers to determine who is using fertilizers and who is not 4. Extension officers to record fertilizers types and amounts during unloading 5. Compare amount of fertilizers specified with optimum fertilizers advised in similar agro-climate zone 	<ol style="list-style-type: none"> 1. Improved maize seeds will be supplied in a timely manner, rains will be sufficient, and there will be no pest outbreaks to affect maize on farm 2. Other factors will be in favour of soil fertility 3. No one will sabotage fertilizer supply and use 4. Sufficient fertilizers will be produced and supplied in a timely manner 5. No one will mislead farmers on the proper use of fertilizers and agronomic practices which they will be taught
<p>Activities</p> <ol style="list-style-type: none"> 1. Use fertilizers in maize production 2. Record acreages on which fertilizers are used 3. Record farmers using fertilizers from the project and from elsewhere 4. Buy fertilizers from a factory and get them transported to ward headquarters and supplied justly to deserving (pre-selected) farmers 5. Agricultural extension workers educate farmers on fertilizers and soil fertility-friendly agronomic practices 	<p>Inputs</p> <ol style="list-style-type: none"> 1. Stationery (for project officials to record project inputs, activities, etc.) 2. Local leaders (in collaboration with extension officers) to identify farmers deserving/reserving inorganic fertilizers 3. Sufficient funds to procure fertilizers to lend to farmers and to run the project e.g. car, salaries, allowances. 4. Agricultural officers (to be hired and motivated to work hard and be trustworthy) 	<ol style="list-style-type: none"> 1. Ask farmers about crops on which inorganic and organic fertilizers are used 2. Ask farmers which of them got fertilizer loan or cash for fertilizer 3. Assessing records of fertilizers bought vis-à-vis those supplied 4. Number of farmers trained, number of times training took place, skills they were trained on, and where training took place 	<ol style="list-style-type: none"> 1. Other factors will favour maize production 2. Institutional factors will support acquisition of sufficient land 3. Farmers will have a positive attitude towards using fertilizer 4. Transport equipment and infrastructure will be favourable for timely supply of fertilizers 5. Agricultural extension officers will be competent

23.4.5 Use of Gantt Charts with a project matrix

In order to ensure that the activities planned are accomplished in a timely manner and the outputs and objectives of a project are realized within the time constraints, a Gantt chart is normally used alongside a project matrix. A Gantt chart is a type of bar chart that illustrates a project schedule, specifying the start and finish dates of the project and the time when inputs will be obtained, specific activities will be performed, outputs will be produced, and objectives will be attained. With high-tech development, personal computers have allowed for widespread creation of complex and elaborate Gantt charts (<http://www.ganttchart.com>). Nowadays, such charts are widely used in the planning and monitoring of project activities. For example, if the project to improve soil fertility for increased agricultural productivity has to be implemented for 4 years (e.g. 1 April 2011 to 31 March 2014), a simple Gantt chart for it might look like the one in Table 23.3.

Table 23.3

A logical framework matrix for a project to improve soil fertility for increased agricultural productivity

Activity	2011												2012												2013												2014		
	A	M	J	J	A	S	O	N	D	J	F	M	A	M	A	M	A	M	J	J	A	S	O	N	D	J	F	M											
Agricultural officer appointed																																							
Local leader to work with identified																																							
Project implementation																																							
At least one household member trained																																							
Average maize field increased from 500 to 4,000 kg per ha																																							
Top soil clearly defined and darker than subsoil, etc.																																							
Sufficient fertilizer supplied at the ward level																																							
Amount and type of fertilizers stipulated supplied to all deserving farmers																																							
At least 25% of the beneficiaries using correct fertilizers doses																																							
At least 50% of the beneficiaries using correct fertilizers doses																																							
Land on which inorganic fertilizers are used increased from 0.05 to 1 ha per household																																							
Mid-term evaluation																																							
Households using inorganic fertilizers for maize increased from 8 to 50%																																							
Terminal evaluation																																							

23.5 Monitoring, evaluation, reporting

There is a vast documentation on monitoring and evaluation to be referred to (Casley & Kumar 1970; Dasgupta et al. 1972; Casket & Lury 1982; Broughton & Hampshire 1997).

23.5.1 Monitoring

A project plan should also establish milestones that can be monitored for completion or deviation. Even with a good plan and a good budget, you cannot expect the actual work to go ahead without problems from time to time. As the project is implemented, it is important to monitor and control progress based on the objectives that were established in the project plan. In addition, to ensure adherence to project objectives, it is necessary to make adjustments to address unforeseen challenges, obstacles, and opportunities as they arise. The monitoring should be done in parallel with the donor's reporting requirements. During all periods of project implementation, actual costs should be constantly compared with the planned budget. Such financial monitoring is the easiest means to check deviation from the plan.

23.5.2 Evaluation

Evaluations should determine the effectiveness, efficiency, relevance, quality impact, and sustainability of the project and project activities. They should also study the process used to complete the project. Evaluation determines the value of a programme. Project evaluation answers the following questions: What has the project achieved? Have the original goals been achieved? What unexpected results do we have—positive as well as negative? Should this project be up-scaled to other areas? Usually evaluation is performed as the ultimate stage of the whole programme activity to determine the final result and compare actual and planned achievements. Because monitoring and evaluation are functions basic to the effective project management and to the achievement of programme objectives, these interrelated functions should be planned and budgeted. The project document should specify when and how project monitoring and evaluation will be conducted.

The starting point for the evaluation framework is the (re)construction of the result chain, to structure the expected project processes and their achievements in a logical framework. This includes the elaboration of the theory of

change, which connects the various components of the result chain, including the underlying key assumptions and contextual factors. A standard result chain for projects identifies the specific relations between their components: inputs, activities, outputs, outcomes, and impact, whereby:

1. The inputs are resources employed to produce the intended outputs. The resources could be financial, material, and human resources employed to produce the intended outputs. For example, in the construction of a road, the inputs could be money, tar, engineers, graders, etc.
2. Activities are the different undertakings and processes performed in the project.
3. The outputs are the deliverables of the undertaken activities and the direct results of the inputs. These are under the direct control of the implementing body and the supplier. In the construction of a road, an output could be the road itself or the bridges.
4. The outcomes in a project are the short-term and intermediate effects that the outputs have had on the intended end-users and beneficiaries. For example, if there was construction of a road, an outcome could be the increased use of the road.
5. The impact refers to the longer-term effects as a result of the changes in behaviour due to the intervention. Using the example of the road construction project, the impact could be things such as increases in employment and economic growth, since agricultural products now easily reach the market.

23.5.3 Reporting

Based on its respective monitoring and/or evaluation, projects require some level of reporting to specific levels of management. The project plan should identify who needs to receive information and updates about the project, what types of information they need to receive, and how this information will be reported. According to the FAO (1995), a comprehensive final preparation report normally has the following chapters:

1. Cover page
2. Acronyms and currency equivalents
3. Executive summary
4. Introduction
5. Background
6. Project area, its people, and its development potential
7. Project rationale and design considerations
8. The project

9. Organization and management
10. Project development, production, and financial results
11. Market prospects and prices
12. Benefits, risks, and sustainability
13. Commitments, issues, and follow-up actions.

In the case of a monitoring report, Chapter 10 onwards may focus on the achievement of the objectives in reference to the objective verifiable indicators concerned, in order to satisfy the so-called manager's question, while in the case of an evaluation an additional series of evaluation or research questions may have to be discussed.

23.6 General observation

Over the years, projects have proved effective and efficient in bringing about change. This is because of the approach of being very output-oriented and time-bound, combined with the focus on value for money. The usefulness of the project approach to change is not only for public but also for private initiatives.

Due to the popularity of the project approach, which has led to a business-as-usual mentality, however, projects sometimes have not yielded the required results—for many reasons, among which were poor project design, weak participation by stakeholders in implementation, and cases of corruption. This situation points to the need for careful articulation of processes from the inception of a project and during and after its life of implementation. In actual fact, it may be better not to implement a project that will fail to meet its objectives after raising people's expectations (and thereby leaving people poorer or worse off than before the project was implemented). A planner should be able to foresee all this.

References

- Bridger, G.A. & Winpenny, J.T. (1991). 'Planning development projects—A practical guide to the choice and appraisal of public sector investments', HMSO-ODA. 13.
- Broughton, B. & Hampshire, J. (1997). *Bridging the Gap: A Guide to Monitoring and Evaluating Development Projects*. Canberra: Australian Council for Overseas.

- Casket, D.J. & Lury, D.A. (1982). *Monitoring and Evaluation of Agricultural and Rural Development Projects*. Baltimore and London: The John Hopkins University Press.
- Casley, D.J. & Kumar, K. (1970). *Project Monitoring and Evaluation in Agriculture*. Baltimore and London: The Johns Hopkins University Press.
- Curry S. & Weiss, J. (1993). *Project Analysis in Developing Countries*. St. Martin Press.
- Dasgupta, P., Sen, A.K. & Maglin, S. (1972). *Guidelines for Project Evaluation*. New York: UNIDO.
- Dixon J.A., Carpenter, R., Fallon, L.A., Sherman, P.B. & Manipomoke, S. (1992). *Economic Analysis of the Environmental Impacts of Development Projects*. London: Earthscan.
- Dreze, J. & Stern, N. (1987). 'The theory of cost-benefit analysis', in: A.J. Auerbach & M. Feldstein (eds) *Handbook of Public Economics*, vol. 2 (pp. 909-989). Elsevier Science Publishers B.V. (North-Holland).
- FAO (Food and Agriculture Organization of the United Nations) (1995). Guidelines for the design of agricultural investment projects. FAO Investments Centre Technical Page 7. FAO, Rome. pp. 177.
- Farrow, S. & Toma, M. (1998). 'Using environmental benefit-cost analysis to improve government performance', *Resources for the Future*, Discussion Paper 99-11, Washington, DC.
- ILO (2010). Project design manual. A step by step tool to support cooperatives and other forms of self-help organisations. ITC.
- Kayunze, K.A. (2002). *Teaching Manual on Project Design, Appraisal, Monitoring and Evaluation*. Sokoine University of Agriculture.
- Lee, N. & Kirkpatrick, C. (1997). 'Integrating environmental assessment and socio-economic appraisal in the development process', in: C. Kirkpatrick & N. Lee (eds) *Integrating Environmental Assessment with Other Forms of Appraisal in the Development Process*. Cheltenham: Edward Elgar.

24

Settlement, Land Use and Physical Planning

Stanslaus Msuya, Gerald Temu, Canute Hyandy, Agness Chawene, Masumbuko Idd

24.1 Introduction

Land use, physical, and settlement planning are three disciplines of planning and regulating space on land for sustainable development. While many development practitioners mix these three terms, their main focus areas are different—although not necessarily mutually exclusive, as all deal with space and land regulation. Whereas land use planning is performed to identify alternatives for land use and to select and adopt the best land use options for a settlement, physical planning deals primarily with a design exercise that uses the land use plan as a framework to propose the optimal physical infrastructure for a settlement or an area, including infrastructure for public services, transport, economic activities, recreation, and environmental protection. In this way, settlement planning is embedded in land use and physical planning.

This chapter aims to raise awareness about land use, physical planning, and settlement planning and to examine how to apply them when the need arises. The chapter proceeds with Section 2 on settlement planning. Section 3 deals with the clarification of what land use planning is. Section 4 looks at physical planning, and Section 5 presents the idea of applying Remote Sensing and Geographical Information Systems (GIS).

24.2 Settlement planning

The word settlement refers to a built-up area in which human population live and perform numerous activities. The notion embraces all man-made facilities resulting from the process of settling; and in addition to establishments that shelter people and their possessions, it also includes roads and paths that

connect and fences that separate them. Human settlements are broadly divisible into two types according to their major economic activity: rural settlements, and urban settlements. Rural settlements occur in rural areas and are mainly engaged in primary economic activities such as agriculture, forestry, and mining. Urban settlements, on the other hand, are large concentrations of human habitation that are engaged mainly in secondary economic activities such as manufacturing and services.

By definition, human settlements are where organized human activity takes place. Human settlements are an integrated combination of all human activity processes and the physical structure that supports them (UN-Habitat 1986, see the Tanzania policy).

Settlement planning aims at preventing the environmental problems created by placing incompatible land uses close together; facilitating sustainable development that takes full advantage of existing settlement patterns; and investment in transport and communication, water and sewerage, and social facilities. Settlement planning strives to adhere to the principles of planning, which include anticipation of and response to the needs of existing and future communities through provision of zoned and serviced land for housing, employment, recreation and open space, commercial and community facilities, and infrastructure; recognition of the need for, and as far as practicable contribution to, health and safety; diversity of choice; adaptation in response to changing technology; economic viability; a high standard of urban design and amenity; energy efficiency; prevention of pollution to land, water, and air; protection of environmentally sensitive areas and natural resources; accessibility; and land use and transport integration. To achieve this, land use and physical planning must be in place. In the subsequent sections, details are provided on how land use and physical planning are performed. However, before going into these details, this section dwells on how settlements are classified and what the principles are of settlement planning.

24.2.1 Settlement classification

In planning, settlement classification is important because it helps planners to determine the level of detail required for each class or group of settlements. Tanzania classifies settlements based on Christaller's (1966) central place theory, which is concerned with the location, size, functional role, and spacing of service centres. This classification is performed under what is known as the service centres functional classification approach. This ap-

proach involves establishing a hierarchy of service centres. To assess the overall hierarchical classification of service centres, the approach is based on functional criteria such as administrative status, service level, industrial status, and overall accessibility. Such classification helps in understanding of the functional and areal organization of centres in the whole settlement network. This approach has been specified in the National Human Settlement Policy (URT 2000) as a set of criteria for classifying human settlements in Tanzania. The policy states that classification of human settlements should be based on population size, level of services, economic base, and level of sustenance in the annual budget. In hierarchical order, the classification is as follows:

1. *Trading centre.* In order to qualify as a trading centre, a village settlement should have at least the following services: five retail shops and a market place; a primary school; a dispensary; and a post office. The minimum population should be 10,000 people.
2. *Township.* In order to qualify as a township, a minor settlement trading centre should have at least the following services: health centre; secondary school; 20 licensed retail shops and a market place; and a primary court; and it should be either a ward or division headquarters. The district administrative centres may be classified as townships, provided they meet the stated criteria.
3. *Town.* To qualify for town status, a settlement should meet the following criteria: minimum population of 30,000 people; self-sustenance of at least 50% of the annual budget; have at least a hospital, secondary school, 50 licensed shops, and a police station; and be at least a divisional headquarters.
4. *Municipality.* To qualify as a municipality, a settlement should have a minimum population of 100,000 and an economic base wherein at least 30% of employment should be in the non-agricultural sector. It must also have at least one manufacturing industry, several small-scale industries, and self-sustenance of at least 70% of the annual budget. In terms of services, it should be a centre for a higher order of services, with cultural, educational, and health facilities which serve an area beyond the administrative region, including universities, a referral hospital, and international conference facilities. It should also have the administrative importance of a regional or national administration or centre of multinational organization(s).
5. *City.* To qualify for city status, a settlement should have a minimum population of 500,000 and a self-sustenance of at least 95% of the annual budget. Any municipality can be designated as a city if it has some symbolic importance in addition to the normal qualifications of a municipality. These include historical significance; outstanding cultural importance,

such as being a major tourist centre; the seat of regional government; the seat of international activities; and any other symbolic value. However, the power to bestow the status of a city on a municipality is vested in the National Assembly.

6. *Mega city*. This status is acquired by a settlement of a minimum population of 4,000,000 and self-sustenance which must surpass all requirements of a city status.

24.2.2 Principles of settlement planning

1. *Efficiency of resource use*. The development of settlements requires the use of a wide range of resources, including land, money, building materials, manpower, energy, and water.
2. *Opportunity generation*. People come to settlements to improve their personal welfare. The opportunity to improve one's lot derives from the economic, social, cultural, and recreational opportunities resulting from the physical agglomeration of people in settlements.
3. *Convenience*. Good urban environments are, by definition, convenient, allowing inhabitants to conduct daily activities quickly and easily. Inconvenient environments, on the other hand, impose on lifestyles, reduce choices, and increase costs. Access lies at the heart of convenience. In this regard, access needs to be conceived of in terms of movement modes. The first mode is pedestrian movement, which is the lowest common denominator of movement and which describes the primary movement mode of large numbers of people in any settlement. The second is motorized movement in the form of public and private transport. Not all human activities and interaction opportunities exist within walking range. When this occurs, motorized transport becomes the more convenient movement mode. Other means of transport that contribute to convenience include bicycles and ox-carts, especially in rural areas.
4. *Quality of place*. Quality of place is attained by embracing uniqueness as opposed to standardization. In terms of the natural environment, it requires an identification of, response to, and emphasis on the distinguishing features and characteristics of landscapes. Different natural landscapes suggest different responses. Accordingly, settlement design should respond to nature.
5. *Equality of access*. It is neither possible nor desirable for all parts of settlements to be the same, as clustering tendencies (for example, some neighbourhoods are comprised of lower, middle or higher income sections of inhabitants) emerge in the structure of settlements as they grow. Also,

activities requiring public support tend to cluster at the most accessible places. Nevertheless, it is important that all people have reasonably equal access to the opportunities and facilities which support living in settlements.

6. *Sensory qualities.* Positively performing environments reflect powerful sensory qualities. They are places which are aesthetically appealing and which add to the quality of people's lives. Examples of these places are those with open spaces and opened-up streets. These are the primary areas within which people engage in, and experience, urban life. The role of public spaces in the lives of the urban poor is particularly critical. Accordingly, a significant part of their lives is played out in public spaces. These are places where many social experiences occur and, in a real sense, they operate as extensions to the private dwelling. The implication is that all public spaces, of which the residential street is one of the important forms, should be viewed and constructed as social spaces.
7. *Sustainability.* Sustainability has two main dimensions. The first dimension relates to the relationship between the built environment and the natural landscape. The second dimension of sustainability is the degree to which the settlement reflects, in its structure and form, 'timeless qualities'. Sustainable settlements accommodate growth and change and are in turn enriched by processes of change.

Planners need to be reminded that during the preparation of land use and physical plans, they must take into consideration these principles. The details on land use and physical planning procedures are provided in the subsequent sections.

24.3 Land use planning

Land use planning is a systematic assessment of land and water potential, alternatives for land use, and economic and social conditions in order to select and adopt the best land use options. It is an iterative process based on a dialogue among all stakeholders aimed at negotiating and deciding on a sustainable form of land use as well as initiating and monitoring its implementation.

The objective of land use planning is to select and put into practice those land uses that will best meet the needs of the people while safeguarding resources for the future. The driving force in planning is the need for change, the need for improved management, or the need for a quite different pattern of land use dictated by changing circumstances.

Like any other type of planning, land use planning is a step-by-step process. In general, three main steps can be identified in this process:

Step 1: Study of the existing situation to identify problems and potentials related to land uses. Planning begins with a diagnostic phase. In land use planning for rural districts this can be divided into two minor phases:

First, there are road-based studies carried out mainly at district level. These involve rapid appraisal techniques and deal with studies of readily available secondary data such as maps, photos, population censuses, data concerning distribution of agro-ecological zones, crop production and sales figures, and livestock censuses. Such an exercise will provide general information on how the planning area compares with other areas in or outside the district in terms of development bottlenecks and opportunities.

Second, there is a detailed village study in the district's various agro-ecological zones, which aims at identifying natural resource availability, population and livestock land carrying capacities, availability of firewood, water, etc. and, most important, the land use survey itself. The land use survey looks at present land uses in the planning area, which are summarized and recorded in a land use map.

This diagnostic stage emphasizes the role of research in planning. However, a balance should be struck between the need for data—the planning task—on the one hand, and the availability of resources for this task, on the other hand. The output from this stage is the analysis of the present land use situation, its problems, and its potentials.

Step 2: This involves projecting future situations on the basis of how facts and policies might change in the future. In this stage, the planner makes forecasts and projections to establish how the present situation might change over time if things are left to go on as they are. This will help to see how the intensity of existing problems might develop and the need for a planned approach. Numerous quantitative techniques can be used in these projections and forecasts. In general, most of these techniques hinge upon graphs and other mathematical calculations, and these include exponential smoothing forecasts, regression forecasts, and scenario writing. The selection of a particular technique will depend on the type of components to be projected, the assumptions to be applied, and the availability of necessary data.

Step 3: Formulating the recommended land uses which will be implemented in phases over the planned period, depending on available resources. This stage in the land use planning process is the formulation of proposed land uses in the various sub-areas or villages within the district. Examples of village land use include residential area, village centre, agricultural land, grazing area, forest, and land conservation area. All these different land uses are then put into a village land use map, which forms the basis for guidance, regulation, control, and well-considered future policies. Information on land uses is compiled in a village map. Many sectoral ministries and donor agencies are involved in map preparation. Such maps are numerous and may show relief, climatic patterns, population and livestock distribution, soil pattern and geology, vegetation, transport and communication, distribution of crops, industries, services, etc. The basic maps can show village boundaries and existing land uses.

Land use planning and its implementation face several challenges, including the following:

1. Population increases that cause people, particularly youth, to invade forest land and other conserved areas within the village
2. Socio-cultural barriers that cause people not to accept changes
3. Lack of political will, which causes land use plans to be given little priority by both central and local government
4. Shortages of funds for the entire process of land use planning and for paying compensation whenever necessary
5. Low capacity of the village government leaders on matters related to land management.

There are further issues around land use planning that regard choices that have to be made and streamlined in public policy. Such issues include the following:

1. Separation of land uses versus diversified use of space. This issue concerns orienting land use towards allocating spaces for specific functions or having different functions in a single space.
2. Geographic expansion versus raising densities. This issue concerns orienting land use towards settlements being expansive or settlements being intensive. With the former orientation, housing construction tends to be rather horizontal; with the latter orientation, housing tends to be rather vertical.
3. Light versus heavy industries. This issue concerns making choices about whether to encourage industries that are less capital-intensive and more labour-intensive, or more capital-intensive and less labour-intensive.

4. Urban agriculture. This issue concerns whether to encourage such agriculture (and to what extent and for what purpose) or to discourage it.
5. Hard controls versus soft controls. This issue concerns the obsession with formal control, which systematically leads to more regulation, and the search for other control systems, which would lead to a mastery of the informal mechanisms.

24.4 Physical planning

Physical planning is essentially a design process that uses the land use plan as a framework to propose the optimal physical infrastructure for a settlement or area, including infrastructure for public services, transport, economic activities, recreation, and environmental protection (World Bank 2010). The process entails distribution of human activities in space and time and thus involves making a diagnostic survey so as to identify the critical problems, their projections, and strategies to resolve them. The process takes into account available human-made and natural resources.

24.4.1 Physical planning theories

In the context of physical planning there are two main theories:

24.4.1.1 *Location theory*

Location theory is concerned with the geographic location of economic activity; it has become an integral part of economic geography, regional science, and spatial economics. The theory indicates the factors which are likely to bring about differences in the relative profitability of operating in each of the urban areas competing for the economic activities in question.

24.4.1.2 *Central place theory*

Central place theory is a geographical theory that seeks to explain the number, size, and location of human settlements in an urban setting. Christaller (1966) asserted that settlements simply function as central places providing services to surrounding areas. The theory consists of two basic concepts:

1. *Threshold.* The minimum market needed to bring a firm or city selling goods and services into existence and to keep it in business.
2. *Range.* The average maximum distance people will travel to purchase goods and services.

Normally, threshold is found within the range. However, transportation and political principles modify threshold and range characteristics in the growth of a settlement.

24.4.2 Goal and objectives of physical planning

The goal of physical planning is to create conditions for efficient utilization of both natural and man-made resources that have to result in balanced development and growth of the physical environment. The objectives of physical planning include the following:

1. *Promoting the aesthetic quality of the built-up environment.* This objective seeks to avoid eyesores and deals with the provision of beauty and quality to the planning area. The emphasis here is to have a well-organized, efficient, healthy, safe and secure, and aesthetically pleasing, sustainable human built-up environment (URT 2000). It should also be free from all forms of discrimination.
2. *Promoting environmental quality.* Economic development depends on the successful use of natural resources such as land, forest, wildlife, water, minerals, and air in a sustainable way. For example, agricultural land should be utilized so that it produces up to its potential, now and in the possible future; forest and woodland need to be used and replaced on a sustainable basis, and water resources need to be developed and protected. The main concern here is to make development agents in the districts and regions aware of this relationship that exists between development and the environment.
3. *Avoiding land use conflicts and duplication of activities.* This can be achieved owing to the multi-sectoral nature of the physical planning process, which allows easy coordination of activities. The major land use conflicts that may be experienced in the absence of coordination and integration of sectoral programmes include the following: (a) residential versus agriculture; (b) residential, crop farming, and livestock rearing versus forests or wildlife areas/national parks; and (c) crop farming versus livestock keeping.

4. *Securing improvements in accessibility.* Minimization of travel time can be achieved by co-locating land uses that have a mutual relationship and whose functionalities depend on each other. For example, a primary school and a market place can be located within a residential neighbourhood. Also, industries which produce related products or inputs of each other may be clustered close to each other. Improvement in accessibility has a number of advantages. For instance, for industry land uses, it serves to achieve agglomeration economies and enable realization of economies of scale within industries. Likewise, good accessibility with regard to commercial land uses results in minimization of delivery costs, minimization of time and distance to markets, and other complementary uses. Moreover, for crop farming and livestock-keeping activities, good accessibility results in improved proximity to farming, grazing, and markets.
5. *Comprehensiveness.* Physical planning strives to take into consideration as many aspects of the physical environment as possible and thus rationalize location decisions. To achieve this, the exercise aims to collect as much available data as possible. This is accomplished through wide coverage to gain an extensive understanding of the relevant data and information required for the process. To attain a desired outcome on comprehensiveness, the physical planning process also tries to involve as many stakeholders as possible in the data collection and other stages so as to ensure participation and hence ownership of the eventual plan.

24.4.3 Approach of the physical planning process

Like any form of planning, two situations are addressed in the physical planning process: the existing, and the future situation. The existing situation is established through reviewing the historical context, the literature, and surveys. This activity provides three vital inputs in the physical planning process: the profile of the planning area, the identification of the problems to be addressed, and the potential capacities for future development.

The future or planned situation relates to the future conditions and is derived by projecting variables such as production, population and its requirements, and levels of external and internal inputs in the development system. The projections are based on the available data and information as well as demographic patterns and development trends in various sectors. This part of the process requires putting forward at least three assumptions: low growth of variables, whereby no action is proposed and the situation is left to continue

as it is; medium growth, with moderate attempts to tackle the problems; and high growth, where effective measures are pre-supposed to be taken.

24.4.4 Operational procedures in the physical planning process

The operational procedures in the process of physical planning are as follows:

1. *Review of existing development trends and policies.* The key question asked is what the current policies are, as well as the existing development trends of the economy in all sectors: agriculture, livestock, tourism, education, transport, land, commerce, and manufacturing.
2. *Determination of development objectives.* Statements of intention on how the identified problems will be solved are given at this stage. Examples are reducing the problems of housing, malnutrition, and road congestion. These are spelled out at the planning and implementation levels by the policy makers and executives and are based on policy interpretation. Objectives are specific and detailed with quality and quantity indicators, such as what type of houses and water supply systems and in what quantities to be provided. Further specification of timing can be distinguished as low, medium, and high objectives. Objectives are normally presented in a hierarchical or priority order.
3. *Design and selection of alternative strategies.* These are means, or rather tactics, to be applied so as to overcome the problems. Their design should be based on considerations such as technicalities, knowledge of the planning area, nature and magnitude of the problem being faced, and the objectives set. This stage requires the planning team / stakeholders to put forward (initiate) the various ways and means which can contribute to solve the identified problem. The planning team has to provide at least three alternatives to the decision makers. The alternatives have to be based on the knowledge about the planning area and on their practicability given the land characteristics. This gives decision makers a wide range of choice on the alternative best suited to their needs. It must be understood that the task of the planner is to present alternative strategies to policy makers to decide. Give the pros and cons of each alternative, and do not force the selection of the alternative of your choice on the decision makers. In all cases these alternatives will be guided by financial, legal, social, and political considerations. At this point, a range of potential policies are formulated to be used in evaluation of the best alternative to be implemented.
4. *Assessment of alternative strategies.* All complete courses of action have to be compared and measured. This is a sifting procedure. The various

strategies proposed might require the use of detailed and sophisticated techniques of selection to choose among them. The evaluation should test and assess the performance of each respective policy against the goals and objectives already established.

5. *Implementation.* The chosen land use plan should be put into practice or implemented. This entails possible action on behalf of the planning authority, not only in respect of public development but also in the consideration of desired private sector enterprises. Implementation structures include action plans, calendars, agency responsibilities, and sectoral coordination linkages.
6. *Monitoring and evaluation.* Monitoring is part of the management process which provides feedback on the result of implementation so as to modify the planning process itself. The aim of monitoring is to make sure that the planned activities are implemented according to the schedule. The task of monitoring should involve all stakeholders. Closely related to monitoring is an evaluation step in which one determines whether or not the implemented plans give the expected results or not. Evaluation is not a one-off operation but is in fact a continuous exercise. Actions to be taken depend on the specification of what factors to look at. These are normally indicators of success or failure of the plan. Indicators are designed to measure the contribution of the plan/alternative to national outcomes in terms of poverty reduction (by enhancing agricultural production), good governance (fewer complaints to authorities on land matters), peace and stability in neighbourhoods, gender equity, fewer cases submitted to the police and courts, etc. Effective monitoring and evaluation requires setting up a system for assembling the necessary information.

The process of physical planning results in planning documents with specific features, as follows:

1. Structure plan (20–30 years). This document shows the settlement network and functional hierarchy.
2. General planning schemes (master plan) for urban settlements (10–20 years). This plan provides an estimate of different land requirements within the urban areas which are meant to facilitate detailed layout planning.
3. Physical development plan (5 years). This is a short- and medium-term land use plan with a specific investment project. The plan normally links with national and local land use programmes.

24.5. Application of Remote Sensing and GIS

Planners need to be sensitized about the power of Geographical Information Systems (GIS) and Remote Sensing as effective and efficient tools for data acquisition, analysis, and management for land use planning. Both GIS and Remote Sensing can be used in planning. The case of the selection of a wastewater treatment and recycling project site in urban Dodoma is presented below.

24.5.1 GIS and Remote Sensing

GIS is a set of tools for collecting, storing, retrieving at will, transforming, and displaying spatial data from the real world for a particular set of purposes (Burrough 1986). PC-based GIS is affordable and relatively simple to operate. They are capable of generating maps of varying scales and providing tabular information suitable for repeated analysis, project design, and decision making. Even though PC-based GIS may not produce maps of cartographic quality or sufficient detail for engineering design, they are very useful for planning teams analysing natural resources, hazard issues, and land cover analysis.

Remote Sensing technologies are among the important ways of obtaining data for GIS for spatial planning purposes. In the broadest sense, Remote Sensing is defined as the measurement or acquisition of information about some property of an object or phenomenon, by a recording device that is not in physical or intimate contact with the object or phenomenon under study (Campbell 2002). The technique employs such devices as cameras, lasers, radio frequency receivers, radar systems, sonar, seismographs, gravimeters, magnetometers, and scintillation counters.

24.5.2 GIS and Remote Sensing in planning

Much data used in GIS are either from Remote Sensing (e.g. satellite images) or from GPS (Global Positioning System). In addition, GIS in planning uses data from other sources, such as national population census data, planning standards, books, and Acts (e.g. Environmental Management Act 2004 of Tanzania (URT 2004)). GIS provides the means to store, manage, and analyse geographically referenced data, whereas GPS measures the geographic location of features. Remote Sensing devices such as imaging satellites (e.g. Landsat) provide periodic data for land use, land cover, and other thematic information.

GIS technology provides a means to merge information from many sources. By using a common spatial framework, GIS enables users to analyse how physical, social, and economic factors interact. Constraints to the widespread use of GIS have been its high cost and complexity and the difficulty of obtaining geographically referenced (geo-referenced) data. However, as the technology has become cheaper and less complex, it has become more accessible to non-specialists. GPS and Remote Sensing techniques have also reduced the problem of obtaining geo-referenced information. For instance, most field surveys use GPS to capture the location of sample points, such as plots or households, enabling easy visualization of survey results and integration with other geographic data. GPS receivers range from the handheld models that are inexpensive, easy to use, and provide coordinate accuracy to about 10 m, to differential receivers that yield accuracy in centimetres.

24.5.3 GIS planning for a wastewater treatment and recycling project

This section shows how to use GIS to plan a wastewater treatment and recycling (WWTR) project for Dodoma Urban District. The scenario/problem at hand is that population in urban Dodoma has grown to the extent that it needs a new WWTR plant.

The use of a GIS tool in any project involves the following four major steps: identification of the project objectives, creation of a project database, analysis of the data, and presentation of the results.

1. Step 1: Identification of objectives. The objective is set when one has done his/her homework thoroughly on the existing problem. In this case, the problem statement could be stated as, 'Population in Dodoma Urban District is growing and needs a new WWTR plant.' The objective in this case is 'Selection of a site for new WWTR plant.'
2. Step 2: Creation of a project database. This step involves identification of data types to be input into the GIS database. As a database structure depends on the type of data involved, system thinking is facilitated by knowing the required data for a particular project database. The location of a WWTR plant is a planning issue; and in planning, we require standards, rules, etc. We are limited/constrained or guided by laws—for example, by environmental laws, which may specify the required distance of a WWTR plant from river channels, roads, and so on. Therefore, if the law limits some developments to a certain distance from river channel and roads, we certainly need river and road network data so as to be able to see if our plan meets the required legal distance specifications.

By applying different scenarios to the data in the database we have constructed and populated with specific project data (e.g. river data), we ultimately generate new derivative data that also go into the same database. For example, from the digital district river channel map, we can generate a new data layer with all areas which lie 30 m from river networks. Consider the criteria for selecting an area suitable for a WWTR plant in a project in urban Dodoma—for example, distance from residential areas, wind direction. Their attribute table should have one column with measurements in the required/specified units, as shown in Table 24.1.

Table 24.1
Criteria and required data for Planning a WWTR Project site in Dodoma Urban District

Criteria	Dataset required	Units
Less than 3000 m above sea level	Elevation map	Elevation in m
Area outside flood plain	Flood plain map	N/A
Area within 1,000 m of the river	River networks map	N/A
Area at least 200 m from residential area	Land use map	Land use types
Area to be at least 200 m from parks	Land use map	Land use types
Area to be at least 200 m from parks	Parks map	N/A
Area within 50 m of roads	Roads network map	N/A
Area within 1,000 m of wastewater junction	Wastewater network maps	N/A
At least 150,000 sq m land area	Land use map	Area in sq m

The required data in Table 24.1 comes from multiple sources. Land use maps are normally prepared by classifying Remote Sensing data (satellite images). However, GPS coordinates from field survey (ground truth data) are used for image classification accuracy assessment. Sometimes land use data may

be extracted from hard-copy maps through digitization. Elevation data are taken from a digital elevation model (DEM) or extracted from contour maps. DEMs can be downloaded for free from websites.¹¹ Linear features such as road and river networks are normally obtained from online digital spatial databases¹² as shape files, but one can also digitize them from hard-copy base maps or from Google Earth.¹³

The criteria and required data in Table 24.1 will result in the database structure shown in Figure 24.1, for which ArcGIS 10.1 software was used.

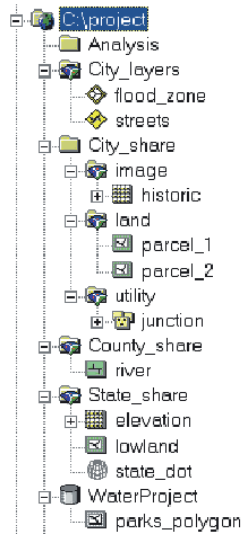


Figure 24.1
Screen capture of GIS database for a WWTR project in ArcMap 10.1

Step 3: Analysis of the data. GIS analysis of the data in the database is the key to meeting the WWTR project objective. GIS software provides powerful tools for data analysis. These tools are found in ArcToolbox in ArcMap (ArcGIS), as shown in Figure 24.2. The tools shown in the ArcToolbox help to perform GIS analysis, such as the following:

11 <http://strm.csi.cgiar.org/SELECTION/InputCoord.asp>

12 <http://www.infrastructureafrica.org/documents/type/arcgis-shape-files/tanzania>

13 <https://www.google.com/earth/explore/products/desktop.html>

1. Visualization (3D Analyst Tools)
2. Querying
3. Attribute querying
4. Spatial querying (Extract)
5. Distance (Proximity)
6. Overlaying (Overlay)
7. Modelling (3D Analyst Tools).

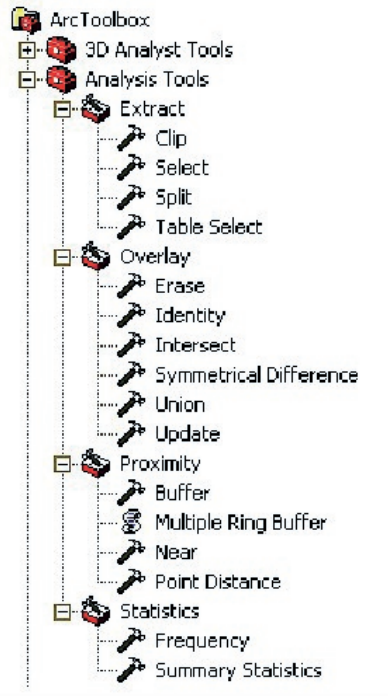


Figure 24.2
GIS analysis tools

Step 4: Presentation of the result. After analysis and modelling in GIS, we arrive at results which meet our objective. The results in GIS are referred to as data outputs. Data outputs refer to the display or presentation of data, employing commonly used output formats such as maps, graphs, reports, tables, and charts—as a hard-copy, as an image on the screen, or as a text file that can be imported into other software programmes for further analysis.

24.6 General remarks

People's needs need to be satisfied. For example, they need housing, jobs, education, opportunities for recreation, and transport; they also need basic services such as water, electricity, clean air, and health care. While social planning attempts to take care of basic social needs, economic planning seeks to ensure the existence of a sound economic base to finance operations and pay for provision of the services to the public, while also ensuring the availability of employment.

Land use, physical, and settlement planning seek to accommodate these needs within a technical and spatial framework. For example, while houses must be built for a population, this should not take place in a swamp or in an area unsuitable because of its terrain, safety, or security, etc.

Needs are identified and articulated by people themselves, politicians, community groups, and even technical experts (e.g. land use planners). It is these needs that are translated into land use activities and reflected in land use plans, policies, and development actions. As land use planning, therefore, arises from the need to satisfy the needs of people in a rational manner and within a technical framework, planners need to take it seriously and ensure that planning takes place with due regard to the prevailing institutional context of policies and legal frameworks.

References

- Burrough, P.A. (1986). *Principles of Geographical Information Systems for Land Resources Assessment*. Oxford University Press, UK.
- Campbell, J.B. (2002). *Introduction to Remote Sensing*. Florida: CRC Press.
- Christaller, W. (1966). *Central Places in Southern Germany*. Trans. by C.W. Baskin, Prentice Hall, New Jersey. Originally published as *Die Zentralorte in Suddeutschland* (Gustav Fischer, Jena, 1935).
- United Republic of Tanzania (URT) (2000). National Human Settlement Policy. Ministry of Land, Housing and Human Settlements Development, Dar es Salaam.
- United Republic of Tanzania (URT) (2004). Environmental Management Act, 2004, Dar es Salaam.
- World Bank (2010). 'Land use and physical planning', in: *Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters*. World Bank, Washington, DC.

25

Migration and Development Planning

Adalbertus Kamanzi, Deodatus Buberwa

25.1 Introduction

Migration is as old as human history on earth. There is no way a contemporary planner can underestimate the influence of migration in the development processes. Migration is so crucial not only because of its inherent capacity to be a good indicator of the level of development in an area, but also because it is a factor that can never be forgotten in planning on account of its direct link with population growth or shrinkage in an area. If more people migrate into an area, then this implies the area is generally well-off because people migrate in owing to pull factors. Conversely, if the population migrates out of the area, then this implies the area is not so attractive and that people are pushed away from the area. Since planning is about forecasting and attempting to put structures in place to cater for the population, any increase in the population—for example, due to migration—would negatively impact on the current structures in place. For example, migrants from Syria arriving in Western Europe have upset not only the physical and natural structures, but also the financial structures and the human and social capitals. Tanzania has been facing immigrants from Rwanda and Burundi. It is in this regard that contemporary planning cannot ignore migration issues.

Planning is by the people and for the people; so if a certain category of the people is not involved or taken care of in the planning process, the consequences of such planning can be significant for the development of society at large. In this scenario, planning should involve prospective migrants and consider those likely to come into the area concerned.

This chapter is organized in a number of sections after this introductory section. In the second section, the chapter deals with the theoretical perspectives on migration. Section 3 points to how a planner needs to deal with mi-

gration information for planning purposes. Section 4 provides a snapshot of migration issues in Tanzania. In Section 5, the chapter introduces a discussion on urbanization and demographic transition. Section 6, which deals with general remarks, attempts to respond to the question: When a planner wants to create a plan, what steps does s/he need to follow in order to include issues of migration?

25.2 Theoretical perspectives on migration

25.2.1 Human migration

Migration concerns the movement of people from one place in the world to another, usually across a political boundary, for the purpose of taking up permanent or semi-permanent residence. A good example of 'semi-permanent residence' is the seasonal movement of migrant farm labourers. People can choose to move voluntarily or they can be forced to move involuntarily. Human history is full of migrations: the first human groups moved from their origins in East Africa to their current locations all around the world. Migrations can be intercontinental, intra-continental, and inter-regional. While with inter-continental migrations, people move between continents, with intra-continental migrations people move between countries on a given continent, and with interregional migrations, people move within countries. Migration can occur as a result of push and pull factors. Push factors are those which force a person to move. This can include factors such as drought, famine, lack of jobs, over-population, and civil war. Pull factors are those which encourage or attract a person to move. These include factors such as the chance of a better job, a better education, and a better standard of living.

Migration is closely linked with historical economic evolutions of people within their societies (Adepoju 1974, 1977). People have always moved in search of subsistence food, greater security, and shelter; they have also moved responding to economic benefits and security purposes. This is why migration is a strategy for livelihood promotion. People migrate in an effort to 'get ahead'—that is, to provide a better life for themselves, their children, or their family members left at home. For Holms (1992) and Mabogunje (1980), a higher quality of life is a motive for migration because people tend to migrate because of business, wage labour, access to family or friends, health services, and transport facilities.

25.2.2 Theories of human migration

25.2.2.1 *Push–Pull migration model*

According to Lee (1966), who wrote the migration theory of push and pull factors, ‘every act of migration involves an origin, a destination, and an intervening set of obstacles.’ He analysed the relationship between the areas of origin and destination in migration. The model identified a number of propositions, grouped into two categories: the volume of migration, migration stream and counter-stream; and the characteristics of migrants. Under this model, both at the place of origin and the place of destination there are positive and negative factors that encourage and/or discourage people from living in that area.

Lee divides the factors of migration into four different groups: (a) factors linked to the area of origin; (b) factors linked to the area of destination; (c) intervening factors; and (d) personal factors. Lee explains that every one of the four groups has numerous factors that influence people’s choice to stay or to leave an area. The groups involve factors that tend to ‘pull’ people towards one area and factors that ‘push’ them away from another area. Lee points out that the factors are different for every migrant and it is difficult to understand every factor. The factors also tend to be inexact. The factors associated with the four groups are different because of the judgments migrants have about the origin area; therefore, the factors are better defined when the decision to migrate has been thoroughly considered. The images of the area of destination are often inexact because there is usually a lack of detailed knowledge of the area of destination. Furthermore, there are factors that cannot be discovered until one lives in the destination. Lee explains that a person’s own individual emotions, knowledge, and intelligence can affect the outcome of a decision to migrate or not. Some people need more convincing reasons to migrate than others. Lee also explains that migration can occur because of different life cycle stages—for example, employment opportunities, retirement, and marriage.

The main factors that encourage someone to remain in the area of origin may include property ownership (e.g. land, houses) and favourable physical conditions (e.g. climate, environment). The factors which tend to push people out of the area of origin include wars, bad climate, and disease, while others which are classified as ‘0’ (zero) make people essentially indifferent or not decide to migrate or not. These factors include low education attainment and

commitment to family obligations. The model is criticized for not explaining the factors of migration and the intervening obstacles explicitly (Todaro 1976).

25.2.2.2 *Value expectancy model*

De Jong and Fawcett (1981) also use migrants' expectations to determine the likelihood for migration. Their model is called the value expectancy model, and in this model it is the migrants' 'objective assessments and subjective values' that make the decision concerning the expectancy to achieve what the migrant desires at the area of origin and the area of destination.

An explanation that is given for rural–urban migration by Knox and McCarthy (2005) is that rural residents that have lost their income move to urban areas in search of a better existence. The migrant wishes to find employment and to gain access to modern infrastructure and other services that are not to be found in the rural area. These desires, according to Knox and McCarthy, are not drawn from a rational knowledge about employment opportunities or other opportunities; instead, they are drawn from desperation and hope (Knox & McCarthy 2005).

Until the 1970s, female migration was in general not observed as much as male migration. Vaa (1990), who writes about female migration in Bamako, Mali, argues that there is a more complex picture concerning female migration in that women move short distances and they move because of marriage. Monica Böök (1987) explained female migration in Tanzania during the 1950s and onward. According to Vaa (1990), there are in fact many women who migrate on their own to find a job, just like men do, although the decision to migrate can be made by someone other than the woman herself—for example, it may be the woman's family that decides she should move (Von Troil 1992).

25.2.2.3 *Ravenstein's theories*

Ravenstein's theories in the 1880s provided a starting point for many other theories. His theories stated the main characteristics of migration and their relationship to physical factors and the level of development of an area. In the first 'law', Ravenstein argues that acts of migration decrease as the distance increases. He also argues that people who move over a long distance tend to

move to a commercial or industrial centre. In his second law, he states that the movement of migrants often occurs like chain-migration: first the migrant moves from a rural area to the nearest town, and then from the town to a larger town. In the third law, migration always occurs in both directions—that is, a stream of migrants in one direction will always have a stream of migrants in the opposite direction. It is rare that migration is unilateral. In his fourth law, Ravenstein (1985) argues that the rural population is more eager to move than the genuine urban population. He also established the fact that females move shorter distances than males, though the reasons are unclear. And in the fifth law, migration increases because of technological change and the movements made by migrants over time. The last law links economic motives to migration, the most important one being the motive that humans move because they want to have an enhanced material lifestyle.

25.2.2.4 Todaro migration model

Michael Todaro looks at what the migrant expects to gain by moving from a rural area to an urban area. In his theory, migrants are pushed or/and pulled by their expectations about the area of residence and the area of destination. Furthermore, there are three factors that affect the outcome. The first factor is that the current income is compared with the expected income at the destination. The second factor weights the economic and psychological cost of the migration. The third factor is the probability of employment in the future for the migrant. Also, in the third factor, the migrants' social network and kinship ties in town can play an important role, and these links can provide vital information on job opportunities (Lee 1996).

The model assumes that members of the labour force, both actual and potential, compare their expected incomes for a given time horizon in the urban area (i.e. the difference between returns and costs of migration) with prevailing average rural incomes, and they migrate if the former exceeds the later. According to Todaro (1992), the model has four basic characteristics:

1. Migration is stimulated primarily by rational economic considerations of relative benefits and costs, mainly financial but also psychological.
2. The decision to migrate depends on expected rather than actual urban–rural real wage differentials, where the expected differential is determined by the interaction of two variables: the actual urban–rural differential, and the probability of success in obtaining employment in the urban sector.

3. The probability of obtaining an urban job is inversely related to the urban unemployment rate.
4. Migration rates in excess of urban job opportunity growth rates are not only possible but rational and even likely in the face of wide urban–rural expected income differentials. As long as the ‘present value’ of the net stream of expected urban incomes over the migrant’s planning horizon exceeds that of the expected rural income, the decision to migrate is justifiable.

25.2.2.5 *Feminist perspectives on migration*

A number of theoretical approaches have been initiated to examine issues related to women and subsequently to gender. Research was initiated on these issues both from developmental and feminist perspectives. The first two theories—women in development (WID), and women and development (WAD)—evolved from simply following the approach of ‘add women, mix, and stir’ (Shahrashoub & Carol 1995). These theories did not reflect on societal roles and relationships between men and women or on the impact of the variable of ‘power relations’ on an analysis that included a gender dimension.

On the other hand, in the gender and development (GAD) theory, the analysis starts by assuming that the behaviour, roles, and relations between men and women are conditioned by societal structures and expectations, and these therefore have to be addressed as a totality and not in isolation. It is against this background that this discussion looks at migration by attempting to position men and women on an equal footing and seeks to examine the impact of gender on migration.

The women in forced migration theory (WIFM) and in gender and forced migration theory (GAFM) were developed at later stages to address forced migration situations, assess the impact on women and gender, and apply this approach to emergency programming. A similar evolution took place in the analysis of forced migration and gender to that of the earlier development theories. The first approach looks at women refugees’ needs in isolation, while the second includes in its analysis the roles and relationships as determined by societies and how the needs of women refugees impact on them

Feminism in Africa is located in the continent’s historical realities of marginalization, oppression, and domination, brought about by slavery, sexism, racism, ethnicity, and class. It is therefore important that before one talks

about feminism in Africa, one first has to understand how these issues have shaped the lives of African women and their world view. Because of continued domestication of women under patriarchy today in some parts of Africa, women are largely invisible; some are powerless and homeless. Women are homeless because in their parent's homes girls are treated as visitors—at some point, they are supposed to marry and move to a husband's family.

However, the contemporary feminist theoretical framework can be classified into three strands: liberal, socialist, and radical (Stanley 1990). These approaches are closely associated with the perspectives of existing social theories: liberal feminism with functionalism, human capital, and modernization theories; socialist feminism with conflict and Marxist theories; and radical feminism with liberation theory (Gardner & Lewis 1996).

The definition of feminism has been broadened in the past century to encompass political, economic, cultural, racial, and ethnic dimensions (Hooks 1989; Manuh 1997). Feminists' perspectives vary regarding the sources of inequality, how to attain equality, and the extent to which gender and gender-based identities should be questioned and critiqued (Collins 1990). In spite of the differences in definition and focus, feminist theorists share four main general concerns: (a) the theorists seek to understand the gendered nature of men and women; (b) gender relations are seen as significant problems that are related to all types of inequalities; (c) gender relations are perceived as historical and socio-cultural; and (d) all feminist approaches advocate for social change (Maguire 1987). As a result of the broadening of its definition, other feminist theories such as black feminism and African feminism have also emerged (Hooks 1989; Collins 1990).

25.2.3 Significance of theories of human migration for planning

The various theories to explain human migration have consequences for planning. These theories and concerns are summarized in Table 25.1.

Table 25.1

Migration theories and related planning concerns

Theories and issues raised	Planning concern
<p>Push–Pull migration model</p> <ul style="list-style-type: none"> • Migration involves an origin, a destination, and an intervening set of obstacles • Factors are different for every migrant • Person’s own individual emotions, knowledge, and intelligence can affect the outcome of a decision to migrate or not • Likely push/pull factors for migration 	<ul style="list-style-type: none"> • When planning considers issues of migration, both areas of origin and of destination should be involved • Research must be undertaken to reveal the complexity of factors for migration in a given area • The nature of knowledge imparted to people has an influence on how they look at migration • Common factors that influence migration decisions have to be regarded as basic in planning
<p>Value expectancy model</p> <ul style="list-style-type: none"> • The role of migrants’ ‘objective assessments and subjective values’ in decisions to migrate 	<ul style="list-style-type: none"> • Planning should consider the role of culture in people’s expectations about migration
<p>Ravensteins's theories</p>	
Theories and issues raised	Planning concern
<ul style="list-style-type: none"> • Acts of migration decrease as the distance increases • People tend to move to a commercial or industrial centre • Migrants move from rural areas to the nearest town • It is rare that migration is unilateral • Rural population is more eager to move than genuine urban population • Migration increases because of technological change and the movements made by migrants over time • Man moves because he wants to have an enhanced material lifestyle 	<ul style="list-style-type: none"> • Intervening efforts to plan for prospective migrants should consider areas where these people live and the nearby surrounding areas • Commercial or industrial centres should be considered in planning as basic receiving areas for migrants • Where migration is not significant, purposive efforts should be made to consider migration in planning, since the world is one and push–pull factors for migration may emerge at any time • Rural population should be considered in regard to why they tend to move and what can be done so as encourage/discourage this • Planning should involve predictions about technological change and migration • Migration should be considered positively as a logical response to human advancements in knowledge and self awareness

Todaro migration model <ul style="list-style-type: none"> Migrants are pushed or/and pulled by their expectations about the area of residence and the area of destinations 	<ul style="list-style-type: none"> Planning should consider the role of culture on people's expectations about migration
Theories and issues raised	Planning concern
Feminist perspectives on migration <ul style="list-style-type: none"> Gender relations are seen as significant problems related to all types of inequalities Gender relations are perceived as historical and socio-cultural All feminist approaches advocate for social change 	Planning for development should consider gender inequalities that act as obstacles in development planning and in benefiting from such plans The nature of gender issues and the way they influence planning processes for development may differ from one society to another Where planning is based on promoting positive social change, knowledge of femi

A short reflection on the famous Ujamaa villagization programme of Tanzania is a good case study to see how such theories can be applied. The operation was motivated by one side of the coin: Ravenstein's theory that people are pulled by and move due to enhanced material lifestyle. This was the main reason people were placed in villages by the government. However, there were some oversights: people can decide to move or not as a consequence of their own individual emotions, knowledge, and intelligence (Todaro's model), and people have their own objective assessments and subjective values that influence them in making their own decisions (value expectancy model). Due to these oversights by the government, the people could not manage people who decided to move away from the planned Ujamaa villages.

25.3 Migration information for planning

Rural migration has for a long time been considered to be mainly rural–urban migration, motivated by men's search for employment in the industries located in urban centres (Anthias & Lazaridis 2000). According to Böök (1987), most women in Tanzania who move to town have some family or other relatives or friends in town with whom they can find accommodation. For this reason it is important for the rural family to maintain connections with people who migrate from the village. Furthermore, the contact between

the rural area and the urban area is maintained due to the fact that often the urban migrant has to work to support members of the family, relatives, or others who have been left behind in the village. Hence, urban work can be seen as work complementary to farming (as the income from farming can be low). Another reason why farming can be seen as complementary work is because it is difficult to get a job due to the competition for work among migrants. To survive, the migrants need to grow their own crops. Shayo (1996) argues that there is an increased tension in the urban area because rural migrants that have settled in the city try to resolve their lack of capital means by acting as they did while living in the rural areas—that is, cultivating their own crops and keeping animals. Since this occurs in the urban area, it can have consequences for the urban environment

Mbonile and Hellen (1996), in their study of rural–urban female migration in Tanzania, aimed to understand the underlying factors for female rural–urban migration in Tanzania and the main adjustment problems faced by female migrants once they move into urban areas and marginal labour. Their study established that most female migrants in marginal jobs, such as positions as barmaids and house girls, are from the less-developed regions in Tanzania (e.g. Dodoma region). The study looked only at female migrants at destination areas and the problems they face on the job and the ways they struggle to combat life in town and maintain links with their areas of origin. It did not go back to the areas of origin to trace the gendered factors that may be leading to women’s migration. It also did not explicitly address how the life of a woman migrant is influenced by the gender relations in towns, specifically the influence of patriarchy.

Understanding rural–urban migration dynamics is very important for planners. For instance, the national household census records the household size, which is a basic factor in development planning. Rural–urban and urban–rural movements affect household sizes in both areas, in the long and short term. As this is the case, planning for people based on household sizes should consider this fluctuation of family size, especially when it increases. Rural–urban migration may be due to a number of factors, including gender relations. Gender inequality affects rural men and women differently and consequently leads to their different reasons for migration to town. While men migrate to town as a way to maintain their patriarchal hegemony through the success they expect to achieve, women migrate to escape the constraints of the patriarchal system. In the case of women, migration to town becomes a cause for the creation of marginalized individuals, as they end up working in marginal jobs. Therefore, an effort to plan for development in town has to

consider the nature of household sizes, the way migration affects household sizes, and the influence of social relations such as gender relations.

25.4 Migration issues in Tanzania

25.4.1 A theoretical perspective

In Tanzania during the colonial era, men tended to migrate alone, while the women remained on the family farm. Due to lack of entitlement rights to resources ownership, some women moved to the towns; and since it was difficult to find waged employment, prostitution became the only means to earn money for some women. From the 1950s onwards, many women moved to town to unite with their husbands or relatives (Böök 1987). Hence, there was a difference between the motives for urban migration between men and women. This signifies that women did take the initiative to migrate to town, although they often had to engage in prostitution as part of their integration process.

During the 1960s and the 1970s, President Nyerere discouraged rural–urban migration on the grounds that it did not help the rural population (Lugalla 1995). Consequently, in 1973 an operation called Operation Vijijini took place, whereby peasants were forced to move to the Ujamaa villages (Lawi 2007). Massive populations were moved and allocated to common lands; some lands, which by then were seen to be unproductive, were abandoned, and there was a concentration of population in fewer areas. The idea was that people were to concentrate in areas where they would find social services, such as schools, hospitals, sanitation, etc. This was because people were scattered all over in their traditional villages. However, such services were not yet in existence, and the people themselves were expected to participate in establishing them. The psychological rejection of the Ujamaa programme—on account of the enforced movement, the unmet expectations, and general criticisms of the villagization programme—led to people returning to their original places of origin in a massive out-migration from the Ujamaa villages.

Although economic motive has been regarded as the principal force in female migration, just as it is in males (Fields 1976; Standing 1983), less is known about how gender relations influence the actual responses and positions of individuals in relation to economic activities. According to Omari (1988), land is regarded as one of the factors that encourage female migration. This

gender-related factor needs to be incorporated in accounting for the economic motives of both females and males.

Lugalla (1995) argues that many rural inhabitants imagine the city as a place where people earn high incomes and have better living standards, and that these imagined factors motivate people to migrate. Thus, migration in Tanzania is explained as being based on social, economic, and individual factors, with the main theory based on free migration due to people's differential opportunities, which either push or pull them to urban areas or to rural areas (Mascarenhas 1996) for better livelihood standards (Von Troil 1992).

For Holms (1992) and Mabogunje (1980), a higher quality of life is a motive for migration, because people tend to migrate because of business, wage labour, access to family or friends, health services, and transport facilities. But these authors do not address how gender mainstreaming in planning should be incorporated in raising the quality of life in rural areas so that young people can be attracted there.

25.4.2 Migration and livelihoods

In places where there are cash crops, it is common to have seasonal migrations during the peak seasons of agricultural work, such as during the cultivation, weeding, and harvesting seasons. This occurs especially where there are cash crops such as sisal, cashew nuts, cotton, and coffee.

For ethnic groups that are pastoralist (e.g. the Maasai) and some that are semi-pastoralist (e.g. Gogo and Sukuma), migration in search of pasture for their cattle is common. Such migrants leave dry areas where pastures are depleted and move to wetter areas with fresh pastures. Not only do their movements have an impact on the environment in terms of erosion, but they have been a serious source of conflicts with crop growers. Moreover, these migrations have caused children not to attend school, as they are busy tending cattle during school time.

There are quite a number of professionals leaving the country for greener pastures in neighbouring countries and abroad. This is because of lack of jobs, on the one hand, and jobs with attractive salaries and incentives, on the other hand.

There is another issue that requires attention with regard to migration and livelihoods: young men who migrate from rural areas to urban areas. Essentially, they dislike getting involved in agricultural activities and prefer going to urban areas, where they can engage in small businesses, particularly the transport business (riding bicycles and motorcycles for payment).

25.4.3 Migration and Tanzania's border

Tanzania's socio-political and economic stability have become attractive to people from neighbouring countries and others from abroad. There are now a number of critical issues with Tanzania's borders, including boundary disputes, porous and unprotected borders, divided communities and ethnic groups, management of refugees, the bureaucracy involved in getting permits at border posts, and tourist activities in areas close to borders.

25.4.3.1 *Boundary disputes*

There have been boundary disputes between Tanzania and different bordering countries—for example, the Malawi and Tanzania border conflicts. The Malawi–Tanzania border conflict over Lake Nyasa is not a recent dispute. Since Malawi became independent in 1964, diplomatic relations with Tanzania have been almost permanently strained. Tanzanian fishermen and local communities in south-west Tanzania depend on this lake for their livelihoods. Under these circumstances, people's economic activities are threatened. Tanzania's position is to protect her people at all times.

Other areas involved in disputes with Tanzania's neighbouring countries are the following:

1. *Lake Sango Triangle* (Uganda, Kenya, and Tanzania). The common denominator in this zone is the failure of states to demarcate the borders within Lake Sango (Victoria). Conflicts here revolve around access to fish resources.
2. *Lake Tanganyika Corridor* (Tanzania, DRC, Burundi, and Zambia). This is characterized by a long borderline of both land and lake. State surveillance is limited. This factor has enabled non-state actors to smuggle arms into Burundi with ease. Burundi has 17 border posts, which it considers to be inadequate. The zone is characterized by the problem of refugee flows, armed groups, and landmines along Burundi's frontier with Tanzania. Along their common borders, these states have to deal with motor

vehicle thefts, flows of small arms, and cattle thefts. There is also smuggling of economic goods and drugs. Currently, there are four border posts between Zambia and Tanzania. Of the four, only two are operating with full capacity. There is an on-going modernization exercise to operationalize two more border posts at full capacity.

3. *The Kagera Triangle* (Tanzania, Rwanda, and Uganda). This zone is generally calm; however, the frontiers, like many others, are porous and lack surveillance equipment and human resources. Smuggling activities here are basically economic in nature. The types of conflict that are likely to occur currently are those pitting pastoralists against each other with respect to land. Border demarcation between Uganda and Rwanda and between Uganda and Tanzania is complete. Currently, there are some refugees who have crossed into Tanzania and Uganda.
4. *Rusumo Triangle* (Tanzania, Rwanda, and Burundi). This zone suffers from land mines, especially along the Burundi–Tanzania borders. The frontier between Burundi and Rwanda has sections that have not been demarcated, a factor that tends to foster conflicts among peasant farmers across the frontiers. The borders also experience smuggling activities, cattle rustling, and motor vehicle thefts. There are also movements of refugees seeking to get to Burundi from Tanzania.
5. *Tanzania–Kenya*. The border between Tanzania and Kenya is crossed by migrations of the Maasai people with their livestock. This is something that occurs with the rainfalls as the pastoralists look for green pastures for their cattle.

25.4.3.2 *Porous and unprotected borders*

Porous and unprotected borders lead to immigrants posing a large security risk by crossing the country's borders without documents and often without justifiable cause. Those without any particular skills easily resort to crime to survive. Some of these immigrants enter Tanzania so destitute that they establish their own communities in out-of-the-way settings, complete with irregular 'law enforcement mechanisms'. Even worse, as they settle, they invite and accommodate additional relatives and connive with local criminals to cause trouble in the area.

As its borders are weakly protected, Tanzania is a preferred operating base for people from neighbouring countries who wish to conduct illegal business to outside countries. For example, elephants have been killed in the Democratic Republic of Congo and then transported to Dar es Salaam for smug-

gling abroad. Environmental damage can therefore be added to the list of problems caused by weak African borders, including those of Tanzania.

There is clearly no easy, rapid, or obvious solution to the border issue. States may have strongmen in charge, but they have weak institutions and limited power over remote areas. They cannot police extensive borders, which are often the focus of conflict, irredentism, separatism, and smuggling—especially when they often lack legitimacy in these areas through political and economic policies which marginalize them. Apart from Tanzania's own efforts to combat the situation, it has also joined hands with other East Africa Community (EAC) countries to address the situation. With the EAC in place, migration has become a major security challenge, and the feeble efforts meant to address it through deportations do not have much effect, in that those deported soon return.

25.4.3.3 *Dividing societies*

Africa's borders are even more problematic than those in contested areas of Europe, Asia, and Latin America. While the borders are usually porous and almost impossible for weak state institutions, small armies, and poorly funded police forces to control, they also often divide peoples (especially nomadic ones such as the Tuareg). In Tanzania, different societies have been divided, such as the Maasai (Tanzania and Kenya), Ngoni (Tanzania and Mozambique), and some other societies along Lake Nyasa (Tanzania and Malawi).

The problem facing Tanzania is not so much the fact that its borders are long or porous, however. The problem is that these borders always were and remain to this day artificial, just as they are in other African countries. In other words, the peoples who live in the countries that are defined by these artificial borders feel at best only a very limited loyalty to the country they are supposed to live in. There are other borders they can imagine that would make more sense.

25.4.3.4 *Refugees, bureaucracy*

The relative openness of borders at least enables refugees to escape what they fear, but this creates significant problems for the host nation—as in Tanzania's Lake Nyasa zone, which has often seen a flood of refugees. Sometimes

there is a failure to distinguish who is a refugee and who is a fighter, leading to suffering for both people in refugee camps and the citizens of Tanzania.

The bureaucracy involved in getting permits at borders posts has resulted in limiting the economic development of the country, given the large obstacles to trade. On the other hand, corruption and the desire of people to buy and sell goods across borders create endless opportunities for smuggling, tax evasion, and cross-border crime—and these are not just problems in themselves but often provide the funding for insurgency and revolt. This has been happening at the Namanga border post between Tanzania and Kenya.

25.5 Urbanization and demographic transition

Demographic transition is brought about by issues taking place within the population concerned. The demographic transition theory has been at the core of explaining the increase or decrease of population, using the two variables of fertility and mortality. The theory states that there is a transition from high birth and death rates to low birth and death rates that occurs as part of the economic development of a country. This theory, stripped to its essentials, states that societies that experience modern progress from a pre-modern regime of high fertility and high mortality move to a situation in which both fertility and mortality are low. In cases of urbanization, however, something else is important: migration. For urban areas it is not just a matter of fertility and mortality; there is also the issue of mobility. Thus, urban areas face the vital transitions that are related to fertility and mortality, as well as facing the mobility transitions accounted for by issues of migration. Both these transitions affect population growth, decline, or stabilization (Zelinsky 1971; Courgeau & Franck 2007).

A development planner, particularly in urban planning, cannot but be concerned with the issues of demographic transitions, particularly the mobility transition in towns and cities. Such places are characterized by population growth due to people coming in, population decline due to people leaving, and/or population stabilization due to the number of people who come in and those who leave being more or less the same. Attention to migration is more critical now that there are more areas transitioning from rural to urban areas and areas in cities that are rural. The latter could be called 'rurbs'; such areas are not typical villages, nor are they typical towns.

25.6 General remarks

A number of theoretical and practical issues have been raised with respect to migration in Tanzania. One thing is certain: migration cannot be ignored. It is a sign of potentiality for growth if migrants come into an area and a sign of insufficient potentiality when migrants go away. In the case of migrants coming in, the largest issue for any planner is to see to it that migration is not only mainstreamed in the development planning of the area, but also adds value to development of the area. In order to do this, a planner in the development planning facilitation processes needs to follow a number of steps. The steps proposed are a reflection of the Global Migration Group's (2012) publication, *Mainstreaming migration into development planning. A handbook for policy-makers and practitioners*:

Step 1: Situational analysis. This has to do with establishing not only whether the migrants will add value to the development of the area, but also whether the migrants' situation is in accord with the general policy orientation of the country and the local area in which the migrants are.

Step 2: Once the situation has been assessed and it is determined that migrants add value and the general policy regime is in the favour of migrants, a core team can be set up in order to organize procedures and manners in which the migrants are to be integrated in the area. At this point it is critical that relevant stakeholders are involved.

Step 3: Due to the different perceptions and interests of the members of the community, given different experiences and backgrounds, there is a need for awareness raising among the general public to ensure the accommodation and integration of the migrants in the area.

Step 4: The fourth step is about the identification of existing development planning frameworks, key stakeholders, and important migration and development issues, on the one hand, and the identification of potential ways forward for structuring the integration process, on the other hand.

Step 5: Training of the people responsible for the different activities in the integration exercise.

Step 6: Implementation of the integration exercise. Each responsible person or institution gets to do what he/she/it has been assigned.

Step 7: Monitoring and evaluation. It is important that every step that is taken in the implementation exercise is monitored and its outcome evaluated. This gives room for change of plans to smoothen the mainstreaming process.

References

- Adepoju, A. (1974). 'Rural-urban socio-economic links: The example of migrants in southwest Nigeria', in: J. Arnin (ed.) *Modern Migrations in Western Africa*. London: Oxford University Press.
- Adepoju, A. (1977). *Migration, Agricultural Activity and Socioeconomic Change in Ife Division of Southwest Nigeria*. Dakar: IDEP.
- Anthias, F. & Lazaridis, G. (2000). 'Introduction: Women on the move in southern Europe', in: F. Anthias & G. Lazaridis (eds) *Gender and Migration in Southern Europe: Women on move* (pp. 1–13). Oxford: Berg.
- Böök, M. (1987). *Effects on Finnish Development Cooperation on Tanzanian Women. Urban Women in Tanzania*. Institute of Development Studies, University of Helsinki. Helsinki.
- Collins, P. (1990). *Black Feminist Thought: Knowledge, Consciousness and the Politics of Empowerment*. London: Harper Collins Publishers.
- Courgeau, D. & Franck, R. (2007). 'Demography, a fully formed science or a science in the making? An outline programme', *Population* (English ed.) 62(1): 39–45.
- Fields, G.S. (1976). 'Lifetime migration in Columbia: Test of the expected income hypothesis', *Population and Development Review* 5(2): 247–265.
- Gardner, K. & Lewis, D. (1996). *Anthropology, Development and the Post-Modern Challenge*. UK: Pluto Press.
- Global Migration Group (GMG) (2010). *Mainstreaming migration into development planning. A handbook for policy-makers and practitioners*. Denmark: International Organization for Migration (IOM), Phoenix Design Aid A/S.
- Holms, M. (1992). 'Survival strategies of migrants to Makambako—An intermediate town in Tanzania', in: J. Baker & P. O. Pedersen (eds) *The Rural–Urban Interface in Africa*. Uppsala: The Nordic Africa Institute.
- Hooks, B. (1989). *Talking Back, Thinking Feminist, Thinking Black*. London: Sheba Feminist Press. World Urbanization Prospects. The 2005 revision. United Nations. New York 2006.2008-05-21.
- Jong, G.F. de & Fawcett, J.T. (1981). *Multi-disciplinary frameworks and models of migration decision making*. New York: Pergamon.
- Knox, P.L. & McCarthy, L.M. (2005). *Urbanization: An Introduction to Urban Geography*. University of Wisconsin-Milwaukee: Pearson.
- Lawi, Y.Q. (2007). 'Tanzania's Operation Vijiji and local ecological consciousness: The case of eastern Iraqw land 1974–1976', *Journal of African History* 48(01): 69–93.

- Lee, E.S. (1966). 'A theory of migration', *Demography* 3(1): 47–57
- Lugalla, J. (1995). *Crisis, Urbanization, and Urban Poverty in Tanzania. A Study of Urban Poverty and Survival Politics*. Lanham, MD: University Press of America.
- Mabogunje, A. (1980). *The Development Process. A Spatial Perspective*. Hutchinson University Library for Africa, Anchor Brendon Ltd., Tiptree, Essex, UK.
- Maguire, P. (1987). *Doing Participatory Research: A Feminist Approach*. Amherst: Centre for International Education, School of Education, University of Massachusetts.
- Manuh, T. (ed.) (1997). 'Wives, children and intestate succession in Ghana', in: G. Mikell (ed.) *African Feminism*. Philadelphia: University of Pennsylvania Press.
- Mascarenhas, A. (1996). 'Aspects of migration and urbanization', in: S. Ngware & J.M. Lusugga Kironde (eds) *Urbanising Tanzania—Issues, Initiatives and Priorities* (pp. 60–83). University of Dar es Salaam. DUP.
- Mbonile, M.J. & Hellen, A.L. (1996). 'Rural-urban female migration in Tanzania. A case of Dar es Salaam city', *UTAFITI (New Series)* 3(2): 169–184.
- Omari, C.K. (1988). *Rural Women, Informal Sector and Households in Tanzania*. Helsinki, World Institute for Development Economic Research of United Nations University.
- Ravenstein, E.G. (1985). 'The laws of migration', *Journal of the Royal Statistical Society* 52: 167–227.
- Shahrashoub, R. & Carol, M. (1995). 'From WID to GAD: Conceptual shifts in the women and development discourse', UNRISD, Occasional Paper No.1, February 1995, Geneva, Switzerland.
- Shayo, R. (1996). 'Rapid urbanization in the 21st century: Future research issues', in: S. Ngware & J.M. Lusugga Kironde (eds) *Urbanising Tanzania—Issues, Initiatives and Priorities*. Dar es Salaam University Press.
- Standing, G. (1983). 'Population mobility and labour process', in: *United Nations Population, Migration and Development* (pp. 19–22). New York: The Express, February.
- Stanley, L. (ed.) (1990). *Feminist Praxis: Research, Theory and Epistemology in Feminist Sociology*. London: Routledge and Kegan Paul.
- Todaro, M.P. (1976). *Internal Migration in Developing Countries—A Review of Theory, Evidence, Methodology and Research Priorities*. Internal Labour Office. Geneva. p. 15–16.
- Todaro, M.P. (1992). *Economics for a Developing World: An Introduction to Principles, Problems and Policies for Development*, 3rd edition. Edinburgh, Harlow, Essex, England: Pearson Education Limited.
- Vaa, M. (1990). 'Paths to the city', in: J. Baker (ed.) *Small Town Africa. Studies in Rural–Urban Interaction*. The Scandinavian Institute of African Studies. Uppsala. p. 174.
- Von Troil, M. (1992). 'Looking for a better life in town—The case of Tanzania', in: J. Baker & P.O. Pedersen (eds) *The Rural-Urban Interface in Africa. Expansion and Adaptation* (pp. 228–229). Uppsala: The Nordic Africa Institute.

Zelinsky, W. (1971). 'The hypothesis of the mobility transition,' *The Geographical Review* 61(2): 219–49.

26

Urban Planning

Israel B. Katega, Godrich Mnyone, Gerald Temu

26.1 Introduction

The major urban challenges in developing countries today include the rapid growth of urban areas in terms of population, spatial expansion (sprawl), inadequate infrastructure and services, and unemployment. Evidence from these countries suggests that contemporary urban planning has largely failed to address these challenges (UN-Habitat 2013). Inadequate infrastructure and services in both planned and unplanned areas are among the most visible consequences, along with the increasing vulnerability of millions of urban dwellers to unemployment, low productivity, and poor health. These problems are ever-growing despite the presence of urban planning practice, whose core objective is to address these issues and attain sustainable urban development.

This chapter aims to explore urban planning issues and their implications for development planning in the Tanzanian context. The chapter proceeds with the second section, which is devoted to the definition of urban planning. This is followed by a section on the objectives of urban planning. Section 4 concerns urban planning and socio-economic development; Section 5, the legal and institutional frameworks; Section 6, urban planning approaches; Section 7, the urban planning process; and Section 8, the urban planning challenges in Tanzania.

26.2 Concept of urban planning

While it is widely recognized that urban planning is a form of governmental practice, perceptions of its role and what it should achieve vary significantly, and there are debates on this within regions and countries. Even the terms used to describe the activity of planning vary: spatial planning, land use planning, physical planning, city planning, and town planning. This sit-

uation is partly due to the fact that the contexts within which planning operates vary greatly: different urban issues; different political, economic, and institutional systems; and different cultures and value systems—all shape the planning system in different ways (UN-Habitat 2009). All in all, the definitions of urban planning have changed over time. Earlier views defined urban planning as physical design, enforced through land use control and centred in the state. Current perspectives recognize the institutional shift from government to governance, with a wider scope of planning beyond land use, and the need to consider how plans are implemented.

The discussion in this chapter adopts the urban planning process envisaged in the Tanzania Urban Planning Act of 2007, which to a large extent reflects the shift from government to governance through provisions that allow for participatory planning.

26.3 Objectives of urban planning

Urban planning is an important tool for achieving sustainable development. It helps to formulate medium- and long-term objectives that reconcile a collective vision with the rational organization of the resources to achieve it. Urban planning helps to inform local government authorities' budgets on appropriate location of infrastructure and services investments and on balancing demands for growth with the need to protect the environment. It also distributes economic development within a given area to reach social objectives and creates a framework for collaboration between local governments, the private sector, and the public at large.

The National Urban Planning Act of 2007 specifies that the objectives of urban planning—to which all persons and authorities exercising powers under, applying, or interpreting the Act will be subject—are the following:

1. To facilitate efficient and orderly management of land use
2. To empower landholders and users to make better and more productive use of their land
3. To promote sustainable land use practices
4. To ensure security and equity in access to land resources
5. To ensure public participation in the preparation and implementation of land use policies and plans
6. To facilitate the establishment of a framework for prevention of land use conflicts

7. To facilitate overall macro-level planning while taking into account regional and sectoral considerations
8. To provide for inter-sectoral co-ordination at all levels
9. To ensure the use of political and administrative structures and resources available at national, regional, district, and village levels
10. To provide a framework for the incorporation of such relevant principles contained in the national and structural development policies as may, from time to time, be defined by the government.

These objectives show that urban planning is not about images, as often thought by local leaders; it is a way to make a difference. It is a framework that helps leaders transform a vision into reality, using space as a key resource for development and engaging stakeholders along the way (UN-Habitat 2013).

26.4 Urban planning and socio-economic development

The key features of sustainable urban development—and hence prosperity—include enhanced productivity, which contributes to economic growth and development, generates income, provides decent jobs and equal opportunities for all by implementing effective economic policies and reforms, and provides adequate infrastructure development. Urban planning aims to work in the interests of the urban community as a whole. It strives to provide, protect, and enhance the public commons—such as natural resources, climate, public health, and safety—and the development of adequate urban assets, including public space, infrastructure, adequate housing, and the right mix of activities and people. Examples of the contribution of urban planning to socio-economic development include the following:

1. *Improvement in infrastructure delivery.* Infrastructure improves quality of life and induces economic growth, whereas inadequate and underperforming infrastructure reduces economic output and badly affects living conditions. Urban planning is central in the deployment of infrastructure in urban areas (Kockelman 2010). It achieves this through spatial planning, which helps to guide infrastructure planning and, hence, investment, by clearly identifying which areas can be serviced, through which technology options, and when.
2. *Improvement of quality of life.* Urban planning provides an opportunity to define and enhance public space, the land use which plays a key role in enhancing quality of life and the economy of urban areas (Angel 2010). It is the existence of public space that ensures accessibility to plots and buildings and supports mobility. It is in public space that basic service

networks can be located, including drainage, sewerage, water supply pipes, and electricity poles. Without public space, it would be impossible to introduce new infrastructure (e.g. communication cables), and private property would not function well. Insufficient public space would also stifle the possibility of private investment.

3. *Improvement in access to places.* People's ability to move to and from their homes to their workplace, shops, schools, and health centres is essential for an urban area's good performance. Accessibility—that is, the ease of reaching these places—affects household income and housing location decisions; and improving accessibility begins with acknowledging that the goal is to facilitate the movement of people, not cars. Urban planning practice aims to reduce the need to travel and to reduce congestion through designing a compact, mixed land use spatial pattern adjacent to a public transport node which helps to bring together public space and health, shopping, and community facilities (Carruthers & Ulfarsson 2003).
4. *Enhancement of investment and productivity.* Urban planning employs different spatial urban planning options to improve urban performance, including designing high-density mixed land use patterns. This facilitates the compatibility of different revenue-producing uses (residential, commercial, manufacturing, etc.) and lowers the cost of economic transactions, since enhancing proximity reduces the cost of taking part in economic transactions and, hence, improves productivity in economic activities. For example, when a market is close to its customers, transport costs are reduced. Also, higher-density building development is capable of resulting in yielding higher taxes, because property values and, therefore, property taxes are generally greatest in high-density areas.
5. *Improvement of municipal waste management.* Effective and efficient municipal waste management in urban areas is vital for public and environmental health. The practice of urban planning strives to enhance municipal waste management through advocating the design of spatial layouts that allow location of waste landfill sites in places that minimize factors such as traffic, noise, unpleasant odours, environmental degradation, and limited land utility. Buffer areas determine where sites should not be located. Measures such as providing buffer zones where landfill sites should not be located and locating spaces for sorting and recycling of wastes close to areas where waste is produced help to enhance waste management and environmental health.
6. *Improvement of energy efficiency.* Energy is a central factor in national and community development. Various initiatives are established by relevant authorities at national and local levels to improve efficiency in this impor-

tant sector. These include policies for land use, building standards that require energy-efficiency measures, energy generation and storage initiatives, and demand-side management. To enhance energy efficiency in terms of supply, urban planning strives to design layout and advocate for urban forms which bring housing closer together (high density), thereby reducing supply costs and distance of travel (driving). Urban planning also strives to reduce energy consumption by designing layouts which link centres of employment and services by an efficient public transport system, control private vehicle use by promoting walking and cycling, and provide incentives for the use of efficient vehicles.

7. *Inclusion and improvement of the informal sector.* The informal sector in developing countries such as Tanzania contributes significantly to socio-economic development. For example, it helps to make many urban areas competitive by providing cheap and flexible labour; this creates opportunities for poorer households that the formal economy cannot offer (UN-Habitat 2013). Also, informal (unplanned) settlements provide homes for millions of households who cannot afford anything in the formal housing market. Urban planning practice strives to support inclusion rather than exclusion of the informal sector activity locations, especially in neighbourhood layout designs, and advocates for regularization (upgrading) of existing unplanned areas, while preventing the formation of new ones. This is achieved, where possible, through ensuring that there is sufficient land zoned for affordable housing and reserving, or recommending for purchase, land where growth is anticipated.
8. *Improvement of safety.* Safety is a key factor that enhances the quality of life and prosperity in urban areas (UN-Habitat 2007). Urban planning plays a key role in crime prevention through embedding dimensions that contribute to safety in layout design and management guidelines. Key urban planning principles that contribute to reducing inequality and marginalization in both formal and informal settlements are among the most crucial initiatives in the prevention of crime. Planning helps to identify root causes and helps to build trust between marginalized groups and institutions. This is achieved through providing space for formal and informal economic activities, recovering and maintaining public spaces for a diversity of users in a positive way, and making services and opportunities available to marginalized residents.

26.5 Legal and institutional framework of urban planning

Successful implementation of urban planning depends on an effective institutional and legal framework. The Urban Planning Act of 2007 (URT 2007) provides an institutional framework for implementing urban planning in Tanzania. Under this framework, the minister is responsible for ensuring that the principles of urban planning—and the aspects of the national development vision as may from time to time be defined and which are relevant to urban planning—are incorporated into plans at all levels of the planning process.

The Act provides that there will be a Director of Urban Planning, who will be the principal adviser to the minister on land use planning. The duties of the director are specified under the Act. Also, the Act stipulates that every city council, municipal council, town council, and township authority should become a planning authority in respect of its own area of jurisdiction. The Act also stipulates the functions of the planning authority.

In the case of the planning process, the Act stipulates that the minister is responsible for the declaration of any area of land as a planning area. Under the Act, the Regional Secretariat is responsible for recommending such an area, endorsing and recommending it to the Director of Planning, and drafting a general planning scheme for the minister for approval. The director is responsible for approval of a detailed planning scheme after receiving recommendations from the Regional Secretariat.

Various policies and laws provide a legal framework for urban planning in Tanzania. They include the National Land Policy of 1995 (URT 1995), the National Human Settlements Development Policy of 2000, the Urban Planning Act of 2007, and the Town Planners (Registration) Act of 2009 (URT 2009). These frameworks recognize that Tanzania is currently experiencing a rapid pace of urbanization owing to rural–urban migration and natural increase. This situation has resulted in urban sprawl, the emergence of new towns, and the development of unplanned areas. Among the issues advocated by these frameworks are included the application of urban development and land use plans to control and guide urban development; to solve conflicts of statutory and customary tenure; and to deal with unplanned problems, including sanitary and other basic services. In addition, these frameworks advocate for undertaking urban renewal in inner-city areas, protecting public open spaces and other urban land for public use, managing urban agriculture, managing

the environment, ensuring effective planning for urban development, and using authorized experts in undertaking urban planning.

26.6 Urban planning approaches

In Tanzania, the planning of development activities uses a mixture of two planning approaches: top-down planning, and bottom-up planning. The difference between the two planning approaches is the extent of community involvement during planning, implementation, monitoring, and evaluation of a programme or a project.

The top-down approach has been dominant in Tanzania for a long period of time, especially between the 1950s and 1980s when the government was the key provider of social services. This approach is very procedural, with common features such as setting goals, objectives, and targets, setting guidelines on how to plan at different stages, setting expenditure ceilings, and setting timeframes for implementation—all without facilitating the grassroots. This planning approach merely involves the people instead of facilitating their actual participation in decision-making about development activities. Consequently, the people depend on government assistance. Top-down planning has been used in master planning.

The second approach to planning is the bottom-up approach, commonly known as participatory planning. Bottom-up planning allows the grassroots to participate in the planning process. Under this approach, community members participate in making decisions in the planning process, thus owning the plan and being willing to contribute cash and labour during its implementation. The approach emphasizes involving the entire community in the planning and management processes of urban areas. The aim is to harmonize views among all participants, as well as to prevent conflict between opposing parties. In addition, marginalized groups have an opportunity to participate in the planning process. Although master plans are still developed, the participatory planning approach is widely advocated for use in urban planning practice in Tanzania as it greatly reduces conflict over use of land and ensures sustainable urban development. The two forms of planning need not contradict each other, since each depends on the level at which it is undertaken. They need to be harmonized, just in case the master plan and the planning approach contradict each other. For example, it can occur that a city transport master plan and neighbourhood level community-based set-

tlement planning contradict each other. Harmonization is required in such a case.

26.7 Urban planning process

The town planning process in Tanzania is guided by the Urban Planning Act of 2007. The Act provides for the process of conducting urban planning, starting with the general planning scheme and followed by the detailed planning schemes. The town planning process outlines the procedures to be followed in the course of preparing a general planning scheme. Also, it outlines the procedures to be followed in preparing the detailed planning schemes for new areas, urban renewal, and the scheme of regularization, all of which must conform to the general planning scheme of the particular area.

26.7.1 Preparing a general planning scheme

The general planning scheme is a plan providing for the overall plan of the planning area. It is a long-term plan (usually 20 years) intended to guide the growth and development of a planning area (city, municipality, town, or any part thereof). It ensures suitable spatial development provision for transportation; public purposes; utilities and services; and commercial, industrial, residential, and recreational areas.

The task of preparing the general planning scheme is preceded by a consultation process whereby the minister responsible for town planning, through advice from the Director of Planning in the country, declares the land area to be a planning area and publishes it in the government Gazette. The director advises the minister after being satisfied by recommendations from the respective regional secretariat and local government authority on the need for the plan and whether the procedures laid down have been followed. Following declaration and gazettement of the area as a planning area, the local government authority is then required to establish three committees: the steering, technical, and technical sub-committees. The composition of the steering committee is all the council management team members, and the council town planner is appointed as the secretary. The technical committee is composed of the heads of departments/sections who are also coordinators of theme-specific issues. The council town planner is appointed as the chairperson of the technical committee. The technical sub-committee is composed of six to 10 members and deals with different specific themes.

After establishing the three committees, the next steps are the following:

1. Initiation and mobilization, whereby the consultative meetings are held by the steering committee to mobilize and sensitize stakeholders, raise awareness, solicit commitments, and elaborate on the roles, mandates, and ownership of each stakeholder
2. Data collection and processing
3. Data analysis and synthesis
4. Plan conceptualization, reflecting the above data and information
5. Draft plan preparation, whereby the technical committee prepare a detailed alternative conceptual plan, identify the project, and prepare a draft report
6. Plan adoption and acceptance, whereby the Planning Authority deposits notice of the plan under preparation and convenes a stakeholders' consultative meeting for discussion, scrutiny, and improvement
7. Refinement of the accepted plan
8. Plan approval by the minister responsible for town planning, gazette in the government gazette, and subsequent publication and distribution.

The output of the preparation process of the general planning scheme is the planning document, composed of texts and graphics. Having the general planning scheme prepared, the next step is to prepare a detailed planning scheme of different areas within the planning area. The detailed planning scheme provides guidelines on how to use and develop the land and buildings in an area, the alignment of roads and other physical infrastructures, and the location of community facilities and amenities, whereby the objective is to coordinate development and ensure efficient and effective use of the land for sustainable development.

26.7.2 Detailed planning schemes

The detailed planning scheme for new areas is intended to open up new areas for various land uses. Detailed planning schemes can be categorized into detailed schemes for new areas (within the general planning scheme area), urban renewal schemes (inner-city redevelopment plan), and regularization schemes (unplanned or squatter upgrading plans).

Following the need and intention to prepare a detailed planning scheme in the planning area, the preparatory authority convenes a meeting of all stakeholders in the area to be affected by the scheme, to allow (a) participation and (b) landholders to submit their proposals/plans. Comments from the stake-

holders' meeting will allow the council management team (CMT) to endorse the idea, whereby the technical committee identifies the roles of the relevant actors and stakeholders, their mandates, and their capacity for implementation—as well as service providers such as electricity, water, liquid waste, and other utility agencies—to seek their development proposals and views and how to incorporate them in the scheme.

In cases when the land is not yet acquired, the process of land acquisition must be clearly put into place as required by the National Land Policy (URT 1995) and Village Land Act (URT 1999). This involves a thorough valuation of land and properties for clearing third-party interests. After clearing the third-party interests, a detailed survey follows to incorporate the existing development and fixed structures (e.g. graves), determining constraint areas and other potential in the area so as to accommodate them when necessary. These are the normal procedures followed, even though they can be time-consuming.

The planning schedule, indicating the number of people, land uses, budget, standards, and conceptual plans, is prepared by the technical committee. This is followed by the detailed planning scheme for the area at a 1:2500 scale and a 3-dimensional (3D) illustration model at a scale of 1:200 or 1:100 of part of, or the whole of, the scheme.

After the detailed plan has been prepared, the CMT is supposed to prepare a corresponding infrastructure layout proposal in collaboration with utility agencies, and solid waste collection and disposal sites are identified together with an action plan and budget.

The detailed planning scheme is presented to the stakeholders (the council standing committee responsible for urban planning matters) for scrutiny and endorsement before it is submitted to the Regional Administrative Secretariat (RAS) and finally to the Director of Planning and the minister responsible for urban planning matters for approval and custody. After approval by the minister, the relevant LGA is given a copy of the original, to be used for cadastral survey purposes.

26.7.3 Implementation of detailed planning schemes

Following approval of a detailed planning scheme, the LGA town planner is required to send copies of the approved scheme to the regional adminis-

trative secretary (RAS) and ward/mtaa leaders, before mobilizing resources for effecting cadastral survey and infrastructure provision. The output of cadastral surveys are the plots of various land uses—residential, commercial, institutional use; open spaces; roads with different hierarchy; cemeteries; etc. These plots are then allocated to prospective developers according to the respective LGA's laid down procedures. This is followed by issuing development conditions and building permits.

26.7.4 Urban renewal schemes

Urban renewal schemes are plans that intend to restore existing urban areas which have become run down—physically, functionally, and/or socio-economically—to a worthwhile state. This is preceded by identifying areas ripe for urban renewal. These are usually those areas within or close to the central business district; areas whose key functions have changed (e.g. from typical residential areas to commercial/residential); areas whose lease periods have expired; areas with large numbers of applications for change of use (e.g. from residential to commercial use); areas with a high density of buildings and intensity of activities; areas where buildings and other infrastructure have a high degree of obsolescence; and areas with an increased demand for open spaces, high traffic congestion, and increased environmental pollution.

After identifying areas that are ripe for the urban renewal process (with the above-mentioned characteristics), the LGA technical committee, under the leadership of the town planner, is required to prepare a location map showing the boundary of the particular area and to present it to the council standing committee (CSC) responsible for urban planning matters. The location map and the minutes of the meetings of the CSC committee are then communicated to the minister responsible for urban planning matters, who then declares the area ripe for urban renewal and publishes a notice in the government gazette and sends a notification letter to the LGA responsible, informing them about the government notice publication. The LGA is then required to designate the preparatory authority for the renewal plan and identify key stakeholders and main actors.

The urban renewal planning process involves the following processes:

1. Creating awareness of the intention to prepare an urban renewal scheme
2. Convening a meeting of all stakeholders in the area to be affected, to seek their comments and contributions

3. Preparing the urban renewal scheme based on the comments and contributions of the stakeholders and actors, following the activities stipulated in the guidelines issued by the ministry responsible for urban planning matters.

26.7.5 Regularization schemes

Regularization schemes are complementary plans to restructure land tenure arrangements and provide basic infrastructure services to informally developed settlements. The schemes aim at securing public land with a view to providing the lacking community facilities and infrastructure services.

The preparation process begins by the LGA justifying the need for a detailed planning scheme of regularization and declaring the area to be an area for regularization. The LGA is required to pass a resolution of intention to prepare a planning scheme of regularization and publish a notice in a government gazette and newspaper in the area and display the notice in the mtaa offices.

Stakeholders meetings are then convened by the technical committee in the area to be affected, to allow participation and the presentation of their own proposals, as required by law. The output of the stakeholders' meeting leads to the formation of a regularization committee, whose task is to prepare an inventory of property ownership, existing services, land suitability, land use and land tenure, and infrastructure such as road network, electricity, and water supply.

The LGA determines and agrees on regularization standards in consultation with the ministry and utility agencies, whereby the technical committees uses them to prepare a conceptual or general land use plan showing different land use zones, including infrastructure and community services, which is later presented to the community to secure their approval. Since sometimes the areas have been informally developed on private land, the technical committee is required to negotiate with landowners to acquire land for infrastructure and community services, reach consensus, and demarcate property boundaries. When necessary, a compensation schedule must be prepared to clear third-party interests and identify areas for resettlement of displaced people. Then the technical committee prepares a scheme of regularization and has it ratified by the urban planning committee before is submitted to the ministry for approval. At this stage, the regularization committee mobi-

lizes resources for cadastral surveying, infrastructure provision, and issuance of certificates of title deeds.

26.8 Urban planning challenges

Urban planners face several challenges in pursuing their daily urban planning activities. Among the challenges, in addition to institutional change and climate changes, are inadequate resources, regulatory frameworks, the high influx of people to urban areas, and weak awareness of the importance of urban planning practice.

1. *Inadequate resources.* Local government authorities are responsible for urban planning in their areas of jurisdiction. The policy has given them a mandate to collect adequate funds for their development activities. Unfortunately, the sources for revenue are weak and revenue collection is inadequate; as a result, many urban planning activities are not implemented.
2. *Regulatory frameworks.* The regulatory frameworks include policies, regulations, and the urban planning process. Bureaucracy makes the urban planning process longer and thus increases costs and reduces performance. Currently, the procedures involved in acquiring a land plot for building are too long and cumbersome. This has resulted in most of the potential land developers having no alternative but to take shortcuts: acquiring land informally, and starting development on land without waiting for building guidelines and permits.
3. *Influx of people to urban areas and urban sprawl.* Cities attract people and business. Provision of adequate affordable infrastructure and services to all population segments poses a significant challenge to district and municipal councils. Funding infrastructure and services to an ever-increasing population accompanied by urban sprawl is a difficult challenge for local government authorities.
4. *Weak awareness of the importance of urban planning practice.* Weak awareness among the majority of citizens and decision makers of the importance of urban planning practice has led to the neglect of standards and guidelines provided to prospective land developers which are in accordance with planning schemes. This has resulted in an unhealthy situation in both planned and unplanned areas.

There is considerable optimism in the thinking about how to deal with urban planning challenges. According to Magigi (2013), public-private partnerships can facilitate land use planning, cadastral survey, infrastructure pro-

visioning, and land registration, to ensure better planned settlements. For example, Meru District Council benefited in different ways by accepting the implementation of a land development project and the modalities adopted in a public–private partnership in land management. A total of 300 small and medium plots were designed and sold by December 2012. There was a total of Tshs 3 billion in returns to the landholder after all the cost deductions. However, as it was agreed in the contract that 10% of the total amount of returns was to be paid to the district council authority, the district received Tshs 300 million. In six months, all people who were allocated land had paid for their plots at Tshs 24,000 each, an equivalent of USD 15 by then. This cost involved the whole process, including land use planning, cadastral survey, infrastructure provision, and granted right of occupancy.

References

- Angel, S. (2010). *Making Room for a Planet of Cities*. Cambridge: Lincoln Institute of Land Policy.
- Carruthers, J. & Ulfarsson, G. (2003). 'Urban sprawl and the cost of public services', *Environment and Planning B: Planning and Design* 30(4): 503–522.
- Kockelman, K. (2010). *Transportation and Land Use Solutions for Low Carbon Cities*. Hong Kong University.
- Magigi, W. (2013). 'Public-private partnership in land management: A learning strategy for improving land use change and transformation in urban settlements in Tanzania', *Research on Humanities and Social Sciences* 3(15): 148–158.
- UN-Habitat (2007). Enhancing urban safety and security. Global report on human settlements. UN-Habitat, Nairobi.
- UN-Habitat (2009). *Planning Sustainable Cities: Global Report on Human Settlements*. Earthscan, London.
- UN-Habitat (2013). Urban planning for city leaders. UN-Habitat, Nairobi.
- United Republic of Tanzania (URT) (1995). The National Land Policy, 1995, Dar es Salaam.
- United Republic of Tanzania (URT) (1999). The Village Land Act, 1999. Dar es Salaam.
- United Republic of Tanzania (URT) (2007). The Urban Planning Act, 2007, Dar es Salaam.
- United Republic of Tanzania (URT) (2009). The Town Planners (Registration) Act, 2009, Dar es Salaam.

27

Rural Development Planning

George Kinyashi

27.1 Introduction

Planning for rural development is essential in any effort to integrate economic, environmental, and social–cultural factors in the rural development process in order to achieve sustainable development. Rural development planning is regaining its importance, following the shift to decentralization by governments in less-developed countries in order to adequately deal with local needs. Decentralization is increasingly positioning local (rural) economic development in a better place. In addition, rural development planning is important for integrating rural economies into national economies, especially in Sub-Saharan Africa, where these economies are poorly integrated. This disintegration is unhealthy for nations' prosperity. The majority of Sub-Saharan Africa's labour force resides in rural areas, and much of its economic base is rural-oriented, such that ignoring rural planning may result in economic loss to nations as a whole.

This chapter is written with the aim to shed light on how planners should go about planning rural development in an environment that involves multi-actors. It is structured into five sections. After this introduction, the chapter proceeds with a section which presents rural development concepts and components. The third section focuses on the principles guiding rural development planning. This is followed by Section 4, which elaborates typical stages in the rural development planning process. The chapter ends with a concluding section, which essentially provides a summary of what has been presented throughout the chapter.

27.2 Rural development: Concept and components

Effective planning requires a thorough understanding of the planning area. Therefore, since the aim is to expose how rural planning should be performed, it is important to begin with the meaning of the term 'rural', the area which we intend to plan for. The term rural does not have a clear-cut definition. Some definitions of rural areas are the following: (a) 'geographical areas in which primary production takes place and where populations are found in varying densities' (URT 2001); (b) 'places of tradition rather than modernity, of agriculture rather than industry, of nature rather than culture, and of changelessness rather than dynamism' (Ward & Brown 2009); (c) areas where 'agriculture is often dominant, and sometimes the exclusive economic sector, and opportunities for resource mobilization are limited' (Government of South Africa 2000, in Chigbu 2013).

These definitions have something in common. They all define rural from the perspective of a sector, suggesting that rural areas are centres of the agricultural sector. While this is true, at the same time it presents a false start for the planning process, because it creates the danger of ignoring other important planning issues prevailing in these areas. Worldwide rural areas are confronted with various challenges, ranging from outdated production techniques in agriculture; to scarcity of grazing land; lack of access to drinking water, transport, and transportation services; inadequate education options; limited markets; poor health care; lack of land titles; legal uncertainty; environmental problems; limited skills on non-farm activities; and so on. To narrow down all these sectoral issues into a single sector may not help planners in achieving effective rural planning.

In order to facilitate planning, a rural area should be defined in a fairly broad way. To this end, the term rural area can be applied to areas that have a relatively low population density compared with cities; areas where natural resource extraction and related activities are the mainstay of the economy; and places where social and economic infrastructures are largely limited. This definition also includes the small towns that are located in these areas and which are linked to them culturally and economically by acting as focal points for people living in the surrounding areas.

Having understood what a rural area is, the next step is to grasp what rural development is. Rural development emerged as a distinctive field of policy, practice, and research in the 1960s and gained full momentum in the 1970s. This came as a result of the increased realization that, while economic

growth and industrialization were important, rural areas and rural development had important and different roles to play in a country's development. Harriss (1982) defines rural development as 'a distinct approach to interventions by the state [and societal actors in the rural economy] and one which is at once broader and more specific than agricultural development'. He notes that not only does rural development pay attention to other aspects of rural economies as well as to agriculture, but the analysis of development issues demands an inter-disciplinary approach in which the broader social and political factors interacting with economic processes are subjected to examination.

What is apparent from Harris's definition is that rural development is an area-based approach to development—that is to say, it focuses on specific geographical areas (rural areas) instead of on economic sectors such as agriculture, health, or forest, or on a particular group of people such as small farmers, female-headed households, or ethnic minorities. Nevertheless, given that agriculture and related activities are the mainstay of the economy of the majority of rural populations worldwide, agriculture becomes an obvious sector to focus on when it comes to rural development. However, while the agricultural sector is an important dimension of rural development, it is not enough on its own to ensure rural development; other sectors are also crucial. This speaks to the fact that rural development is multi-sectoral, as it includes a variety of economic and social sectors, such as the following:

1. Agriculture and natural resources—crops, livestock, fishing, forestry
2. The non-farming sector—services to agriculture (including input supply, marketing, transport, finance, agricultural processing), rural manufacturing, mining, and other rural services
3. Rural economic infrastructures, such as roads, transport, energy, water
4. Rural social infrastructures and services, such as education and health.

In regard to the foregoing views on rural development, it can be said that a successful rural development plan must focus on four main components (JICA Research Institute 2004):

1. *Improvement of economic capabilities.* In order to achieve rural development, the income of rural people must increase. Such increase mainly comes as a result of income improvement related to agriculture, livestock, and natural resources; non-agricultural income improvement; improvement of industries; and development of infrastructures to ensure efficient production, processing, and trading.
2. *Improvement of human capabilities.* Human capabilities refer to the building of strong and skilled human resources. This is important for rural de-

velopment, because it is through capable humans that rural development can be achieved. The second objective in a rural development plan is general health improvement and development of educational standards. Notably, at rural level the kind of education required ranges from primary education to vocational education at the highest level.

3. *Improvement of protective capabilities.* The majority of rural households depend on natural resources to make ends meet. This has implications for the environmental and sustainability aims of development. Therefore, a rural development plan must build the capacity of rural residences to carry out environmental conservation and natural disaster prevention measures.
4. *Improvement of political capabilities.* Rural development operates within local and national political, legal, and social–cultural frameworks, some of which are facilitative of and some of which impose constraints on the development process. It is important that a rural development process sets out a mechanism to build political capacity of rural residences so that they stand a better chance of obtaining a win–win situation when it comes to negotiation they may enter with any partner.

These objectives point to the fact that rural planning is multi-disciplinary: therefore, given the broad concerns and multi-sectoral nature of rural development, the planning of rural development requires skills and insights from a wide range of disciplines. Hence, in planning for a rural area, one should secure the engagement of actors such as foresters, irrigation engineers, agricultural extension agents, community development officers, local politicians, activists of NGOs, members of farmers' associations and other civil society groups, business people, religious leaders, and ordinary citizens.

27.3 Principles guiding rural development planning

In an era where planning has shifted from service delivery plans to plans that create an enabling environment for other actors to participate in the development process, planning for rural development is viewed as an attempt to coordinate the planning activities of all actors within a rural area. What is important for a rural planner to remember is that in the planning process, actors will enter with their various interests. Sometimes there will be clashes and thus a need for compromise. Very often planners have to mediate between these interests; they have to find a good compromise. Good planners will always look for win–win situations—that is, solutions that enable

more than one interest group to attain their respective goals (Schmidt-Karllet 2005).

Each rural area has its own individual set of problems and potentials; thus every planning process will be different. Interventions and projects have to be geared towards the specific needs of the people of the area and must respond to their most immediate problems; nevertheless, a good rural development planning process must be guided by the following principles (Schmidt-Karllet 2005; Swinburn et al. 2006):

1. Rural development planning is bottom-up—that is, it is initiated by the local people or their representatives.
2. It is participatory—that is, all important actors or stakeholders within the area have a say in the elaboration of the plan and are continuously consulted. (This may include local government representatives, central government line agencies, chambers of commerce, farmers' associations, local entrepreneurs, trade unions, and NGO representatives.)
3. It should recognize that influential and effective local leaders have the potential to bring commitment, credibility, and an ability to unite stakeholders—and thus use them accordingly.
4. It is action-oriented—that is, there must be a close link between planning and implementation, a step-by-step approach to complex development, and a package of projects which can be implemented immediately.
5. It should fit into a broad national development framework—this is very important in order for the plan to receive policy and other support from all levels of government.
6. It should integrate social, environmental, and physical, as well as economic issues.
7. It should be a carefully developed strategy built by all relevant partners and based on a shared vision.
8. It must make reference to the informal economy, and the informal economy needs to be carefully taken into account. In some localities, this can represent a significant part of the local economy, be strongly interlinked/linked with formal activities, and provide the economic basis for the majority of the poor.
9. It should build the capacity of management and 'on-the-ground' teams as an essential process in a project's implementation.

27.4 Rural development planning process

Rural development planning, like other types of planning, is organized in several steps to ensure that situational analysis and stakeholder analysis in a rather complex situation are conducted simultaneously in a participatory way. The following paragraphs describe the typical phases of the rural development planning process (Swinburn et al. 2006):

Phase 1: Identification of planning actors. For successful rural development planning, institutional arrangements and stakeholder analysis and involvement should be agreed at an early stage of the planning process. A planning team should be established in the planning process. The planning process requires the collaborative efforts of state and societal actors, including private and/or business actors; NGOs; trade unions; actors from social, civic, and religious sectors; and residents. Therefore, it is important that the process starts by identifying the people, public institutions, businesses, industries, civic organizations, professional organizations, think-tanks, training institutions, and other groups that comprise and/or impact the rural economy.

The skills, experiences, and resources that stakeholder groups bring to the effort all contribute to the overall planning process. Establishing solid working relationships and organizational structures to support the planning process will lead to beneficial and long-term state and societal actor partnerships. These working relationships can range from relatively informal working groups, to semi-formal, loosely aligned networks, to the establishment of a regional development agency or a constituted public–private partnership. Maintaining and sustaining such partnerships is often the critical and challenging factor determining the effectiveness of rural development efforts.

Phase 2: Analysis of the rural social and economic situation. Understanding of the social and economic situation is imperative if stakeholders are to identify and agree a realistic, practical, and achievable plan. To obtain data on the rural situation, an effective analysis should start with a preliminary review of the existing social and economic relationships and activities within an area, and it will make use of available quantitative and qualitative information that highlights existing structures and trends in business development, manufacturing, employment, skills, social and economic infrastructure, and other data that will help to identify the right direction for the development of the area.

The analysis should begin by getting to know what information is pertinent, required, and available, and what is ambiguous and unavailable. Having this knowledge, data collection, processing, and analysis exercises can be initiated to produce a socio-economic profile of the particular area. The analysis should consider the potential for a wide range of local economic development opportunities across all the major sectors, including the formal, informal, and community sectors. It should also include a review and analysis of projects that are already happening in the area, as well as compare information on the resources and activities of neighbouring communities or international competitors.

Phase 3: Plan design. Plan design in a multi-actor scenario is likely to be confusing unless handled well; it should start with a workshop attended by all actors to identify the broad objectives of the area. With the ‘area broad objective’, actors are required to identify related planning issues through a brainstorming exercise (Box 27.1). The socio-economic profile document developed in Phase 2 guides the actors in the activities of this phase.

Box 27.1 Example of area broad objective and planning issues

Mashewa village broad objective

- To become one of the most competitive villages in Tanzania

- **Related planning issues**
- Improvement of economic infrastructure (roads, energy, communication)
- Improvement of social services (education, water, and health)
- Improvement of agricultural products value chain
- Improvement of non-farm activities
- Environmental conservation and tourism activities

Thereafter, the planning issues are distributed among actors, based on their interests and core functions.

The public sector will take planning issues that none of the other actors can deal with—for instance, issues related to security and road infrastructure. Likewise, the private sector, NGOs, and community-based organizations (CBOs) should take a share of the planning burden.

The next step for the private sector is to develop a business plan, while NGOs, CBOs, the public sector, and community members proceed with identification of programmes and projects. Then the project purposes, outputs, activ-

ities, and related tasks are to be identified. Before the close of the workshop, actors should agree on when to submit an overview of their programmes to the rural planning team for compilation in a rural development plan document. Actors will be asked to provide only key issues of their plans, without necessarily being forced to disclose their business strategy to their competitors.

At this phase, public sector planners have the extra burden of ensuring that actors who do not have adequate capacity to develop their plans are assisted—either directly or by linking them to consultancy services.

Phase 4: Planning for implementation. Every rural development plan must include an implementation plan accompanied by project action plans. The implementation plan sets out the budgetary and human resource requirements and the institutional and procedural implications of implementing the plan. Long-term planning needs to be linked to the ordinary planning calendar of the financing, supervising, and implementing stakeholders. With a timeframe of one year, a good implementation plan will result in a more efficient and effective use of existing budgets, and it can be used to attract funding from external sources such as national government, bilateral and multi-lateral donor agencies, and private banks.

After devising the implementation plan, action plans must be developed. Such action plans provide specific details on project components, including a hierarchy of tasks, responsible parties, a realistic delivery timetable, human resource and financial needs, sources of funding, expected impacts, results, performance measures, and systems for evaluating progress for each project.

Phase 5: Monitoring and evaluation. Developing a good monitoring and evaluation system for a rural development plan is important and allows for analysis and evaluation. This enables the planning team to correctly quantify outcomes, justify expenditures, determine necessary enhancements and adjustments, and develop good practices. Indicators can be identified to measure both process and impact.

Although a plan may be expected to last for a 5-year period, for example, it should be monitored continuously and evaluated regularly to allow for adjustment in response to changing rural conditions. A more comprehensive evaluation should take place in the middle of the plan period. Such evaluation should consider the resources available for the delivery of the plan and include established and agreed monitoring and evaluation indicators of the

economy of the area. Where possible, the evaluation assesses the relevance, effectiveness, efficiency, impact, and sustainability of the approach and refers thereto the inputs, outputs, outcomes, and impacts, and also the implementation process and the level and extent of stakeholder participation.

27.5 Conclusion

This chapter has been written with the aim of elaborating how rural development is conducted in an environment that involves a number of rural actors. It has been indicated that rural development is multi-actor and multi-dimensional in nature. In other words, rural development planning is an integrated development planning. It focuses on a geographical area (i.e. it is area-based planning) rather than focusing on a certain sector or group of people. It has been indicated that planning of this kind in an era of decentralization of planning responsibilities to societal actors can create a certain amount of confusion of roles and of responsibilities.

A planner's role has become that of coordinating societal actors to plan for issues of those actors' interests. As such, the planning process has changed: together with the necessary situation analysis, it starts with the identification of actors to be involved in the planning process. This therefore implies that planners must learn how to mobilize societal actors and be prepared to resolve conflicts that are likely to occur during the planning process as a result of various actors' interests.

References

- Chigbu, U. (2013). 'Rurality as a choice: Towards ruralising rural areas in Sub-Saharan African countries', *Development Southern Africa* 30(6): 812–825, DOI: 10.1080/0376835X.2013.859067
- Harriss J. (1982). *Rural Development: Theories of Peasant Economy and Agrarian Change*. London: Hutchinson University Library for Africa.
- JICA Research Institute (2004). Approaches for systematic planning of development projects (higher education, trade and investment promotion, poverty reduction, information and communication technology). <http://jica-ri.jica.go.jp/IFIC>
- Schmidt-Karlet, E. (2005). A short introduction to micro-regional planning. Food and Agriculture Organization of the United Nations, Sub-Regional Office for Central and Eastern Europe. Budapest.

- Swinburn, G., Goga, S. & Murphy, F. (2006). Local economic development: A primer developing and implementing local economic development strategies and action plans. Bertelsmann Stiftung, Gütersloh. The World Bank, Washington, DC.
- United Republic of Tanzania (URT) (2001). Rural Development Strategy. Government Printers, Dar es salaam Tanzania.
- Ward, N. & Brown, D. (2009). 'Placing the rural in regional development', *Regional Studies* 43(10): 237–44.

28

Participation in Development Planning

Baltazar Namwata, Zacharia Masanyiwa, Mark Msaki

28.1 Introduction

This chapter aims to present the role of participation in development planning. Participation in development is broadly understood as active involvement of people in making decisions about the implementation of processes, programmes, and projects. In recent years, participatory approaches have been widely adopted in the development planning field in an attempt to enable those previously excluded by top-down planning processes to be included in decisions that affect their lives. In recent decades, both development theorists and practitioners have placed greater emphasis on the participation of intended beneficiaries in development issues—that is, the participation of those who are often marginalized by their isolation from the production of knowledge and formulation of policies and decisions that affect their lives. Claims to acquire truer knowledge, as well as empowering participants through their involvement in the process, have led to the overwhelming adoption of participatory techniques within development policy and practice.

This chapter proceeds in Section 2 by looking at pertinent issues in participation. In Section 3 there is a presentation of the motives behind participation. Section 4 concentrates on the principles of participation, and Section 5 on participatory methods. The chapter ends with a brief recapitulation.

28.2 Issues in participation

Different scholars (e.g. Nkunika 1987; Oakley 1991; Blackburn et al. 2000; Cornwall & Gaventa 2001; Slocum 2003) have identified a number of issues

in participation, and these are presented in Figure 28.1 and explained briefly in what follows.



Figure 28.1
Issues in participation

1. *Access* is important because great skill and knowledge are required if trust, which is at the heart of participation, is to be gained.
2. *Acceptability* is another issue. Development workers are often outsiders who do not understand the culture and may lack the *language* of the people among whom they are working. This is obviously true where overseas development is at issue, but it also applies to domestic development where the development workers' understanding of the local culture can also be inadequate.
3. Many *cultures* that seem to be open and transparent are, in fact, *manipulative*. It is also the case that agents of development seeking to introduce *openness and transparency* may actually be manipulative themselves. It is even common to find the agents of development being manipulated by the communities with which they work.
4. *Structures* and societal institutions are issues of concern when it comes to participation. If social structures and institutions are structured in a way that restricts participation, people will never be in active participation.

Therefore, planners should concentrate more on facilitating structures and institutions that enhance active participation.

5. It is generally agreed that the long-term aim in all development is *sustainability*; therefore, people's participation in development processes is key, since they are the ones who will ensure the sustainability of the process.
6. The effects of structures and the *expectations* of agencies and individuals in the development cycle differ to a greater or lesser degree. These result in different views about who should invite the agencies of development, about who should participate in the process, about who should control the *resources* of development, and about who should *determine the outcomes*.

28.3 Motives for participation

Different approaches to participation often reflect different motives for engaging in participatory development planning. According to the World Bank (1996), motives for participation stem from three broad roots. The first root is functional. Motives from this root are concerned with the efficiency and effectiveness of research and development; they are the main driving force behind the efforts of many governments to improve participation. The second root is empowerment. Motives from this root are concerned with participation as an end in itself. Such motives are closely linked to democratic processes; they are associated much more with the approaches of community-based organizations (CBOs) and the NGO movement. The third root is philosophical. The motives from this root explore the understanding of knowledge and knowledge systems between formal science and indigenous culture and try to encourage a greater interaction between them. These are summarized in Figure 28.2.

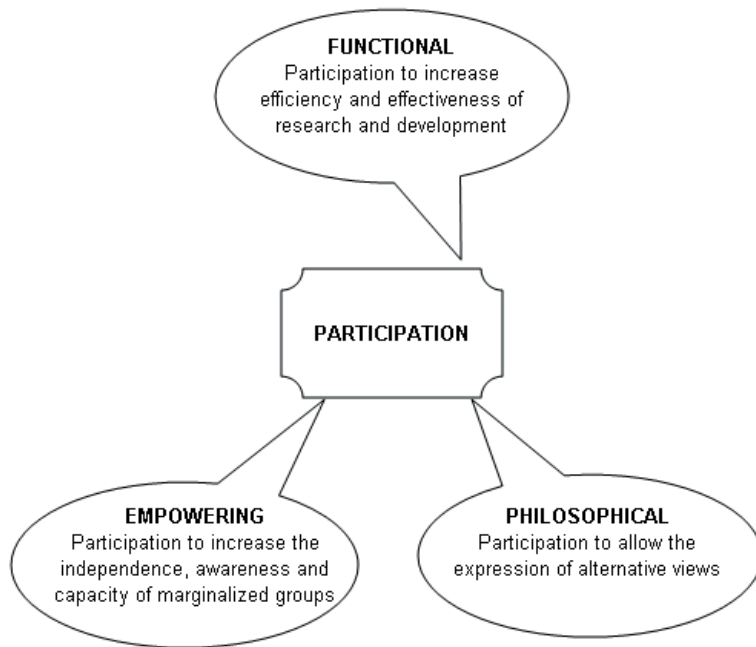


Figure 28.2
Motives for participation

28.4 Principles of participation

People’s participation in development planning is a strategy which constructs its approach in relation to the demands of the context. Oakley (1991), the World Bank (1996), and Slocum (2003) identify the following principles:

28.4.1 The primacy of people

Whatever the purpose or ultimate goal of the plan, people’s interests, their needs, and their wishes must be allowed to underpin the key decisions and actions relating to the project. It is not a question of including people as and when it is felt by the planners to be convenient; people must sit centre-stage and their interests must be taken into consideration during the whole course of the plan.

28.4.2 People's knowledge and skills

People's knowledge and skills are potentially positive contributions to a project: a project should seek to make use of local knowledge and skills in order to be effective and efficient. A participatory plan should seek every possibility to base its activities upon local resources, in order to avoid situations of external dependence and to help develop local capabilities. Building on and strengthening of the existing knowledge and expertise of the people leads to developing people's capacities.

28.4.3 Empowering marginalized groups

People's participation must empower marginalized groups: participatory development should seek to improve the well-being of all marginalized groups in a society by reducing the inequalities of people, thereby providing a means by which all people of different backgrounds can take part in decision making.

28.4.4 Autonomy as opposed to control

Development plans are to be invested in the responsibility of local people and thus avoid retaining absolute control in the hands of planners. Such a principle is not always very realistic, and it should not be pushed too far in some circumstances; but there must be a discernible move to minimize the control of project staff and to maximize the potential responsibility of local people.

28.4.5 Local actions as opposed to local responses

The local people should be encouraged to make decisions and to take action within the broad parameters of the development plans, as opposed to merely responding passively to initiatives proposed by others. The more these kinds of local initiatives can be encouraged, the more a sense of ownership will develop among local people. The major obstacle, however, is that the project staff may be unwilling or unable to promote local ownership of development plans, activities, and outcomes.

28.4.6 Spontaneity in project direction

Promoting people's participation will mean that plans should be allowed to develop in accordance with the abilities of local people to play a role and to begin to assume some responsibility. Unless a plan is able to accommodate people's participation, it will remain a straight-jacket and may push on toward predetermined objectives regardless of whether local people are on board or not. Participatory development plans often take longer to implement; but if they are truly participatory, the outcome is more positive and sustainable.

28.5 Participatory methods

Participatory methods are the means by which the principles of participation are translated into the actual practice of development planning. Participatory methods ensure that all stakeholders become involved in a number of different activities which are integral to the development planning processes. These activities provide a structured approach to participation, with clear guidelines on who should be involved, when, and to what extent. With participation being an important factor in development planning, different methods and approaches have developed. The World Bank (1996) promotes the following participatory methods and techniques:

28.5.1 Workshop-based methods

Collaborative decision making often takes place in the context of stakeholder workshops. Sometimes called 'action-planning workshops', they are used to bring stakeholders together to design development projects. The purpose of such workshops is to begin and sustain stakeholder collaboration and foster a 'learning-by-doing' atmosphere. A trained facilitator guides stakeholders, who have diverse knowledge and interests, through a series of activities to build consensus. Appreciation-Influence-Control (AIC), Objectives-Oriented Project Planning (OOPP), and Team Up are three such methods.

28.5.2 Community-based methods

In many cases, development planners leave government centres and board rooms to undertake participatory work with local communities. They work

with trained facilitators to draw on local knowledge and begin collaborative decision making. In such settings, local people are the experts, whereas outsiders are facilitators of the techniques and are there to learn. The techniques energize people, tap local knowledge, and lead to clear priorities or action plans. Two such techniques—participatory rural appraisal, and ‘Self-esteem, Associative strength, Resourcefulness, Action planning, and Responsibility’ (SARAR)—use local materials and visual tools to bridge literacy, status, and cultural gaps.

28.5.3 Stakeholder analysis

Stakeholder analysis is a methodology used to facilitate institutional and policy reform processes by accounting for, and often incorporating, the needs of those who have a ‘stake’ or an interest in the reforms under consideration. With information on stakeholders, their interests, and their capacity to oppose reform, reform advocates can choose how to best accommodate them, thus assuring the policies adopted are politically realistic and sustainable. Stakeholder analysis is a critical tool in clarifying the micro-political economy of a policy area and can help identify interested parties that should be incorporated in the decision-making process, in addition to understanding the basis for their inclusion.

Stakeholders can be of any form, size, and capacity. They can be individuals, organizations, or unorganized groups. In most cases, stakeholders fall into one or more of the following categories: international actors, national or political actors, public sector agencies, interest groups, commercial/private for-profit organizations, non-profit organizations, civil society members, and users/consumers. When performing stakeholder analysis, there are four key attributes that require consideration: the stakeholders’ position on the reform issue, the level of influence they hold, the level of interest they have in the specific reform, and the group/coalition to which they belong or can reasonably be associated with.

Timing of the stakeholder analysis is very important. Stakeholder analysis should precede the finalizing of reform proposals. In the early stages of policy formulation, stakeholder analysis can help gauge the likelihood of acceptance and sustainability of anticipated policy reforms. By initiating stakeholder analysis prior to the introduction of the reform and continuing to modify the policy proposal during the design process, potential obstacles to implementation and results can be avoided. Stakeholder analysis can inform task team

strategies to overcome opposition, build coalitions, and channel information and resources to promote and sustain proposed reform.

Several methods can be employed to collect data on stakeholders. Prior to data collection, however, a brief review of background literature can provide a useful understanding of the country's political economy. Following this, direct interviews with stakeholders and local experts in the field and all-inclusive interviews can lead to an effective stakeholder analysis process since it will uncover many facets of the country's political economy. The content and questions of the interviews should focus on background information on the policy making process, information that identifies key stakeholders from a variety of groups in the reform process, and clarifying assumptions about stakeholder's power and interest in the decision-making process.

Data from interviews should be catalogued and presented in such a way that they clearly highlight the groups, their interest (or salience), their influence (power), and their position on the reform. An important measure called 'effective power', which is the degree of power the stakeholder holds over other groups in relation to a reform area, is determined by weighting a combination of a stakeholder's salience and influence.

A clear assessment of each stakeholder's power and likely impact on the policy-making process can be conducted through several steps:

Step 1: Creating a continuum. Stakeholders are mapped on a continuum indicating support for the reform on a scale of 0 to 100, from low (far left) to high (far right). The various degrees of support are marked on the line by a value indicating the stakeholders' reform preferences. This also provides a quick visual of the 'lay of the land,' illuminating clusters of groups that support, oppose, or are indifferent to reform.

Step 2: Organizing the stakeholder data. Data are organized according to the relative influence and salience of each stakeholder to understand their potential support for or opposition to the proposed reform. Often, a matrix is used to organize and classify the stakeholder data. One form is to map salience/interest and influence on the axes. This matrix provides a shorthand categorization and analysis of which stakeholders will gain or lose from a proposed reform and whether they can significantly impact the process.

Step 3: Categorizing stakeholders. To guide strategic responses, stakeholders are categorized by their power and salience in a grid according to the following attributes:

1. Promoters: Stakeholders who attach a high priority to the reform policy and whose actions can have an impact on the implementation of the policy.
2. Defenders: Stakeholders who attach a high priority to the reform policy but whose actions cannot have an impact on the implementation of the policy.
3. Latents: Stakeholders whose actions can affect the implementation of the reform policy but who attach a low priority to the policy.
4. Apathetics: Stakeholders whose actions cannot affect the implementation of the reform policy and who attach a low priority to this policy.

The grid facilitates scenario-building and discussion and helps task teams determine appropriate responsive strategies (e.g. which stakeholders to target for negotiations and trade-offs, which to buttress with resources and information, etc.). One of the main goals of stakeholder analysis is to reveal, and therefore potentially assist in reducing, the power imbalance among weaker groups which is often revealed during policy reform processes.

Step 4: Tailoring strategic responses. Depending on the attributes of the stakeholder (e.g. their level of influence vs. their salience on the issue), strategies may be tailored to address their concerns. For example, planners may support or increase the power of reform supporters through building coalitions and providing information and resources; convert opposition into support through negotiations, information, and/or coalition building, including offering trade-offs; and offset or counter powerful and not so powerful opponents.

Step 5: Ongoing analysis. As stakeholders and their positions may change over the course of negotiations and analyses, stakeholder analysis should remain an on-going process, thereby allowing for policy design to adjust as more is learnt about the political reality.

28.5.4 Methods for stakeholder consultation

Beneficiary assessment (BA) and systematic client consultation (SCC) are techniques that focus on listening and consultation among a range of stake-

holder groups. BA has been used throughout World Bank regions, in both projects and participatory poverty assessments (PPAs). SCC, which is used primarily by the bank's Africa Region, is intended to obtain client feedback and to make development interventions more responsive to demand. Both methods intend to serve people better by making donors and service providers aware of people's priorities, preferences, and feedback.

28.5.5 Methods for social analysis

Social factors and social impacts, including gender issues, should be a central part of all development planning and action, rather than add-ons that fit awkwardly with the universe of data to be considered. Social assessment and gender analysis are methods that incorporate participation and social analysis into the project design process. Such methods evolved to meet the need to pay systematic attention to certain issues that traditionally had been overlooked by development planners.

28.5.6 Facilitating participatory learning and change processes

Facilitation is critical in the participatory approach. The role of development planners is to guide the process; in all matters, decisions should be left to the group involved. This is often difficult, as the planners are trained in their specific field. In participatory diagnosis and research, the information flow is reversed. It should be realized that this requires not only a change of attitude in the planners; community members may be used to being told what to do and therefore may be reluctant to move into another mode of communication. Transparency and explaining the objectives of the meeting will help both groups to start communicating in a different way (Chambers 2002, 2005; Slocum 2003).

In order to become a good facilitator for a development plan, the following are a few tips:

1. Look, listen, and learn
2. Spend overnights in places for the development plan
3. Embrace error
4. Ask using the six helpers: who, what, where, when, why, how?
5. Ask open-ended questions
6. Show interest and enthusiasm in learning from people
7. Relax
8. Meet people when it suits them

9. Probe
10. Ask about what you see
11. Allow more time for interaction
12. Be nice to people
13. Enjoy.

28.6 Recapitulation

The chapter has provided an understanding of participation in development planning, including pertinent issues in participation, the motives behind encouraging participation, the principles of participation, and the participatory methods. What the chapter has stressed is the centrality of participation in development planning. The point is that there will not be a meaningful development plan if participation is not mainstreamed in the planning processes.

References

- Blackburn, J., Chambers, R. & Gaventa, J. (2000). *Mainstreaming Participation in Development*. OED Working Paper Series No.10. The World Bank.
- Chambers, R. (2002). *Participatory Workshops: A Sourcebook of 21 Sets of Ideas and Activities*. Routledge.
- Chambers, R. (2005). *Ideas for Development*. London: Earthscan.
- Cornwall, A. & Gaventa, J. (2001). *Bridging the Gap: Citizenship, Participation and Accountability*. PLA Notes.
- Nkunika, A.I.Z. (1987). 'The role of popular participation in programmes of social development', *Journal of Social Development in Africa* 2: 17–28.
- Oakley, P. (1991). *Projects with People: The Practice of Participation in Rural Development*. Geneva: ILO.
- Slocum, N. (2003). *Participatory Methods Toolkit. A Practitioner's Manual*. United Nations University.
- World Bank (1996). *The World Bank Participation Source Book*. Washington, DC: The World Bank.

29

Research Methods for Development Planning

Mwabless Malila, Adalbertus Kamanzi, Omari Mzirai

29.1 Introduction

This chapter aims to introduce a development planner to the central elements in doing research in and for development planning. Research is concerned with a systematic investigation about some issue(s) in order to establish facts and reach new conclusions. For development planners, research and investigation can be for the sake of knowledge, action, or both knowledge and action in planning.

This chapter begins with a section that deals with the role of research in development planning. In the third section, the chapter presents the idea of the relationship between objectivity, subjectivity, and ethics in research. In Section 4, the chapter presents some elements taken to be key in research. Section 5 presents the research process, and the chapter ends with a conclusion.

29.2 Role of research in planning

For any development planner, a rule of thumb is this: 'Never do any planning without any research.' This means that planners should know that to make informed decisions. Data and information are required. Research remains the only viable source of reliable, relevant, valid, and timely data and information. Among the roles of research in development planning are ensuring that the context and the facts about what the plan is about are understood, and ensuring that existing knowledge of the plan is known. Research also helps planners to identify a problem and scientifically find solutions. Another role of research is systematically to provide knowledge to planners and the wider community through dissemination of the research findings. This knowledge can enable a planner to develop uptake actions.

29.3 Objectivity, subjectivity and ethics in research

As a researcher in development planning, there is a need to understand your two positions. These positions are based on issues of objectivity and subjectivity. In the case of objectivity, it is said that a researcher should not be influenced by personal feelings or opinions in considering and representing facts; in the case of subjectivity, one should know that one will be influenced by personal feelings, tastes, or opinions when carrying out research. Obviously, these are two contrasting positions. In the first position, a researcher intends to observe objectively from outside in undertaking research; in the second position, a researcher, being an insider, may have a subjective approach. These two positions can be bridged by what can be termed ethics in research. The ethical code researchers are subject to refers basically to the following:

1. *Values that underpin a researcher in development planning.* Values refer to principles or standards of behaviour, or judgment of what is important in life. For researchers in development planning, these values are honesty, fairness, objectivity, reliability, accountability, openness, impartiality, independence, accessibility, duty of care, and responsibility toward the scientists and researchers of the future.
2. *Obligations of a researcher in development planning.* Obligations refer to what someone ought to do. Researchers in development planning have obligations in at least three fundamental areas: (a) to science; (b) to the source(s) of funding; and (c) to the society at large. While the obligation to science demands that there is accuracy and objectivity in conducting and reporting research, the obligation to sources of funding demands that there is a fiduciary responsibility to use funds for the purposes for which they were provided, as well as an obligation to be accountable. The obligation to society concerns meeting the expectations that research has an important and relevant impact on the quality of lives.
3. *Conduct required of a researcher in development planning.* Conduct refers to the manner in which a person behaves in a particular place or situation. The behaviour of a researcher in development planning should be professional in terms of obtaining informed consent from respondents, maintaining confidentiality, and aiming to avoid harm and do good.

29.4 Selected key elements of research

29.4.1 Research approaches

There are many ways in which research can be classified. One common method of classification is through the approaches to research: (a) quantitative; (b) qualitative; (c) mixed; and (d) emancipatory. Quantitative research usually involves collecting, processing, and analysing numerical data, from which conclusions are then drawn. Qualitative research is about recording and analysing and attempting to uncover deeper meanings of phenomena and the significance of human behaviour and experiences—including beliefs, behaviours, and emotions—using people’s experiences and document analysis. The mixed methods approach is a combination of both the quantitative and qualitative approaches. The emancipatory research approach is a critique of the above types. Its main argument is that the above approaches do not respond to the needs of marginalized or vulnerable groups. This approach aims to bring about positive change in the lives of the research subjects. However, it is not a neutral stance. The researchers are likely to have a political agenda and to try to give the groups they are studying a voice, because the researchers want their research to directly or indirectly result in some kind of reform.

29.4.2 Research designs

A research design is the conceptual structure within which research is conducted. The function of research design is to provide for the collection of relevant data with a minimum expenditure of effort, time, and money. The preparation of a research design appropriate for a particular research problem involves the consideration of the research objectives and/or research questions and the methods of data collection.

A planner and/or researcher has to select a design which suits the kind of study, intensity of data collection, and data analysis to be used. Research design can take the form of experimental or non-experimental studies. Experimental studies have to follow standardized research designs, which are commonly applied to basic research. It is more likely that a planner uses a non-experimental design.

There are various non-experimental research designs:

1. Case study design is an investigation strategy involving extensive exploration of a single unit of study, which may be a person, family, group, community, or institution, or a very small number of subjects who are examined intensively. The number of variables is usually large.
2. Cross-sectional design is a research strategy in which one or more group(s) of subjects are studied at a given point in time.
3. Longitudinal design is a research strategy in which one or more group(s) of subjects in various stages of development are examined simultaneously with the intent of inferring trends over time.
4. Survey design is a design in which data are collected with questionnaires or through personal interviews with members of an identified population.

29.4.3 Sampling

Sampling is the process of selecting subjects to participate in a research project, to represent a population under study. The population from which a sample is drawn is known as the research population. This research population consists of subjects. If all individual subjects of the research population are listed, we speak of a sample frame. Planners should understand that collecting data from every subject or individual in the population is usually expensive, if not impossible. That is why there is a need for sampling. The number of subjects selected to represent the population constitute what we call the sample size.

There are several approaches to determining the sample size. These include using a census for small populations, adopting a sample size from similar studies, using published tables, and applying formulae and software. The sample must be large enough for meaningful analysis of the results. Two common sampling methods are probability and non-probability techniques. Probability sampling uses some form of random selection whereby each object in the population has an equal chance (probability) of being selected. Probability sampling techniques vary from simple random sampling, to stratified random sampling, systematic random sampling, cluster sampling, and multi-stage sampling. Non-probability sampling is judgmental, whereby the decision on the sample size depends on the situation on the ground. One of the differences between non-probability and probability sampling is the presence or absence of a sample frame. In non-probability sampling the probability that each subject in the research population will be included in the sample is unknown, and thus the sampling is non-random. Some of the non-random

sampling methods are quota sampling, purposive sampling, snowball sampling, and convenience sampling.

29.4.4 Variables and measurement

Perhaps the most important component of any good research study is a clear understanding of variables and how they are measured. Variables are those simplified portions of the complex phenomena/concept that you intend to study. The word variable is derived from the root word ‘vary’—that is, changing in amount, volume, number, form, nature, or type. Measurement is one of the most important characteristics of a variable. Variables should be measurable—that is, they can be counted or subjected to a scale and ratio. Variables can be nominal, ordinal, or interval ratio. The expected values derived from these variables will, therefore, be in terms of numbers, amount, category, or type. When variables can be quantified, statistical analysis will then be possible, and correlations or differences between variables can be determined.

In different schools of thought, variables can be classified as independent, dependent, background, and intervening variables. Others have classified variables into six categories: independent, dependent, intervening, moderator, control, and extraneous variables.

1. Dependent variables show the effect of manipulating or introducing the independent variables.
2. Independent variables are those that the researcher has control over. Whatever the case may be, the researcher expects that the independent variable(s) will have some effect on (or relationship with) the dependent variables.
3. Intervening refers to abstract processes that are not directly observable but that link the independent and dependent variables.
4. Moderator variables affect the relationship between the independent and dependent variables by modifying the effect of the intervening variable(s). These kinds of variables are measured and taken into consideration during the interpretation of results.
5. Control variables are those that are not measured in a particular study but considered to be constant, neutralized/balanced, or eliminated, so they will not have a biasing effect on the other variables.
6. Extraneous variables are those factors in the research environment which may have an effect on the dependent variable(s) but which are not controlled. Extraneous variables are dangerous. They may damage a study’s validity, making it impossible to know whether the effects were caused by the independent and moderator variables or by some extraneous fac-

tor(s). If they cannot be controlled, extraneous variables must at least be taken into consideration when interpreting results.

In addition, a variable should be considered from three basic aspects: objects, properties, and values. The variable as research object refers to the persons, places, or things you do your research on. The object is also called the unit of analysis. Thus, variables can vary depending on the discipline of the study. For example, in agriculture the research objects can be people (e.g. farmers, livestock keepers, extension officers, stockists), or things (e.g. crops, fertilizers, tools), or places (e.g. highland, lowland, semi-arid areas). The second aspect is the properties (characteristics or attributes) of the research object—for example, the age, sex, or weight of a farmer, or the type of a crop. Clearly, properties are not the same as the objects themselves; rather, properties describe some characteristic of the object (e.g. in terms of size, colour, shape, or temperature). Thirdly, we need to understand variable values. A variable is a property that takes on different values as circumstances and situations change; the value is a number that represents either the magnitude of the variable (e.g. an individual's height) or the category of the variable (e.g. male or female).

29.4.5 Data types: Primary and secondary data

Research data is collected, observed, or created for purposes of analysis to produce original research results. Research data can be classified into two types, depending on their source: primary data, and secondary data. Primary data are simply data collected by the researcher. In contrast, secondary data are collected from other studies.

Both primary and secondary data can be either quantitative or qualitative. Quantitative data is data that is in numerical form. Qualitative data, on the other hand, is richer than quantitative data, as it encompasses not only words or texts but also other forms, such as photographs, videos, sound recordings, and so on.

Furthermore, there are four types of data: nominal, ordinal, interval, and rate. These are abbreviated as NOIR. As types of data, the NOIR are associated with measurement scale. Data can be categorized either as raw or individual data. Individual data provide precise and specific values for each type of sample taken; an exact value is given for individual items in a sample range (e.g. income per month, height of individual). Grouped data is a form of data that

does not present values on an individual basis but in grouped form; several values fall within certain classes or groups. Discrete data are statistics which can be given only as whole numbers. Continuous data can take any value in a range and, therefore, can be presented as fractions.

29.4.6 Sources of data

There are several sources of primary data, based on the design and subjects under study. In a non-experimental design, data are collected from respondents (e.g. through interview observation, action research, longitudinal studies, life stories, ethnographic research, surveys and census); in experimental design, data are measured and recorded. However, in some non-experimental studies, data can be obtained from respondents by measurement and recording (e.g. weight, height).

Sources of secondary data include the following: previous research, official statistics, mass media, diaries, letters, government reports, historical data and information, and web-based information. With the advancement of ICT, there are a number of free online sources of data.

29.4.7 Data collection methods and tools

Data collection is an important aspect in any research undertaking. Inaccurate data collection can lead to poor results and, hence, to poor decisions. Therefore, a planner needs to plan for data collection methods, which vary between quantitative and qualitative research. Quantitative methods are useful in providing magnitudes, and qualitative methods are useful when researchers want to gain insights into an issue. Some data collection methods and tools are listed and described in Tables 29.1 and 29.2.

Table 29.1

Quantitative methods, description and tools

Method	Description	Tools
Structured interview	The researcher asks a standard set of questions (mostly closed-ended and rarely open-ended) and nothing more. The interviews are more structured and can be conducted by <ul style="list-style-type: none"> • Face-to-face interview • Telephone interview • Computer assisted personnel interview (CAPI) 	Questionnaire
Mailed questionnaire	he researcher prepares a series of questions and sends them to respondents in the research site. The questions can be in the form of <ol style="list-style-type: none"> 1. Paper and pencil questionnaire 2. Internet-based questionnaire Respondents fill in answers to the questions. After completion, the researcher collects the filled questionnaires from the respondents physically, through mail, or online. The method is suitable for literate respondents. The limitations to this method are the chances of omissions by skipping some of the questions, and high non-response rates by discarding the questionnaire	Questionnaire
Documentary review (abstraction)	Involves the use of secondary data and information of previous research findings, located in libraries, on CD-ROMs, on the Internet. The method is cheap, but it can lack flexibility and not fit well with a particular research study—one may have no access to some ‘confidential data’, or data may be out of date or incomplete	Check list
Experimentation	A researcher conducts laboratory or field experiments and observes/measures changes in the subjects or relationships of the studied aspects	Check list
Telephone survey	Involves either telephoning directly or random-digit dialling to respondents who will answer questions. It is possible to have control over which member of the household to interview	Questionnaire

Table 29.2

Quantitative methods, description and tools

Method	Description	Tools
Unstructured interviews / in-depth interviews	Uses open-ended questions, and everything reported by a respondent is recorded. It is unnecessary to ask the respondents all the questions in the same order. The method is easy to apply but complicated in the processing of the data collected. Also, it requires qualified interviewers who know the ins and outs of the study)	Checklist or guide questions
Focus group discussion	Involves a discussion between respondents (a small group of 6–15 people) and a researcher. The researcher simply facilitates the discussion and records the information from the discussion. Information is recorded by note taking, video filming, and tape recording. It is easy and cheap to apply but data processing is difficult and time-consuming.	Checklist or guide questions
Observation	A researcher observes and records observations while either part of the studied community (participatory) or not part of the studied community (non-participatory), depending on the sensitivity of the issue under study.	Checklist, camera, sense organs
Participatory rural/urban appraisal (PRA/PUA)	A researcher conducts laboratory or field experiments and observes/measures changes in the subjects or relationships of the studied aspects	Checklist of appraised items
Participatory learning and action taking (PLA)	This is an improvement of PRA/PUA. Both the researcher and the studied community participate together fully in identifying the problem, learning about it, and taking action to solve it. This method is useful for project identification, development, and execution. It is suitable for studying sensitive issues facing communities, and there is a high degree of community involvement in the identification of the problem, planning for measures to get rid of it, and implementation of the means to solve it. However, the method is costly in terms of time and fiscal resources, and it is difficult to apply in studying large communities—that is, it has small coverage	Checklist of items to learn
Documentary review (abstraction)	Involves the use of secondary data and information of previous research findings found in libraries, on CD-ROMs, and the Internet. The method is cheap, but it can lack flexibility and not fit well with a particular research study—one may have no access to some ‘confidential data,’ or data may be out of date or incomplete	Checklist

29.4.8 Preparing data collection tools

A questionnaire is a research tool consisting of a series of questions used for the collection of data from respondents. Questions should be carefully designed in order to capture the required data. A development planner, when preparing questions for a questionnaire, should consider the following:

1. All issues, concepts, and phenomena in a research problem.
2. All variables and their indicators appearing in the research objectives, questions, and conceptual framework. Questions should be set by considering the relationship between variables. For example: Do you know malaria preventive measures? 1 = Yes; 2 = No. If Yes which one do you apply?
3. The ways data will be analysed depend on data type (NOIR).
4. The mode of administration. Face-to-face questionnaires can include complex questions on complex issues; for self-administration, a questionnaire should include simple questions which are easy and clear.
5. Questionnaires should consider the two main types of questions:
 - a. Closed-ended questions, which offer a list of options with possible answers, from which respondents are required to select one. These types of questions are difficult to construct but easy to process, analyse, and report.
 - b. Open-ended questions, which allow free responses since no options are given to respondents. For example: Do you think it is good to cane students in school? 1 = Yes; 2 = No. Why? These types of questions are easy to construct but difficult to process, analyse, and report.
6. Questions should be simple, clear, and unambiguous (avoid the use of technical jargon). Use simple language. Questions should be short, not asking many things at the same time. Avoid leading questions, such as: Do you go to hospital when suffering from malaria? Instead, ask: What do you do when you get malaria?
7. Layout, instructions, and order of the questions in a questionnaire. Layout includes space, positions of questions, answers, and instructions. This is important to prevent confusion on how to indicate responses and minimize the chances of overlooking some of the questions. Thus, the questionnaire should be divided into sections, each addressing a specific issue, usually according to specific objectives or hypotheses. Leave enough space between questions to avoid congestion, and print only on one side of the paper. For open-ended questions, provide enough space to avoid congestion of responses. Provide instructions to assist respondents to record accurately their answers (for self-administered questionnaires). Give general instructions at the beginning of the questionnaire—for exam-

ple, purpose of the study—and also give section instructions. Questions should have a logical flow, passing from easy to difficult. Sensitive questions should be placed at the end of the questionnaire, to avoid discarding of questionnaires or disappointing respondents.

29.5 Research process

The planner needs to have an understanding of the process required to carry out research. Broadly, a research process starts with problem identification and ends with the dissemination of findings. However, it is interesting to note that the process is cyclic (Kothari 2009; Scarfe 2009; Philips & Carr 2010). Kothari (2009) identifies seven steps to complete a research process: problem identification; literature review; formulation of research problem; formulation of objectives, questions, and/or hypothesis; research design (including sampling design); execution (data collection); analysis of data (testing hypothesis); and interpretation and reporting. In this Handbook, however, we deal with problem identification; formulating research objectives, questions, and hypothesis; data collection; data processing and analysis; and research dissemination and uptake.

29.5.1 Problem identification

Identification of a research problem is the first and most important step in the research process. A research problem identifies what you intend to research and decides what you want to find out. The problem can be identified during the implementation, monitoring, and evaluation of previous plans. Planners should identify and examine the research problem thoroughly, carefully, and critically. It is extremely important to evaluate the research problem in the light of the financial resources and time available and the expertise required. A problem statement should be stated in its broader form and should be supported by evidence and data (Kothari 2009).

29.5.2 Formulating research objectives

After identifying the problem, a planner needs to set out the objectives of the study if the research is quantitatively oriented. This is simply because the researcher needs to see clear outputs from what he/she is attempting to do—that is, specific results that a planner or authority should achieve with-

in a given period and with the resources available. The main objective is an overall statement of the thrust of the study, carrying the main associations and relationships that the researcher seeks to discover or establish. The specific objectives can be seen as the specific aspects of one's main objective, within the main framework of a study. Each objective should contain only one aspect of the study and be written using action-oriented words or verbs. The objective should start with words such as 'to determine,' 'to discover,' 'to ascertain,' 'to measure,' and 'to explore.' The wording of objectives can give an indication of the type of research to be undertaken (descriptive, correlational, explanatory, experimental).

In addition to objectives, a researcher may have research questions, especially in the case of qualitative studies. As a researcher wants to uncover issues regarding his/her research, he/she sets value-free questions, which will normally have a descriptive character. Basically, the questions lead a planner to know or understand what he/she wants to know or understand. As there are main objectives and specific objectives, similarly there are main questions and sub-questions in the research process.

A hypothesis is a statement about some real-world phenomenon that can be tested through observations. It is a proposition that suggests that one thing will result in some effect on or change in another. Put more formally, it is an argument that change in one variable will result in some change in another. For a planner, the use of hypothesis testing is a means to learn about the world and advance knowledge for planning purposes. A planner's research is already embedded in an area of interest. The next step is to gather all possible information on the topic of interest. This assists in learning what is already known about the topic. As the planner reads the material on the topic of interest, some unanswered questions arise; these are excellent ideas for areas to investigate. Then it is important that there is the generation of unanswered questions of interest for further exploration. These become research questions. However, once the research questions are generated, it is time to see if the existing findings and/or theories about the topic provide any clues that would allow one to make an educated guess as to what the answers to the research questions might be. If there are, then these form the basis for the hypotheses.

29.5.3 Data collection process

Data collection is the process of gathering data (primary and secondary) on variables of interest in an established, systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study, including natural and social sciences, humanities, and business. While methods vary by discipline, the emphasis on ensuring accurate and honest data collection remains the same.

It should be clear from the start that consequences from improperly collected data include the following: inability to answer research questions accurately; inability to repeat and validate the study; distorted findings, resulting in wasted resources; misleading other researchers to pursue fruitless avenues of investigation; compromising decisions for public policy and causing harm to human participants and animal subjects. While the degree of impact from faulty data collection may vary by discipline and the nature of an investigation, there is the potential to cause disproportionate harm when these research results are used to support public policy recommendations. The primary rationale for preserving data integrity is to support the detection of errors in the data collection process, whether these are made intentionally (deliberate falsifications) or not (systematic or random errors).

Most et al. (2003) describe quality assurance and quality control as two approaches that can preserve data integrity and ensure the scientific validity of study results. Each approach is implemented at different points on the research timeline. While quality assurance takes place before data collection begins, quality control takes place during and after data collection

To ensure data quality, the researcher should use a standardized protocol developed in a comprehensive and detailed procedure manual for data collection. To ensure a planner/researcher has quality data, quality assurance should pay attention to prevention (i.e. forestalling problems with data collection). Prevention is the most cost-effective activity to ensure the integrity of data collection. This pro-active measure is best demonstrated by the standardization of a protocol developed in a comprehensive and detailed procedure manual for data collection. Consequently, planners/researchers should avoid poorly written manuals, as this will increase the risk of failing to identify problems and errors early in the research endeavour. These failures may be prevented in a number of ways. One should avoid the following:

1. Uncertainty about the timing, methods, and identity of person(s) responsible for reviewing data
2. Partial listing of items to be collected
3. Vague description of data collection instruments to be used, rather than rigorous step-by-step instructions on administering tests
4. Failure to identify specific content and strategies for training or retraining staff members responsible for data collection
5. Obscure instructions for using, making adjustments to, and calibrating data collection equipment (if appropriate)
6. Absence of a specific mechanism to document changes in procedures that may evolve over the course of the investigation.

An important component of quality assurance is developing a rigorous and detailed recruitment and training plan. Implicit in training is the need to effectively communicate the value of accurate data collection to trainees (Knutterud et al. 1998).

During and after collection of data in the field, library, or laboratory, a researcher/planner must ensure that all necessary actions are taken to control the quality of the collected and processed data. Quality control should be performed by monitoring what data collectors or processors are doing, and taking appropriate action to correct any errors. The details on monitoring and actions to be taken should be carefully documented in the procedures manual. A clearly defined communication structure is a necessary pre-condition for establishing monitoring systems. There should not be any uncertainty about the flow of information between principal investigators and staff members following the detection of errors in data collection. A poorly developed communication structure encourages lax monitoring and limits the opportunities for detecting errors.

Monitoring can take the form of direct staff observation during site visits, conference calls, or regular and frequent reviews of data reports to identify inconsistencies, extreme values, or invalid codes. While site visits may not be appropriate for all disciplines, failure to regularly audit records will make it difficult for investigators to verify that data collection is proceeding according to the procedures established in the manual. In addition, if the structure of communication is not clearly delineated in the procedures manual, transmission of any change in procedures to staff members can be compromised. Quality control also identifies the required responses or actions necessary to correct faulty data collection practices and also minimize future occurrences. These actions are more likely to occur if data collection procedures

are vaguely written and the necessary steps to minimize recurrence are not implemented through feedback and education. Examples of data collection problems that require prompt action include the following: errors in individual data items; systematic errors; violation of protocol; problems with individual staff or site performance; and fraud or scientific misconduct.

29.5.4 Data processing and analysis

Planners should understand and remember that data processing and analysis involve a number of closely related operations that are performed with the purpose of summarizing and organizing the collected data in such a manner that they answer the research questions (objectives).

The data processing operations involve coding, editing, and classification. For quantitative data, coding is the process of numbering all possible answers in all closed-ended questions in the questionnaire. Each answer is given a number for it to be entered in data processing software. Editing is the process of examining the collected raw data to detect errors and omissions and to try to prevent and correct these. Corrections, basically, can be performed in the tool used to collect data and during coding questions. This can be done during the tools' pretesting. In some cases, it can be done during data collection, especially on questionnaires when the researcher can countercheck each questionnaire submitted by the enumerators. Then questionnaires can be entered into the statistical software to be used for further processing and analysis.

Classification is the important process of arranging data in groups or classes on the basis of common characteristics depending on the nature of the phenomena. Tabulation is the process of summarizing raw data and displaying it in a compact form for further analysis. It is an orderly arrangement of data in columns and rows. Tabulation is essential for several reasons: it conserves space and reduces explanatory and descriptive statements to a minimum; it facilitates the process of comparison; it facilitates the summation of items and the detection of errors and omissions; and it provides the basis for various statistical computations.

For the purpose of this Handbook, we will look at content analysis as one way of doing qualitative data analysis. This is a very personal process with few rigid rules and procedures. Content analysis means identifying the main themes

that emerge from the responses given by the respondents. Qualitative analysis can be performed manually or using computer software such as Nvivo.

The process of qualitative analysis involves a number of steps:

Step 1. Identify the main themes. Carefully go through the descriptive responses given by respondents to each question in order to understand the meaning they communicate. From these responses the researcher develops broad themes that reflect these meanings. Note that people use different words and language to express themselves. It is important that you select the wording of the theme in a way that accurately represents the meaning of the responses categorized under a theme. These themes become the basis for analysing the text of unstructured interviews.

Step 2. Assign codes to the main themes. If you want to count the number of times a theme has occurred in an interview, you need to select several responses to an open-ended question and identify the main themes. You can continue to identify these themes from the same question until a saturation point is reached. Write down these themes and assign a code to each of them, using numbers or keywords.

Step 3. Classify responses under the main themes. Having identified the themes, go through the transcripts of all the interviews and classify the responses under the different themes.

Step 4. Integrate themes and responses into the text of your report. Having identified responses that fall within different themes, the next step is to integrate these into the text of your report. While discussing the main themes that emerged from your study, you can use verbatim responses to retain the feeling of the response. Some researchers count how frequently a theme occurred and then provide a sample of the responses. It depends entirely upon the way you want to communicate the findings to the readers.

Quantitative analysis is the method most suited to numerical data. A planner can perform analysis manually or with the help of computer software such as SPSS, SAS, STATA, or MinTab.

Manual data analysis can be performed if the number of respondents is reasonably small and there are few variables to analyse. However, this is useful only for calculating frequencies and for simple statistics such as mean, median, and coefficient of variation. Manual data analysis is extremely time-con-

suming. The easiest way to do this is to code it directly onto large graph paper in columns. Detailed headings can be used, or question numbers can be written on each column to code information about the question. To manually analyse data (frequency distribution), count various codes in a column and then decode them. In addition, if one wants to carry out statistical tests, they have to be calculated manually. However, the use of statistics depends on one's expertise and the desire/need to communicate the findings in a certain way. A planner needs to know formulae and how to use them.

Data analysis using a computer requires one to be familiar with the appropriate software designed to carry out statistical analysis. In this area, knowledge of computers and statistics plays an important role. There are a wide range of statistical software programmes, ranging from Microsoft Excel to very complex software used in modelling (e.g. STATA). However, the most common software is SPSS for Windows, and there is a user manual that has been developed which can assist in learning quickly how to use the programme.

29.5.5 Research dissemination and uptake for planning

Before dissemination, research results need to be presented. This is done in various forms, depending on the type of analysis performed. The most common forms used in data presentation of quantitative data are tables and figures which carry descriptive statistics. Some tables can show elements of inferential statistics. For qualitative data, data can be shown through paraphrasing the words of the respondents or quoting them directly. Pictures can also be shown in the texts; media material can be attached as separate files, or there can be a link leading one to the source.

Writing the report is the final, and for many the most difficult, step of the research process. The report informs the world what one has done, what one has discovered, and what conclusions one has drawn from the findings. The audience for whom the research is written determines the style of writing.

The dissemination of research results can be through technical forums, such as academic workshops and conferences, in the form of papers, articles, reports, books, and posters. To policy makers, dissemination can be performed through policy briefs; to the community, research results can be disseminated using knowledge-sharing products written in a simple language that the community can understand and remember; research results can also be disseminated through documentaries.

Research uptake refers to the processes by which the knowledge which is generated through research finds its way to those who need it; these may be practitioners, end-users, and policy makers in government and other agencies. Research uptake encompasses the notion that research is intended for particular, predefined outcomes and for particular audiences/users; it is made accessible and intelligible to them by strategic communication planning, producing, and publishing of the research findings in appropriate formats and media. It is a planned, stakeholder-focused approach.

29.6 Conclusion

Planners need to be equipped with knowledge and skills for doing research. This stems from the fact that without relevant, reliable, justifiable, replicable, and timely data, planners cannot produce an effective plan. Planners can undertake research objectively or subjectively, as long as they observe the ethics of doing research.

The planner needs a number of research-based competencies, such as identifying and defining research problems on which planning for intervention is based, setting research objectives, formulating research questions or stating hypotheses, identifying appropriate approaches and methods, measuring variables, collecting data of different types from different sources, processing collected data, analysing processed data, interpreting research results, making generalizations, disseminating research results, and using research results for planning purposes.

References

- Knatterud, G.L., Rockhold, F.W., George, S.L., Barton, F.B., Davis, C.E., Fairweather, W.R., Honohan, T., Mowery, R. & O'Neill, R. (1998). 'Guidelines for quality assurance in multicenter trials: A position paper', *Controlled Clinical Trials* 19: 477–493.
- Kothari, C.R. (2009). *Research Methodology: Methods and Techniques* (2nd rev. ed.) New Delhi: New Age International, 418 pp.
- Most, M.M., Craddick, S., Crawford, S., Redican, S., Rhodes, D., Rukenbrod, F. & Laws, R. (2003). 'Dietary quality assurance processes of the DASH-Sodium controlled diet study', *Journal of the American Dietetic Association* 103(10): 1339–1346.
- Phillips, D.K. & Carr, K. (eds) (2010). *A Teacher through Action Research: Process, Context and Self Study*. London and New York: Routledge Group, 250 pp.

Scarfe, A.D. (ed.) (2009). *The Adventure of Education: Process Philosophers on Learning, Teaching and Research*. Amsterdam and New York: Rodopi.

30

Mainstreaming Gender and HIV/AIDS in Development Planning

Domitilla Bashemera, Christina G. Mandara, Irene Reginard, Aisha Mjegere

30.1 Introduction

Mainstreaming refers to the consideration of concerns which are not well addressed in development planning but have effects in the planning process. These concerns include gender and HIV/AIDS. These concerns are fully taken on board in all aspects of development. This chapter describes how gender and HIV/AIDS can be mainstreamed in the development planning process, with the aim of enabling planners to consider them during planning. The chapter is divided into four sections. Following this introductory section is Section 2, on gender mainstreaming in development planning. Section 3 is devoted to HIV/AIDS mainstreaming, and this is followed by a conclusion, outlining the main issues raised in this chapter.

30.2 Gender mainstreaming in development planning

30.2.1 Gender analysis

Gender analysis is the process of assessing the impact that a development activity may have on females and males based on their relations in terms of economic and social relationships. These relations between males and females are constructed and reinforced by social institutions (Hunt 2004). Gender analysis can be used to reveal a situation where men and women are disadvantaged by development activities, thereby identifying priority areas for action so that the organization responsible can promote equality between women and men.

During programme and project implementation, monitoring, and evaluation, gender analysis assists in the assessment of differences in participation, benefits, and impacts between males and females, including progress towards gender equality and changes. Gender analysis can also be used to assess and build capacity and commitment to gender-sensitive planning and programming at all planning levels, including donors, partner organizations, and the community (at household as well as individual level). Moreover, the analysis identifies gender equality in resources allocation at local or national planning level. The results from gender analysis are gap identification, measurement of inequality, and identification of useful indicators. For example, we can measure the gender gap between boys and girls in school enrolment.

30.2.2 Gender mainstreaming

Gender mainstreaming advocates the inclusion of women's and other disadvantaged populations' views and priorities in decisions concerning development goals and processes. Gender mainstreaming is the step succeeding gender analysis. It involves the step between analysis and incorporating that analysis into the policy and programme decisions that will contribute to equality of outcomes for men and women in all development work (Hunt 2000). Moreover, gender mainstreaming concerns advocacy, networking, and knowledge management as much as gender analysis. It concerns policy influence as much as it is project and programme design (Murison 2004). Instead of having separate policies for gender equality—or adding on gender equality concerns to already formulated policies, programmes, and procedures—the gender perspective is introduced from the beginning into all policies, programmes, and procedures. Gender mainstreaming is the strategy used to pursue the Tanzania government's policy on women in development (URT 1992). The policy affirms gender equality as a fundamental goal of broad policy decisions, institutional structures, and resource allocation. It advocates the inclusion of women's views and priorities in decisions concerning development goals and processes.

Gender can be mainstreamed in reference to organization structure, organization functioning, and the impact of such functioning on society—as detailed in the following:

Organization structure. An organization is composed of structures, policies, procedures, and cultures which consider the following:

1. Clear policy on a commitment to gender equality, supported by pro-active senior and middle management and expressed in a written policy or mission statement.
2. Time-bounded strategies to implement the policy which are developed in consultation with staff; a mechanism to ensure that staff understand the policy and its implications in their daily activities; the competencies and resources required to implement the policy effectively.
3. Human resources practices that are sensitive to the gender needs and interests of both men and women, especially those in disadvantaged situations (e.g. people with disabilities).
4. Internal tracking and monitoring capability to ensure that strategic objectives are reached, and support for both organizational learning and management accountability.
5. A central gender mainstreaming unit with policy responsibility and a mandate to guide the overall gender mainstreaming process. Some organizations have specific units to support the incorporation of gender issues into their programmes—for example, IRDP have a cross-cutting issues unit which ensures that all IRDP activities are gender-responsive. A recognized network of staff responsible for gender equality issues in their respective work units, coordinated as a team by the policy unit (often called a Gender Focal Point Network).
6. Systematic on-going consultation with women, as well as men, to identify their own priorities, success stories, lessons learned, tools, and mechanisms. This is only in organizations that genuinely value consultation and the types of knowledge that it produces and that allocate the necessary staff and budgetary resources. Consultation does not end with the design phase of the project but must be undertaken throughout project implementation. This is of critical importance, because the ultimate impact will be watered down if the project strays from community concerns or does not adjust to any changes in these concerns.
7. Project management that is technically proficient, aware of the implications of gender differences for project outcomes, remains in touch with the constituency, and establishes positive incentive and accountability mechanisms to ensure consistent results is extremely important.
8. Effective monitoring and reporting mechanisms capable of reflecting how far the project is contributing to greater gender equality.
9. Gender analysis (a subset of socio-economic analysis) that explores the national and international context in which the communities concerned are operating, clarifies the ways in which this context impacts differently on women and men, and identifies the implications of these differences for project activities. Gender analysis helps to make the differences be-

tween men and women more visible and shows the policy and programme implications of these differences. Basic gender analysis principles include the following:

- a. Sexual division of labour
- b. Access to and control over resources
- c. Practical and strategic needs and interests
- d. Formal and substantive equality.

Organization functioning. Substantive activities that an organization can undertake include the following:

1. Systematic on-going consultation
2. Project management
3. Effective monitoring and reporting mechanisms

Some steps for gender analysis were identified by Hunt (2004), as shown in Figure 30.1:

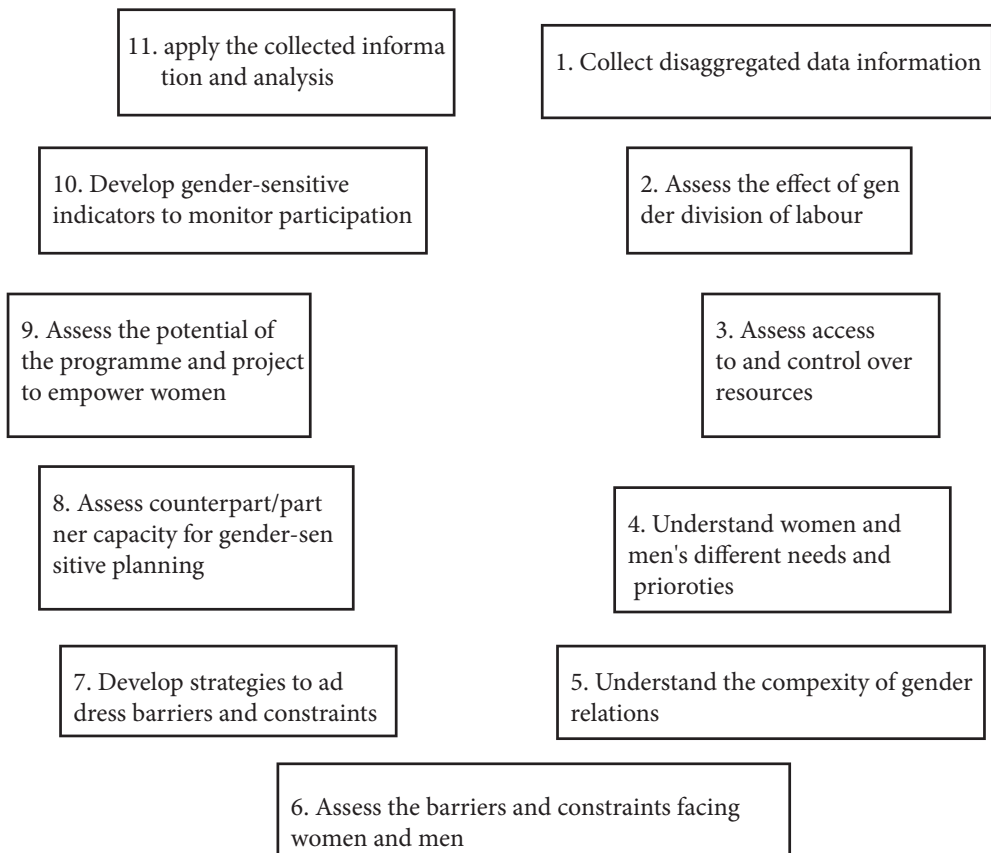


Figure 30.1
Steps for gender analysis

Impact of organization functioning on society. This aspect refers to increased gender impact on equality in the broader community. At this level the expected outcomes are progress towards measurable improvement in meeting women's and other disadvantaged populations' practical needs and strategic interests in the planning area. Important elements at this level are the following:

1. Identification and description of relevant baseline gender-disaggregated (sex) information, appropriate milestones, and indicators obtained from gender analysis to facilitate progress towards greater gender equality
2. Consultation with the community concerned, to check and compare their perspectives with the information revealed by the identified indicators
3. Clear reporting mechanisms that can get the word out efficiently
4. Good relationship with the media, opinion leaders, and decision makers in the community being served. The experience gained and lessons learned can be effectively disseminated and absorbed into social practice.

30.2.3 Gender budgeting

Gender budgeting aims to produce a budget in which gender has been mainstreamed and does not aim to produce a separate budget for gender. This means that the formulated plans translated into a budget already incorporate, from a gender perspective, an analysis of public expenditure and methods of raising public revenue. The key questions are these: What impact does this fiscal measure have on gender equality? Does it reduce gender inequality, increase it, or leave it unchanged?

The implication is not that a numerically equal amount of expenditure in all programmes should accrue to males and females. Males and females may have different needs, warranting differential allocations of expenditure. For instance, health programmes have to make provision for maternal care for women but not for men. Moreover, much government expenditure is on public goods, such as street lighting, where the benefits are not delivered exclusively and individually. If street lighting is provided in an area, everyone there benefits from it. Here the issue is whether men and women have different priorities for local infrastructure, and whether women's priorities get the same weight as those of men.

Therefore, the basic issue is not that 50% of spending should go to males and 50% to females, but that spending should equally serve the needs and priorities of women and men and should serve to reduce gender inequalities.

Similarly with taxation: the implication is not that the tax bill should be split 50% to men and 50% to women. A larger share of national income accrues to men than to women, so fairness suggests that men should pay a higher share of taxes, especially as women contribute more than men to the unpaid work that supports and sustains families and communities.

On the other hand, the tax system should not build in regulations which perpetuate the dependence of women on men; both women and men should be treated as individuals in their own right. The focus on gender inequality also does not mean that other forms of inequality are ignored. Gender analysis can be structured so as to take into account other forms of inequality, such as class, race, and region. The key question might be reformulated, for example, as follows: Does this fiscal measure improve, worsen, or leave unchanged, the position of the most disadvantaged women?

In order to ensure effective implementation of gender-focused development programmes, there is a need for a country to have gender budget initiatives with five objectives (Akilimali 1997):

1. To strengthen lobby and advocacy skills for women and gender-oriented lobby groups
2. To effectively campaign for women's rights and gender equality/equity, especially in relation to more resource allocation and women's participation in policy making and public resource management structures
3. To examine the budgeting process and budgeting allocation in selected strategic ministries, such as those of health and education, for how they impact on women and other disadvantaged groups in the society, later progressing to other sectors of concern
4. To organize and carry out a lobbying campaign to influence technocrats and legislatures to increase budget allocations to sectors which are sensitive to women and other disadvantaged people
5. To provide popular information and an advocacy campaign to influence the public to be informed about the budgetary process and allocations and its consequences on community development, highlighting the distribution of national resources by gender but also stressing the actual utilization of those resources.

30.2.4 Tools and guiding principles for gender budget analysis

A gender budgeting initiative always involves a gender analysis of some dimension of the raising and use of public money. But there is no single way of

doing this. There are a number of analytical tools that can be used and adapted for particular circumstances. Whatever the tool being used, it is helpful when doing gender budget analysis to keep in mind two principles: ‘assessment on an individual and household basis’; and ‘recognition of the contribution of unpaid care work’.

Assessment on an individual and household basis. It is important to assess the budget from the point of view of poor households as compared with rich households. In this case, wealth ranking has to be employed. But it is also important to look within households and assess the budget from the point of view of individual women and men, recognizing that although households do share some resources, this is often done in ways that are incomplete and inequitable. Only if budgets are informed by individual as well as household assessment of likely impacts of tax and expenditure can women be treated as citizens in their own right and not merely as dependants of men. Only this will ensure that the budget is not based on the inaccurate assumption that all income coming into a household is pooled and equally shared by all members of the household—which is not the case.

Recognition of the contribution of unpaid care work. The extent to which a country achieves its social and economic objectives depends not only on the amount of paid work its people do, but also on the amount of unpaid work its people do caring for their family members and neighbours, and upon the amount of free time people have for leisure and for civic activities. Unpaid care work is still unequally shared between women and men in most countries, including Tanzania. For example, experience from Tanzania shows that a higher percentage (5.3%) of employed females were found to work as unpaid family helpers in non-agriculture activities compared with only 1.5% of employed males (URT 2010). This is one of the major obstacles to equality in unpaid work and to the full development of the talents of both women and men. A key dimension of a budget’s impact on gender equality is its impact on the amount of unpaid care work that has to be done. It is especially important to look at this in the context of expenditure cuts and reforms which are expected to improve effectiveness and efficiency. Tanzania obtains information about unpaid care work by time-use surveys and gender daily activity analysis (URT 2007), both of which are extensively used in an Opportunities and Obstacles to Development (O&OD) planning approach.

30.2.5 Outcomes and results framework

An outcomes and results framework is used to relate budgets to gender equality. The details of gender budgeting need to be designed in a country-specific way, but the general principle is always that of bringing together two bodies of knowledge which have usually been kept separate: knowledge of gender inequality, and knowledge of public finance and public sector programmes. It is relatively easy to identify budget allocations specifically targeted to women and girls (e.g. financial support to operate refuges for women who have been subject to domestic violence), to activities to raise awareness of gender inequality, and to capacity building to address such inequalities (e.g. gender mainstreaming training workshops for public officials). It is, however, important to conduct a gender analysis of the mainstream 'general' expenditure. If the budget cycle is taken as the point of departure, then it may be helpful to think in terms of the framework, which focuses on male and female specific issues in terms of Inputs, Activities, Outputs, and Impacts. The details of this framework are as follows:

1. Inputs consist of the money appropriated and spent, as presented in the functional or programme classification.
2. Activities consist of the services planned and delivered—for example, health services, industrial support services, social transfers, tax collection. (These may not always be well specified, and it may not be clear how much money should or did reach the point at which the activities interface with the public on a gender basis.)
3. Outputs consist of the planned and delivered utilization of the activities—for example, patients treated, businesses supported, incomes increased, taxes collected. (Desired outputs and indicators of them may not always be well specified—one challenge is to improve specification and to identify sources of relevant gender-disaggregated statistics.)
4. Impacts consist of planned and actual outcomes/results in relation to broader objectives, taking into consideration both male and females—for example, healthy people, competitive businesses, poverty reduction, sustainable growth of national income.

The impact of activities covered by the budget on the ultimate outcomes or results may be used in the planning and appraisal and in the audit and evaluation phases of the budget cycle.

A gender budget analysis can be conducted, irrespective of whether gender equality has been explicitly specified as a desired outcome and impact by

asking whether it has been planned for and realized. Questions to be asked may include the following:

1. Are the objectives of the budget promoting gender?
2. Are the impacts promoting gender equality?
3. Are the budget outputs fairly distributed between women and men?
4. Are the budget outputs adequate to achieve gender equality as well as other objectives?
5. Are the activities designed to be equally appropriate for women and men?
6. Are the activities adequate to achieve gender equality, as well as other objectives?
7. Are inputs adequate to achieve gender equality, as well as other objectives?

To answer these questions, sex-disaggregated data will be required and an understanding of the relevant gender relations. A variety of tools have been developed to conduct gender-sensitive analysis. For example, Elson (1997) suggested seven tools for gender-sensitive analysis for gender budgets as follows:

1. Gender-aware policy appraisal. This is an analytical approach which involves scrutinizing the policies of different portfolios and programmes by paying attention to the implicit and explicit gender issues involved. It questions the assumption that policies are 'gender-neutral' in their effects and asks instead: In what ways are the policies and their associated resource allocations likely to reduce or increase gender inequalities?
2. Gender-disaggregated beneficiary assessments. This is a technique used to ask actual or potential beneficiaries about their priorities and assess the extent to which government policies and programmes match these people's priorities.
3. Gender-disaggregated public expenditure incidence analysis. This technique compares public expenditure for a given programme, usually with data from household surveys, to reveal the distribution of expenditure between women and men, girls and boys.
4. Gender-disaggregated tax incidence analysis. This is a technique which examines both direct and indirect taxes in order to calculate how much taxation is paid by different individuals or households.
5. Gender-disaggregated analysis of the impact of the budget on time use. This technique looks at the relationship between the national budget and the way time is used in households. This ensures that the time spent by women in unpaid work is accounted for in policy analysis.

6. Gender-aware medium-term economic policy framework. This technique attempts to incorporate gender into the economic models on which medium-term economic frameworks are based.
7. Gender-aware budget statement. This is a technique that involves an accountability process which may utilize any of the above tools. It requires a high degree of commitment and coordination throughout the public sector, as ministries or departments undertake an assessment of the gender impact of their line budgets.

Moreover, approaches, including participatory approaches, are available to conduct this analysis. For example, Tanzania has adopted O&OD planning through participatory approach tools such as gender resource maps and gender daily activity analysis.

To bring about change, the results of the analysis from one or several techniques mentioned above must be effectively conveyed to policy makers and the public through reports, parliamentary questions and hearings, policy dialogues, newspapers, books, popular educational materials, and public meetings. An informed discussion should be facilitated and ways found to enable the public to participate in the setting of budget priorities, paying particular attention to enabling women to formulate and express their ideas. For effective mainstreaming of gender in planning and budgeting, gender analysis should be routinely applied to all aspects of programme and project planning implementation and review. The review of a programme should be modified in response to the needs and interest of both men and women (Hunt 2004).

30.3 Mainstreaming HIV/AIDS in planning instruments

HIV is a sexually transmitted infection which is transmitted from one person to another through sexual intercourse when an infected person enters into a sexual relationship without adequate protection. AIDS is the spectrum of conditions caused by this infection. The first cases of HIV and AIDS in Tanzania were reported in 1983 in Kagera region. Today, the epidemic has evolved and reached all regions, genders, ages, groups, and socio-economic classes and become a common problem affecting all Tanzania (ILO 2011).

Mainstreaming AIDS is a process that enables development actors to address the causes and effects of AIDS in an effective and sustainable manner, both through their usual work (residence) and within their workplace (UNAIDS, World Bank & UNDP 2005). Mainstreaming addresses both direct and in-

direct aspects of HIV/AIDS within the context of the normal functions of an organization or community. It is essentially a process whereby a sector analyses how HIV/AIDS can impact it now and in the future, and considers how sectoral policies, decisions, and actions might influence the longer-term development of the epidemic and the sector (UNAIDS, World Bank & UNDP 2005). In the following sub-sections, there is a presentation of the impact of HIV/AIDS on human development and on the possible ways to mainstream HIV/AIDS in development processes.

Tanzania is facing a general HIV epidemic: HIV prevalence among women and men decreased from 5.7% in the 2007–2008 Tanzania HIV Malaria Indicator Survey (THMIS) to 5.1% in 2011–2012. HIV prevalence in regard to place of residence is higher among women (6.2%) than among men (3.8%) (TACAIDS, NBS, OCGS & ICF 2013). Tanzanians living in urban areas are more likely to be HIV-positive than those living in rural areas (7.2% versus 4.3%).

In mainland Tanzania, HIV prevalence among women and men aged 15–49 decreased from 7.0% in the 2003–2004 Tanzania HIV Malaria Indicator Survey (THMIS) to 5.3% in the 2011–2012 THMIS. In addition, the decline is significant among men (6.3% to 3.9%). HIV prevalence by region ranges from a low of less than 1% in Pemba and 1.2% in Unguja to a high of 14.8% in Njombe region. Among couples where both partners were tested for HIV, 5% were discordant (i.e. one partner was HIV-positive but not the other). HIV prevalence by marital status is highest among women and men who are widowed and divorced/separated. Women and men who have never been married are least likely to be HIV-positive (TACAIDS, NBS, OCGS & ICF 2013).

30.3.1 Impact of HIV and AIDS

HIV/AIDS is having a disastrous impact on the social and economic development of countries greatly affected by the epidemic and will prove to be the largest single obstacle to reaching national and international social and economic development goals. Given that AIDS kills people primarily in the 15–49-year age group, it is depriving families, communities, and entire nations of their young and most productive people. It is therefore uniquely devastating in terms of increasing poverty, reversing human development achievements, eroding the ability of governments to provide and maintain essential services, reducing labour supply and productivity, and applying a brake to economic growth.

The following paragraphs describe how the HIV/AIDS pandemic impacts various aspects of life, ranging from issues of human survival to social cohesion:

Survival. AIDS has already taken a devastating toll in terms of increased mortality and morbidity. In the 35 highly affected countries of Africa, life expectancy at birth was estimated at 48.3 years in 1995–2000, 6.5 years less than it would have been in the absence of AIDS. By 2005–2010, average life expectancy at birth in the 11 worst-affected countries was projected to decrease to 44 years, instead of rising to 61 years as projected in the absence of the disease. In addition, under-five child mortality rates in some of the worst-affected countries are also on the rise as a result of HIV/AIDS.

Education. As teachers die and orphans drop out of school, gains in literacy and enrolment ratios are being quickly eroded. In some of the worst-affected countries, nearly one-half of children who lose their parents to HIV/AIDS drop out of school.

Economic growth. In the worst-affected countries, the epidemic is applying a brake to economic growth of at least 1–2 percentage points a year, greatly jeopardizing efforts to reduce poverty through equitable growth. For example, in Tanzania the household economic impacts of HIV begin as soon as a member of the household starts to suffer from HIV-related illnesses which lead to a loss of income of the patient (frequently the main breadwinner). Household expenditures for medical expenses may increase substantially, and death results in funeral and mourning costs and a permanent loss of income (less labour on the farm or lower remittances), resulting in a severe loss of future earning potential.

Income poverty. In both rural and urban areas, HIV/AIDS pushes people into deeper income poverty, as many households lose their breadwinner to AIDS, livelihoods are greatly compromised, and savings are eroded by the cost of health care and funerals.

Labour force. In Sub-Saharan Africa, the size of the labour force will be 10–30% smaller by 2020 than it would have been without HIV/AIDS. Erosion of human capital, loss of skilled and experienced workers, and reduction in productivity will result in a mismatch between human resources and labour requirements, with grave consequences for the private sector and for public sector employers. The problem of child labour is exacerbated by HIV/AIDS,

as children who have lost their parents have to rely on themselves for basic survival (USAID, AIDSTAR-One & PEPFAR 2012).

Food security. The HIV/AIDS epidemic is intensifying existing labour bottlenecks in agriculture, increasing malnutrition, and adding to the burden on rural women, especially those who head farm households).

Governance. HIV/AIDS has a disastrous impact on the capacity of governments to deliver basic social services. Human resources are lost, public revenues reduced, and budgets diverted towards coping with the impact. Similarly, the organizational survival of civil society institutions is under threat, with a corresponding impact on democracy.

Women. HIV/AIDS has a particularly severe impact on women in their productive as well as reproductive roles. Women tend to be more vulnerable to HIV infection for both biological and social reasons, and infection rates among young women are up to four times higher than among young men in many countries. Women are also the principal care providers for those ill with AIDS as well as for the children orphaned by AIDS.

Social cohesion. HIV/AIDS poses a threat to the very fabric of society and is increasingly recognized as a risk factor for social and political instability. AIDS is decimating entire generations of productive young adults, while leaving behind a huge cohort of children without parents and adequate community support, vulnerable to exploitation and lacking education and livelihood opportunities.

30.3.2 Mainstreaming HIV/AIDS in development

The United Nations Programme on HIV/AIDS (UNAIDS) defined mainstreaming AIDS as a process of enabling development actors to address the causes and effects of AIDS in an effective and sustained manner, both through their usual work and within their work place (UNAIDS, World Bank & UNDP 2005). Mainstreaming addresses both direct and indirect aspects of HIV and AIDS within the context of the functions of an organization or community. It is essentially a process whereby a sector analyses how HIV/AIDS can impact it now and in the future, and considers how sectoral policies, decisions and actions might influence the longer-term development of the epidemic and the sector. To respond effectively to the epidemic, it requires exceptional responses that demonstrate timeliness, scale, inclusiveness, part-

nership, innovation, and responsiveness. In other words, to stay on top of the rapidly evolving epidemic, actions need to be incorporated into sectors' normal operations while development actors simultaneously continue to seek innovations and extend new partnerships.

30.3.3 Addressing the causes of HIV/AIDS

A critical feature of mainstreaming is to take account of an organization's mission, mandate, and comparative advantages and to relate these to the direct and indirect aspects of the epidemic. Many HIV and AIDS responses to date address the direct causes and impacts of the epidemic—for example, changing the risky behaviours associated with HIV transmission, providing treatment and care, or addressing other immediate and measurable impacts of the epidemic. Mainstreaming HIV/AIDS includes these direct efforts but also acts indirectly by critically addressing the underlying causes of vulnerability to HIV infection and the longer-term consequences of AIDS (UNAIDS, World Bank & UNDP 2005).

Some of the key indirect factors and suggestions for possible responses (UNAIDS, World Bank & UNDP 2005) are listed in Table 30.1.

Table 30.1
HIV vulnerability factors and possible responses

Factors	Possible responses
Fear, denial, stigma, and discrimination	Provide awareness education in schools and workplaces and promote understanding through media-based advocacy campaigns and community out-reach efforts
Gender inequality and power differential	Involve both men and women to ensure equal access to education, employment, and protection of human rights, in addition to promoting an enabling environment for negotiation of safe sex with partners
Poverty and livelihood insecurity	Take actions at local and national levels especially in remote or poor areas, by mobilizing and promoting local talent and resources to alleviate hunger and reduce unemployment through sustainable means
Migration and displacement	Implement policies and programmes to enable access to health-care and workers' protection, especially for migrant workers, both domestic and foreign, while ensuring safe workplaces

Social-cultural norms, values, and practices	Place HIV and AIDS issues in the social, economic, and security context of a society. Pro-actively engage people living with and affected by HIV and AIDS to help the society understand which norms and behaviours are potential factors to increase the risks of contracting the virus. This is region-specific and depends on the religions and values of each community
National legislative and policy environment	Enact national laws which support mainstreaming efforts at all levels. Workplace policies and community-based awareness and treatment support by programmes should be supported by legislation to ensure their effective implementation. Engage politicians to take a leadership role on HIV and AIDS, based on the national commitment to UNGASS (United Nations General Assembly Special Sessions) and MDGs, and to consider HIV and AIDS as a national priority, given the threat to national security and a crisis with international implications

30.4 Conclusion

This chapter has focused on how gender and HIV/AIDS issues can be mainstreamed in development planning. With regard to gender mainstreaming, the main issues addressed are that gender analysis is important in the identification of gender gaps. Identification of gender gaps is key in the preparation of baseline information for mainstreaming gender issues in development planning. Organization structure, policies, procedure, and culture are important for socio-economic analysis in order to develop gender-sensitive programmes and budgets which increase gender equality. Study of unpaid work and individual and household situations are important principles for gender budget analysis. In conducting gender budget analysis, it is better to take a budget cycle as the point of departure, because it may be helpful to think in terms of the framework, which focuses on male- and female-specific issues based on Inputs, Activities, Outputs, and Impacts. Different tools for gender analysis are useful in the identification of gender gaps and key development indicators. Effective communication is very important to enable policy and decision makers take informed decisions and support gender mainstreaming in development planning processes. Moreover, to mainstream gender in planning and budgeting, gender analysis should routinely be applied to all aspects of programme and project planning implementation and review.

On mainstreaming HIV/AIDS issues, it has been argued that there is a need to recognize that all individuals are at risk of being infected with HIV, if not already the victims of HIV and AIDS. There is evidence that HIV and AIDS are decreasing, but the impact continues to affect all the productive sectors. People in urban areas are likely to be more affected than those in rural ar-

eas, and both men and women who have been married are more likely to be HIV-positive. HIV and AIDS impacts all productive development sectors and hence contributes to national economic decline. Therefore, the mainstreaming of HIV/AIDS in development planning requires empowering development actors to enable them to address the direct and indirect causes of HIV. They should be oriented in the development of possible actions to address the relevant factors.

References

- Akilimali, G. (1997). 'Gender budget initiative: Tanzania's experience', Tanzania Gender Networking Project, Brief presented at a workshop on 'Mainstreaming a gender equality perspective into national budgets' Dar es Salaam: TGNP.
- Elson, D. (1997). 'Tools for gender integration into macroeconomic policy', in: *Link into Gender and Development 2*, Summer, p. 13.
- Hunt, I. (2004). Introduction to gender analysis concepts and steps. *Development Bulletin 64*: 100–106.
- Hunt, J. (2000). Institutionalizing gender equality commitments in development organizations and programs. The Winston Churchill Memorial Trust of Australia, Canberra.
- International Labour Organization (ILO) (2011). HIV and AIDS. Dar es Salaam, Tanzania.
- Murison, S. (2004). 'Elements of a gender mainstreaming strategy: A 14-point framework', *Development Bulletin 64*: 95–99.
- Rau, B., Rugalema, G., Mathieson, K. & Stloukal, L. (2008). The evolving contexts of AIDS and the challenges for food security and rural livelihoods. FAO, Rome, Italy.
- Tanzania Commission for AIDS (TACAIDS), Zanzibar AIDS Commission (ZAC), National Bureau of Statistics (NBS), Office of Statistician (OCGS) & ICF International (2013). Tanzania HIV/AIDS and Malaria Indicator Survey 2011–12. Dar es Salaam, Tanzania: TACAIDS, ZAC, NBS, OCGS and ICF International.
- UNAIDS, World Bank & UNDP (2005). Mainstreaming HIV/AIDS in sectors and programmes. An implementation for national responses. Geneva, Switzerland.
- United Republic of Tanzania (URT) (1992). Policy on Women in Development in Tanzania, Dar es Salaam: Ministry of Community Development, Women Affairs and Children.
- United Republic of Tanzania (URT) (2010). Tanzania gender indicators. Booklet 2010. Dar es Salaam, Tanzania.
- United Republic of Tanzania (URT) (2011). A performance audit on the monitoring, evaluations and budget allocation for maternal health care in Tanzania. Dar es Salaam.

USAID, AIDSTAR-One and PEPFAR (2012). Mainstreaming HIV programming into natural resource management and economic growth (NRM/EG) activities in Tanzania. Technical Brief. Arlington, USA.

31

Human Resource Planning and Management

Stephen James, Judith Namabira, Rofina Mrosso

31.1 Introduction

Human resource planning (HRP) skills can help planners and human resources personnel. For planners, these skills can be used to plan for human resources at territorial level and at project or organization level. At territorial level, HRP refers to planning for capacity building of the entire labour force existing in the territory. It entails planning for the skills development (human capital) of the people living in a certain geographical area the planners are interested in planning for. This includes planning for vocational education, farmers' field schools, group learning, business incubators, and the like. To plan for human resources at project level, planners require more or less the same skills as those required by human resources personnel.

The focus of this chapter is on HRP at organization or project level. It aims to raise awareness of the importance of the issue of HRP. There is no doubt that for any local economic development, the human resource management of various organizations/projects existing in a certain locality is critical. The chapter begins with a section about the clarification of some concepts in HRP. It proceeds with a section that presents issues around employee resourcing. In the following section, it presents issues of performance management and appraisal. The chapter ends with a conclusion.

31.2 Concepts and processes of human resource planning

31.2.1 Human resource planning

HRP helps an organization to ensure that the right numbers of the right kinds of people are available at the right times and in the right places to translate the organization's plans into reality (Rothwell & Kazanas 2002). HRP is a more modern term than personnel planning and is synonymous with concepts such as workforce planning, manpower planning, and labour planning. HRP is also a soft approach and goes beyond mere quantification of human resource requirements. It is based on a systematic and continuous process of analysing an organization's human resource needs under changing conditions. It also integrates this analysis into the development of HRP policies that are relevant to meeting those needs (Pilbeam & Corbridge 2006).

HRP is practised at macro and micro levels (Bhattacharyya 2010). At the macro level, HRP is associated with a government's plans and policies to develop the human resources of a country, while at micro level, HRP involves organizational efforts to acquire the right number of employees to fill the job positions available.

31.2.2 Human resource planning stages

HRP at micro level begins with preparation of a job analysis, a procedure for determining the duties and skill requirements of job positions and the kind of people who should be hired to fill them (Dessler 2008). Job analysis can be performed by a human resources department or outsourced to a job analyst. Specifically, job analysis produces a job description, which consist of the job title, summary, scope, responsibilities, and duties, as well as the job specifications comprising information such as education, training, and experience required by the job holder. Job analysis helps human resource planners during recruitment and selection decisions.

Having carried out the job analysis, HRP should be aligned with organizational strategic planning to ensure that the human resources being sought by the organization attain the organization's vision, mission, and objectives. The process of job analysis is followed by two activities: demand and supply forecast. Demand forecast addresses the key question of how many human resources in terms of qualities such as skills, academic qualifications,

behaviours, and experiences are needed to perform the jobs in future. There are many qualitative techniques for demand forecasting, and of all the techniques, managerial judgment is commonly used in most organizations. By using the managerial judgment technique, the managers collectively prepare estimates of future human resource needs, based on the individual opinions of departmental or line managers (Ben 2013). The technique may involve a bottom-up approach by asking junior managers to sit down, think about their future workloads, and decide how many people they need. Alternatively, a top-down approach can be used, in which company and departmental forecasts are prepared by top management based on information from the personnel department. The suggested forecasts are circulated downwards for discussion and review in order to reach agreement among departmental managers.

After demand forecasting, human resource planners embark on supply forecast. This refers to the determination of the sources from which the organization can obtain human resources to fill the job vacancies. Supply forecast can be performed through a qualitative approach, which consists of qualification inventories analysis and personnel replacement charts. Qualification inventories analysis is based on recognizing the skill profile of candidates in terms of personal data, education, experience, seniority, health information, and performance records (Ngirwa 2006) to determine whether they fit with the demands of the job vacancy. A personnel replacement chart is often prepared within a wider succession plan of the organization and can be used to show the potential candidates who can take a top leadership or managerial position when the incumbent candidate retires or resigns. Supply forecast at organizational level can also be performed by using quantitative techniques. There are several techniques, including Markov-renewal models and wastage analysis. For the practical application of this chapter, wastage analysis is further elaborated because of its simplicity, and it can be used more easily by most practitioners undertaking supply forecast. Human resource wastage is an element of turnover (Bhattacharyya 2010) in an organization. It refers to the employee exit from the organization due to voluntary retirement, normal retirement, resignation, death, and dismissal. There are different methods of wastage analysis, including labour turnover index, stability index, and cohort analysis (Table 31.1).

Table 31.1
Wastage analysis methods

Wastage analysis methods	Definitions	Formula for computation
Labour turnover index (LTI)	The number of employees who have left as a percentage of the average number of employees	Number of employees leaving x 100/ (staff at the beginning + staff at the ending)/2. E.g. If 15 staff left and you have 45 staff at the start and 55 at the end, the LTI will be $[15 \times 100 / (45 + 55) / 2] = 30\%$
Stability index (SI)	An indication of stable workforce percentage for a given period	Number of employees with one year or more of service divided by the total number of staff on board one year ago; multiply the outcome by 100. E.g. If 150 staff have more than 1 year of service and 150 staff were on board 1 year ago, the stability index is: $(150/150) \times 100 = 100\%$
Cohort analysis	Calculation of the percentage of employees employed within a certain period who remain with the organization after many years of service. In other words, cohort analysis deals with the computation of the survival rate of employees in the organization employment through sustainable means	Number of employees remaining at a given time x 100/ Number of employees in the beginning. E.g. if a company 10 years down the road has 150 employees and at the beginning it had 100 employees, the survival rate is: $(150 \times 100) / 100 = 100\%$

Following job analysis, demand forecast, and supply forecast, the fourth process is the identification of gaps in terms of the shortage of or surplus of human resources available. Once the gaps are identified, the organization designs an action plan as the fifth step to fill the prevailing gaps in human resources. In the case of an organization with surplus human resources, action plans that can be adopted include retrenchment and early retirement. In the case of an organization experiencing a deficit in its workforce in many job positions, both internal and external recruitment and selection of human resources will have to be performed.

31.2.3 Human resource strategic plan

A human resource strategic plan is an integrated document prepared by an HRP team (e.g. executives, line managers, human resources department, information technology specialists), based on a short-, medium-, or long-term planning time frame. The team drafts the plan and submits it to a higher authority for approval. The plan determines the quantity of people that must be acquired to perform the jobs of the organization in the future and thereby help the organization to achieve the goals and objectives of its strategic business plan. The human resources strategic plan of an organization usually comprises the following sections: (a) an introduction section with a statement of purpose, business strategic information, and the time frame of the planning horizons; (b) an internal and external environmental scan with regard to strengths, weaknesses, opportunities, and threats in the current management of human resources; (c) an employee projection table, the plan objectives, and interventions; (d) an implementation section of the plan and its matrix; (e) daily, biannual, and annual monitoring and evaluation of the human resources strategic plan; (f) a budget section showing the sources of the funds to finance the various activities required to achieve the plan's objectives (URT 2008).

31.3 Employee resourcing

After determination of the quantity and quality of human resources required by the organization in the future, resourcing follows by acquiring the right individuals to perform the activities of the organization. Resourcing translates human resource plans from paper into a process of acquiring individual workers for the organization. According to Armstrong (2006), resourcing consists of recruitment and selection, introduction to the organization, and placement.

31.3.1 Recruitment and selection

Recruitment refers to the active search for the best-qualified applicants to fill the jobs in an organization. Once the qualification standards have been set, the next step in the recruitment process is to identify recruitment sources that will supply the best candidates. Various methods (e.g. advertisement, use of public employment services) can be used to recruit employees, depending on local situations and needs.

After reviewing the applicants' curriculum vitae (CVs), the next step is to select the best candidate for the job. Selection includes the choice of methods by which an employer reduces a short-listed group following the recruitment stage, leading to an employment decision. Selection is the process by which managers and others use specific instruments to choose, from a pool of applicants, a person or persons more likely to succeed in the job(s), given management goals and legal requirements.

There are two major methods of selection, and each of these methods is further divided into several techniques. Selection can use internal and external sources. An internal source of recruitment is when the position can be filled internally by inside candidates and is done through promotions, transfers, rehiring, and succession planning. An external source of recruitment includes all those avenues through which an organization makes contacts with external potential candidates who can be attracted to fill the available vacancies. In recruiting employees from external sources, several methods are employed: advertisement, Internet recruiting, referrals and walk-ins, college recruiting, and employment agencies—as well as 'poaching', whereby a company contacts a competitor's most talented employees secretly and woos them to join its own work force.

Having reviewed the applicants and copies of their qualification documents, the next step is to select the best candidates for the job. For most employers, apart from various types of tests that can be administered to candidates in order to determine their suitability for a job, selection interviews are primarily used. A selection interview is a formal, in-depth conversation conducted to evaluate the acceptability of candidates for employment. The Public Service (Amendment) Act 2007 makes provisions for recruitment of public servants to work in ministries, independent departments and agencies (MDAs); regional secretariats (RSs); and local government authorities (LGAs) in Tanzania.

Having looked at different methods employed in the selection process, let us now look at the steps undertaken to select employees. Any effective selection process includes several stages:

1. Screening of application forms / application letters / CVs: Eliminate those who do not meet initial criteria. Make short list of candidates.
2. Selection tests: Eliminate those below cut-off points.
3. Selection interview: Eliminate those not meeting the job and organizational requirements.

4. Checking of references: Eliminate or reconsider those with adverse remarks.
5. Physical examination: Eliminate those not meeting physical standards of the job.
6. Approval by appropriate authority: Selection committee recommends the names of selected candidates to top-level managers for approval.
7. Final selection: After approval by the authority, selection is considered final and the candidates selected can be informed. Congratulation of these candidates is important.
8. Employment contract: Inform candidate about the terms and conditions of employment.
9. Evaluation: This is concerned with effectiveness. During implementation, it measures the reliability and validity of various steps. After implementation, evaluation measures the performance of the employees selected.

31.3.2 Induction programme

After identifying the right candidates for the vacant job, the next step is to introduce them to the organization. This introduction has two main components new employees have to go through before they take up job vacancies: socialization, and induction. Socialization is primarily an informal adaptation process that takes place as new employees try to learn the norms and values of work roles in an organization. Learning and inculcating the norms and values of an organization is required for the proper adjustment of new employees and organization. No matter how effectively employees are recruited, new employees are not fully familiar with the organizational norms and values. Socialization as an adaptation process is therefore required. The methods that can be used to transmit norms and values to new employees during socialization include stories, rituals, material symbols, and language.

Socialization is followed by employee orientation (often called induction or indoctrination). Employee orientation provides new employees with the information they need to function. By orienting a new employee, employers accomplish three things: (a) they make the new employee feel welcome, at home, and part of the team; (b) they ensure the new employee has the basic information required to function effectively, such as e-mail access, personnel policies and benefits, and employer expectations in terms of worker behaviour; and (c) they help the new employee understand the organization in a broad sense (its past, present, culture, strategies, and vision of the future). An employee orientation session is usually held for a specific number of days.

The period for conducting an induction programme varies from one organization to another. While some organizations can accomplish induction in a single day, others do it over a week or more. The length of the programme depends on what the employer wants to cover. The initial induction programme is usually implemented by the human resources department in collaboration with the line managers and chief executive, and subsequently employees are divided into groups on the basis of the departments in which they are likely to be placed. At a minimum, an orientation typically includes information on employee benefits, personnel policies, company organization and operations, safety measures, regulations, and facilities information.

31.3.3 Placement

The final stage of the resourcing process is the placement of the chosen employee in the job. Placement is the assignment or reassignment of the employee to a new or different job so that the employee can execute the job's duties and responsibilities. It makes an employee accountable for the results of the performance process included in the position. Placement usually comes immediately after induction or orientation. There are four types of placement decision:

1. *Initial assignment.* Initial assignment is the placement of a new worker recruited from the external environment of the organization. This is often accompanied by a probationary period and confirmation.
2. *Promotion.* This is the second placement decision and involves the internal mobility of personnel in an organization. It advances personnel to a job or position that is better in status and responsibility, normally accompanied by increased monetary compensation and privileges.
3. *Transfer.* Transfer is the movement of an employee either from one department to another or from one geographical area to another, without an increase in compensation, responsibility, or status.
4. *Demotion.* This refers to the lowering of an employee's status, responsibilities, and pay in the organization. Unlike promotion, the employee goes backward instead of forward. Demotion may be a form of punishment as a result of disciplinary actions.

31.4 Performance management and appraisal

31.4.1 Performance management

Performance management can be defined as a systematic process for improving organizational performance by developing the performance of individuals and teams. It is a means of getting better results by understanding and managing performance within an agreed framework of planned goals, standards, and competency requirements. Processes exist for establishing shared understanding about what is to be achieved, and for managing and developing people in a way that increases the probability that it will be achieved in the short and longer term. Performance management focuses people on doing the right things by clarifying their goals, and it helps to establish a high performance culture among individuals and teams in an organization. Performance management helps in aligning individual objectives to organizational objectives and ensuring that individuals uphold corporate core values. It also assists in developing the capacity of people to meet and exceed expectations and to achieve their full potential to the benefit of themselves and the organization. Finally, performance management helps in empowering, motivating, and rewarding employees to do their best.

31.4.2 Performance appraisal

Performance appraisal can be defined as the formal assessment and rating of individuals by their managers at, usually, an annual review meeting. Before an appraisal system is established, its objective should be defined clearly. The specific objectives may be pay increase, promotion, transfer, training, and development. The raters should be carefully selected and trained. They must be familiar with the job and the person to be rated.

Standards of performance should be laid down clearly. This should be communicated to the subordinates in advance so that they understand the expectations of management. Performance appraisal should be a continuous process, performed annually or twice a year. Suitable appraisal forms should be designed according to the nature of a job. The design and contents of the form will depend upon the objective and scope of the appraisal. The rating should be discussed with the person concerned. This will enable them to know where they stand, what their strengths and weakness are, and what steps they should take to improve performance.

31.4.3 Process and mechanisms for performance appraisal and management

Various approaches to performance appraisal exist. The first approach is trait-based appraisal, which is the traditional method whereby managers are evaluated against standards of personal traits and work characteristics. The traits which are generally considered are job knowledge, ability to get along with people, analytical competence, leadership, judgment, and initiative. Trait-based appraisal is not very reliable because of subjectivity and bias on the part of raters. Another technique is appraisal by results. The distinctive feature of this approach is that a person's performance is measured against specific predetermined goals. Conclusions are based on observations and evidence of performance rather than on a superior's opinions. There is also an appraisal approach called 360-degree feedback, defined by Ward (1995) as 'the systematic collection and feedback of performance data on an individual or group derived from a number of the stakeholders on their performance'. The data is usually fed back in the form of ratings against various performance dimensions.

31.4.4 Open performance review and appraisal system

The open performance review and appraisal system (OPRAS) is an open, formal, and systematic procedure designed to assist both employers and employees in planning, managing, evaluating, and realizing performance improvement in an organization, with the aim of achieving organizational goals. The main features of OPRAS are the following:

1. **Openness.** This allows both employee and employer to openly discuss and agree on the organizational and individual objectives that are to be achieved during the year.
2. **Participation.** This involves employees in the process of setting objectives, performance targets, and criteria, as well as determining, assessing, and recording performance.
3. **Accountability.** Individual employees are required to sign annual performance agreements and account for their performance against agreed targets and resources allocated for each activity.
4. **Ownership.** The linkage between individual objectives and the overall organizational objectives in a given period of time helps the employee understand his/her own role and contribution, thus creating commitment in achieving goals.

The use of OPRAS for managing individual performance in the public service institutions in Tanzania was introduced in 2004. It replaced the closed annual confidential report system (CACRS), which had been used earlier in order to assess the performance of employees. The CACRS was limited and generated largely one-sided information on the performance of employees in the public service. The OPRAS requires all public servants and their managers to develop their personal objectives based on a strategic planning process and the organization's respective service delivery targets. To develop the individual performance plan, both the supervisor and subordinate have to agree on performance objectives, performance targets, performance criteria, and the required resources in order to achieve the set targets and objectives. Moreover, there must be a mid-year review (MYR), which is important in order to keep track of the employee-cum-appraisee's progress in terms of meeting the annual personal objectives and to identify the resources required to carry out the remaining 6-month plan.

31.5 Conclusion

HRP begins with a forecast of the number and types of employees needed to achieve an organization's objectives. Planning also involves job analysis, which consists of the preparation of job descriptions and job specifications. The challenging function of human resources management demands matching future organizational requirements with a supply of the right kind of employees. This chapter has provided a practitioner's perspective on how to develop and implement a human resources plan and management process to meet the current and future human resources requirements of organizations. The chapter can serve as a useful tool for HRP and management practitioners working in both private and public organizations.

References

- Armstrong, M. (2006). *A Handbook of Human Resource Management Practice* (10th ed.). London: Kogan Page Limited.
- Ben. W. (2013). 'Demand forecasting and determination of employee requirements in Nigerian public organisations', in: Public Policy Review. National Directorate of Employment. Plateau State. Nigeria.
- Bhattacharyya. D.K. (2010). *Human Resource Research Methods*. Oxford University Press. New Delhi.

- Dessler, G. (2008). *Human Resource Management* (11th ed.). New Jersey: Pearson Prentice Hall.
- Ngirwa, C. (2006). *Human Resource Management in African Work Organisations*. Vol. 1. National Printing Co. Ltd. Dar es Salaam. pp. 208–211.
- Pilbeam, S. & Corbridge, M. (2006). *People Resourcing: Contemporary HRM in Practice* (3rd ed.). New York: Prentice Hall.
- Rothwell, W.J. & Kazanas, H.C. (2002). *Planning and Managing Human Resources: Strategic Planning for Human Resources Management* (2nd ed.). Massachusetts: HRD Press.
- United Republic of Tanzania (URT) (2008). Human resource for Health Strategic Plan 2008–2013. Ministry of Health and Social Welfare. Dar es Salaam.
- Ward, P. (1997). *360-Degree Feedback*. London: Institute of Personnel Development.

32

Information and Communication Technologies for Development Planning

Benjamin Mwalugeni, Omari Mzirai, Canute Hyandye

32.1 Introduction

Information and communication technologies (ICT) are currently used by almost every organization to facilitate day-to-day issues in development. Many individuals and institutions in Tanzania have already created new ways of communicating through various social media (e.g. Facebook, Twitter, Google+, YouTube, LinkedIn) to do business and deliver services. Through extending access to and use of ICT, the World Summit on Information Systems (WSIS) in 2003 identified and ratified ten strategies that were agreed in an effort to stimulate sustainable economic growth, improve service delivery, and promote good governance and social accountability. It is on this basis that information communication technology for development (ICT4D) was initiated.

ICT4D refers to the use of ICT to facilitate socio-economic development, international development, and human rights. The theory behind this is that more and better information and communication furthers the development of a society. This chapter begins with a section on knowledge management, followed by a section on assessing information and data in web-based depositories. A selection of planning e-tools are presented in Section 4, and Section 5 presents issues around e-participation. The chapter end with some final remarks.

32.2 Knowledge management

Knowledge management (KM) can be defined as the process of gathering, managing, and sharing workers' knowledge capital throughout any organization (Bhojaraju 2005). Planners, as an integral part of an organization, need to utilize the power of knowledge in the planning process through enhanced use of KM. Knowledge sharing in different departments and sections in an organization improves the existing processes for doing things.

KM software programmes are very important strategic technologies needed to improve the quality of service delivered by an organization. It is therefore important that planners in Tanzania be knowledgeable about KM so that they can deliver quality planning services to their target populations. To serve a community well and remain competitive, organizations must reduce planning cycle times and operate with minimum fixed assets and overhead (people, inventory, and facilities). A planning department should shorten the time required to serve clients (internal and external). This requires improving client service by empowering employees through providing them with innovative and high-quality services delivery systems. It is necessary to enhance flexibility and adoption, capture information, create knowledge, share, and learn. None of this is possible without a continual focus on the creation, updating, and use of quality knowledge by all employees in an organization.

KM technology solutions provide functionality to support knowledge sharing, collaboration, work flow, and document management across an organization and to other stakeholders outside the organization. These tools typically provide a secure central space where all an organization's staff and its stakeholders can exchange information, share knowledge, and guide each other and the organization to better decisions. The most popular form of KM technology enablement is a knowledge portal on the corporate intranet (and extranets where customers, partners, and/or suppliers are involved). Common technologies used for knowledge portals include standard Microsoft technologies or Lotus Notes databases. A company must choose a technology option that meets its KM objectives and investment plan. While technology is a key enabler of KM, it is important to ensure that the technology solution does not take the focus away from planning issues and is user-friendly. Many companies have made the mistake of expending a disproportionately high proportion of their KM effort and resources on technology—at the cost of people-involvement or strategic commitment—resulting in zero or very limited business results. It is also important to remember that users of the KM system are subject-matter experts in their respective areas of specializa-

tion and not necessarily information technology (IT) experts. For example, a district planning officer or a district education officer in a council are part of a KM system, but will they remain in their professions as planners or teachers and are not necessarily IT experts.

32.3 Assessing information and data in web-based depositories

Planners need to have accurate information and data during the planning process. However, in some situations it may be difficult for a planner to get information and data owing to limited time and resources. This should not limit a planner from going ahead with planning or planning without having full information and data. This is because much information and data are available in web-based repositories. The only limitation which planners may have is, on the one hand, how to access this information and data, and on the other hand, how to check the quality of the information and data.

The development of ICT has led to a rapid increase in the volume of information (referred to as the information explosion). However, information is made available in various levels of quality, since literally everyone can deposit information in a web site. Therefore, to get quality data, information users require conceptual knowledge to convert information needs into searchable queries, semantic knowledge to construct queries for given systems, and technical knowledge to enter queries as specific search statements. Information search is a process that aims at gathering recorded information from various sources for a defined purpose. Unfortunately, the ability of search tools to 'understand' what a person wants is often very limited (garbage in, garbage out). Search tools tend to look for the occurrences of keywords in databases, and therefore initial search formulations can determine to a large extent what one will find.

Information search is a complex process consisting of four main steps: problem identification, need articulation, query formulation, and results evaluation. The planner should already know what problem he/she wants to deal with, on the one hand, and his/her clear need, on the other hand. One needs to get more technical in the query formulation.

1. Search query formulation involves the construction of key words that a user can submit in a selected search engine. There are several principles that a user can follow to be able to construct a search query. It is, therefore, advisable that the user should have clear understanding of the subject topic about which s/he wants to search.

2. After formulation of a search query, the user needs to know reliable sources of information. For example, if you are looking for information to make comparisons in the field of agriculture, the best source could be the Food and Agriculture Organization (FAO) web site. If you are looking for information and data on health, the best web site to start with could be the World Health Organization (WHO).
3. Actual searching is the process of submitting your search query into a search engine. There are various search engines available, but the best in the world are:
 - a. www.google.com
 - b. www.bing.com
 - c. <https://search.yahoo.com>
 - d. www.ask.com
 - e. www.aol.com
 - f. <http://www.wolframalpha.com>
 - g. www.duckduckgo.com
 - h. <https://archive.org/web/>
 - i. www.chacha.com

The planner has to use a number of techniques in order to search for what is required. The following tips can help improve search queries:

1. Use unique, specific terms. It is simply amazing how many web pages are returned when one performs a search. One might think that a certain term is relatively specialized, but a Google search term can return with several million results. To reduce the number of pages returned, use unique terms that are specific to the subject you are researching.
2. Use the minus operator (-) to narrow the search. Terms with multiple meanings can return myriad unwanted results. The rarely used but powerful minus operator can remove many of these unwanted results. For example, when searching for the insect *caterpillar*, references to the company *Caterpillar, Inc.* will also be returned. Use *Caterpillar -Inc* to exclude references to the company, or *Caterpillar -Inc -Cat* to further refine the search.
3. Use quotation marks for exact phrases. Using quotation marks around a phrase will return only those exact words in the specific order given. This is one of the best ways to limit the number of pages returned.
4. Do not use common words and punctuation. Common terms such as *a* and *the* are called stop words and are usually ignored. Punctuation is also typically ignored. But there are exceptions. Common words and punctuation marks should be used when searching for a specific phrase inside quotation marks. There are cases when common words such as the are

significant. For instance, *Raven* and *The Raven* return entirely different results.

5. Capitalization. Most search engines do not distinguish between uppercase and lowercase letters, even within quotation marks. The following are all equivalent: *planning*, *Planning*, *PLANNING*, '*planning*', '*Planning*', '*PLANNING*'.
6. Drop the suffixes. It is usually best to enter the base word; then relevant pages are not excluded. For example, *bird* and not *birds*, *walk* and not *walked*. An exception would be if one was looking for sites that focus on the act of walking, one should enter the whole term *walking*.
7. Maximize the use of AutoComplete. Ordering search terms from general to specific in the search box will display helpful results in a drop-down list and is the most efficient way to use AutoComplete. Selecting the appropriate item as it appears will save time typing. You have several choices for how the AutoComplete feature works.
8. Customize your searches. There are several less well-known ways to limit the number of results returned and reduce your search time. The plus operator (+) tells the search engine to include those words in the result set. The tilde operator (~) in front of a word returns results that include synonyms. The wildcard operator (*) is the fill-in-the-blank operator. For example, *planning** will return pages with *planning* and any other term(s) the Google search engine deems relevant. You cannot use wildcards for parts of words. The operator OR or (|) returns results with either of two terms. For example, *project planning* will return pages with both *project* and *planning*, while *project OR planning* will return pages with either *project* or *planning*.

32.4 E-Planning tools

32.4.1 GIS and Remote Sensing technology

Nowadays, the fields of Remote Sensing and Geographical Information Systems (GIS) have become exciting and glamorous, with rapidly expanding opportunities. GIS is a computer-based information system which attaches a variety of qualities and characteristics to geographical locations and helps in planning and decision making. According to Burrough (1986), GIS is defined as a powerful set of tools for collecting, storing, retrieving at will, transforming, and displaying spatial data from the real world. GIS uses data from different sources, one of them being remotely sensed data. Remote Sensing

is both the science and art of collecting information from a distant object without being in physical contact with it (Campbell 2002). The fields of GIS and Remote Sensing have become very important in recent years for two main reasons:

1. Nowadays, scientists, researchers, students, and even common people are showing great interest for better understanding of our environment. Planners realize that geographic space along with the data describing it is part of our everyday world; almost every decision we take is influenced or dictated by some fact of geography.
2. Advancement in sophisticated space technology, which provides large volumes of spatial data, along with declining costs of computer hardware has made Remote Sensing and GIS affordable not only to complex environmental/spatial situations but also to an increasingly wider audience.

Remote Sensing and GIS are integral to each other. The development of Remote Sensing is of no use without the development of GIS, and vice versa. Remote Sensing has the capability to provide large amounts of data concerning the whole earth, and GIS frequently has the capability to analyse a large amount of data within almost no time.

32.4.2 Role of GIS and Remote Sensing in planning

Spatial planning is one of the main applications of GIS, and the applications of GIS vary according to the different stages, levels, sectors, and functions of spatial planning. Spatial planners use GIS both as a spatial database and as an analysis and modelling tool (Yeh 1999). GIS is just one of the formalized computer-based information systems capable of integrating data from various sources to provide the information necessary for effective decision making in a settlement (Kim et al. 1989). Other information systems for spatial planning are database management systems (DBMS), decision support systems (DSS), and expert systems. GIS serves both as a database and as a toolbox for urban planning (Figure 32.1).

In a database-oriented GIS, spatial and textual data can be stored and linked using the geo-relational model. Current GIS support efficient data retrieval, queries, and mapping. Planners can also extract data from their databases and input them to other modelling and spatial analysis programmes. When combined with data from other tabular databases or specially conducted surveys, geographical information can be used to make effective planning decisions. As a toolbox, GIS allows planners to perform spatial analysis using

geo-processing functions such as map overlay, connectivity measurement, and buffering (Berry & Sailor 1987; Tomlin & Johnston 1990).

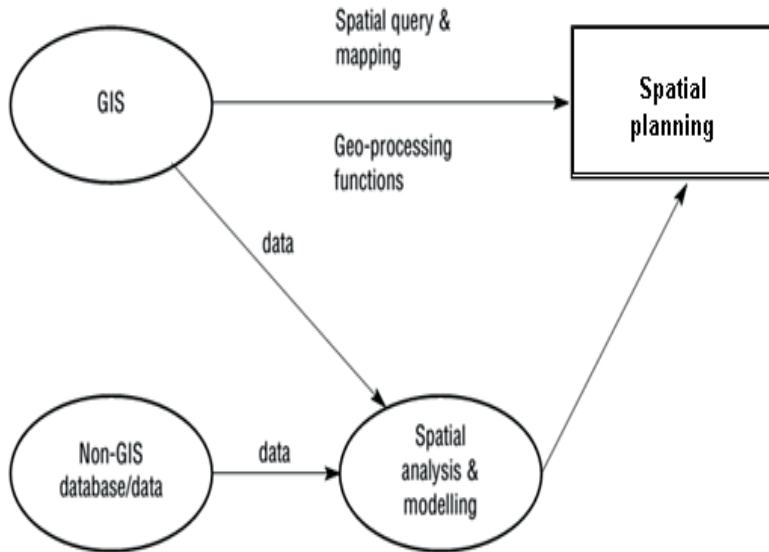


Figure 32.1

GIS and spatial planning

Source: Yeh (1999)

Map overlay is probably the most useful tool in geo-processing functions (Yeh 1999). This is because planners have a long tradition of using map overlay in land suitability analysis, which is itself an important component in urban planning. In the process of map overlay, different layers/themes of the same geographical location and with a common spatial reference are overlaid on one another (Figure 32.2). In spatial planning, for example, one of the tasks is to locate the best site for the dumping of municipal solid wastes. Data for planning / decision making for a suitable site are water resources locations, elevation and slope (topography), available infrastructure, soil types, and existing land uses. Each set of data requires that a map layer be stored in the database, and then these layers are overlaid following certain criteria so as to yield a suitability map for the site most suitable for the location of the municipal solid wastes dumping site.

GIS is used for the storage of land use maps and plans, socio-economic data, environmental data, and planning applications. Planners can extract useful information from the database through spatial queries. Mapping provides the most powerful visualization tool in GIS. It can be used to explore the distribution of socio-economic and environmental data and display the results of spatial analysis and modelling exercises. Spatial analysis and modelling are used for spatial statistical analysis, site selection, identification of planning action areas, land suitability analysis, land use transport modelling, and impact assessment.

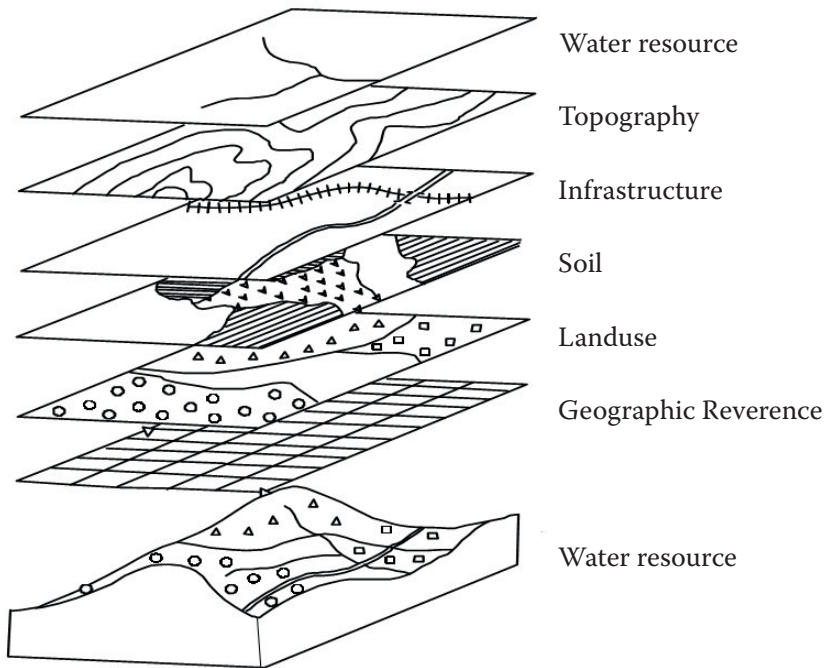


Figure 32.2
Geo-referenced theme layers overlay

Interpolation, map overlay, buffering, and connectivity measurement are the most frequently used GIS functions in spatial analysis and modelling. The use of the above functions varies according to different tasks and stages of spatial planning.

Planners need to be aware of software used in GIS and Remote Sensing. There are already a wide range of software packages for GIS analysis and

Remote Sensing data processing, with various advantages and disadvantages. There are also new and powerful emerging GIS and Remote Sensing software programmes being produced. It is the planners' task to frequently check for releases of updated as well as new software. Some of the commonly used software programmes for GIS analysis are ArcView, ArcInfo, MapInfo, ArcGIS, AutoCAD Map, and IDRISI Selva. Some software is multi-purpose and can be used to analyse both GIS and Remote Sensing data. These are ArcGIS (ArcMap 10.x) and IDRISI Selva. Specific software for Remote Sensing data such as satellite images and aerial photographs are ERDAS Imagine and ENVI.

32.4.3 Virtual reality

Virtual reality (VR) is the term used to describe a three-dimensional, computer-generated environment which can be explored and interacted with by a person (Mandal 2013). VR—sometimes called virtual environments (VE)—allows a user to interact with a computer-simulated environment, whether that environment is a simulation of the real world or of an imaginary world. The simplest form of VR is a 3-D image that can be explored interactively at a personal computer, usually by manipulating keys or the mouse so that the content of the image moves in some direction, or zooms in or out.

Visual representations of the real world have always offered a better route to communication and understanding than mere description, as evidenced by the adage: 'A picture paints a thousand words'. The development of web and 3-D technologies has been extremely rapid over the past few years. It now allows for the distribution of real-time interactive environments with the potential for multi-user interactivity. In addition, it offers a very powerful medium for the communication of planning issues and related knowledge exchange (Ball et al. 2005).

An Internet browser-based system or a stand-alone application, such as Google Earth (Ball et al. 2005; Earth 2007), is a more advanced VR environment. Google Maps is basically a global representation of the earth but is focused on urban spaces. It allows a map view, satellite photograph view, and a hybrid view which overlays GIS information on the satellite photographs. Advancements in GIS have also made VR more available to the public (Ball et al. 2005). In addition, Google Earth includes Digital Elevation Model (DEM) data, which allows a view in 3-D of the earth's features.

VR applications in the context of spatial planning, for example, presume the acquisition of 3-D spatial models (Brenner & Haala 1998). Recent advances in 3-D displays, real-time texturing, and computer graphics hardware, as well as the increasing availability of rendering and animation software tools, have resulted in an increased demand for photo-realistic 3-D VR city models. In our opinion, this demand can be satisfied only by a highly efficient capture of urban scenes, which presumes the integrated use of multiple data sources (Haala et al. 1998).

Another applications of VR is in land use planning, where VR is used to understand the landscape. Someone needs to know what features exist in the landscape, features such as rivers, mountains, settlements, as well as their locations and to plan for other features such as hospitals and schools, depending on easy accessibility. VR can help to create this understanding. The data required are spatial (satellite imagery) and terrain data (DEM), which can easily be processed and viewed using ArcGIS (ArcMap) with 3-D extension software. The procedure involves converting raster (DEM) to TIN (triangulated irregular network), using the 3-D Analyst extension, then opening the TIN in ArcScene and finally adding images to the TIN in the ArcScene window. This process is called 'image draping'. Draping the radar image over the terrain surface allows a planner to see the relationship between the general shape of the land surface and the texture of the rocks and sediments that make up that surface (Figure 32.3).

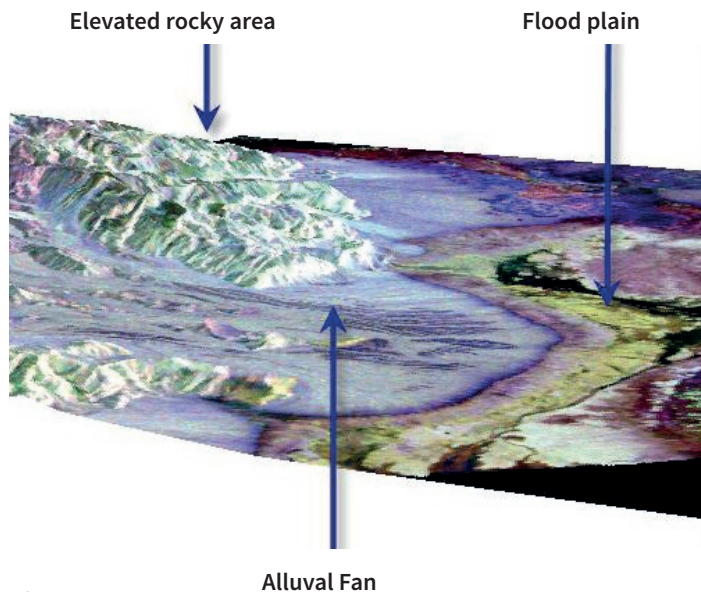


Figure 32.3
Image Draping over the 3D terrain

In modelling, VR offers the possibility of watching in real-time and in real-space what the modelled object will look like. The advantage of this technology is that the user can see and even feel the shaped surface under his/her fingertips.

For a planner, simulation is crucial. The following steps can be followed in order to produce a simulation that facilitates planning purposes:

Step 1: Plan for the future. A planner should never underestimate how fast technology can change during development processes.

Step 2: Understand the strengths and weakness of VR. VR is designed to model a space, an environment, or an experience. It is a graphical environment best suited to images, concepts, and illustrative examples. It is not an appropriate tool for displaying text or mathematical formulae.

Step 3: Identify the intended audience and the end-users' probable equipment. Very realistic simulations can be achieved using high-end graphics and supercomputers and million-dollar display devices. However, the number of people who have access to such equipment is fairly low. Thus, a planner needs to predict what equipment the audience will have when the project is completed.

Step 4: Identify an application that is suitable for the use of VR. First of all, there is no point in duplicating in VR an experience that is widely available in the real world. Ideal VR environments are those that are either restricted, inaccessible, or completely non-existent in the real world. Again, a VR application should be one in which the features of VR—such as 3D visualization, interactive feedback, and a sense of presence—provide a tangible benefit.

Step 5: Choose an appropriate development platform (computer hardware and software). While this may sound somewhat repetitious of Step 2, note the difference between development platform and end-users' platform. You may choose to develop on more (or less) advanced hardware than your users will eventually be using, or you may choose hardware available today that best approximates your prediction of your users' equipment of the future.

Step 6: Consider carefully the trade-offs of simulation realism versus performance, and plan out the simulation carefully. If you were modelling a railroad locomotive that would only be seen from a distance, it would be a waste of effort and unnecessarily slow down the simulation to include every pipe, but-

ton, bell, and rivet. Depending on the distance, a simple (painted) box and some smoke and noise would be sufficient for the user to comprehend and visualize an entire train. (Human perception has a remarkable ability to fill in 'known' details even when they are not visible or even present.)

Step 7: Start with a simple framework, and then gradually add details. Your initial simulation should be very simple, with just enough geometry (e.g. boxes) to define the space and provide a general feel for the environment. Then you can gradually add more detail and functionality while striving to maintain acceptable execution speeds.

Step 8: Provide for evaluation early and often. Develop the simulation based upon user feedback. A good VR simulation should be intuitive and easy to understand and use. (Recall the goal of VR to create a simulation so realistic that the computer interface is transparent to the user.)

Step 9: Prepare instructions suitable for users of the VR. Each category of user needs different information. The written instructions should be as brief as possible, lest they get skipped entirely.

Step 10: Share the results of your VR far and wide. In order for your simulation to have the greatest impact, it is important to put it into the hands of as many stakeholders as possible. The simulation should be freely accessible and should run on hardware that is readily accessible to most stakeholders.

32.4.4 Computer-aided design

Computer-aided design (CAD) is defined as the use of IT in the design process. CAD software programmes allow the designer to draw on his/her computer screen with a mouse and keyboard, instead of drawing on paper with a pencil. A CAD system consists of IT hardware (H/W), specialized software (S/W) (depending on the particular area of application), and peripherals (which in certain applications are quite specialized). The core of a CAD system is the software, which makes use of graphics for product representation, databases for storing the product, and drives as part of peripherals for product presentation. The use of CAD does not change the nature of the design process but, as the name states, it aids the product designer. The designer is the main actor in the process, in all phases from problem identification to the implementation phase. The role of CAD is to aid planners and designers to do the following:

1. Accurately generate and easily modify graphical representations of the product (e.g. a school). A planner can view a virtual representation of the school on screen, suggest and make any modifications to it, and present their ideas on screen without any prototype, especially during the early stages of the design process.
2. Perform complex design analysis in short time periods.
3. Record and recall information with consistency and speed. In particular, the use of product data management (PDM) systems facilitates the storage of the whole design and processing history of a certain product, for future re-use and upgrade.

One popular use of CAD is in the field of urban planning. Urban planning has used computer models and information systems since the 1950s, but in the 1970s there was an increase in the use of CAD and computer drafting software (Batty & Densham 1996). In urban planning, the process of computerization began earlier with municipal information systems and with land use–transportation modelling; but, as has been the case in architecture, the last decade has seen dramatic developments in tools for visualization and information representation, particularly with GIS in desktop packages such as ArcView and MapInfo becoming standard and near routine (Batty & Densham 1996).

There is a close interdependence among CAD, GIS, and VR systems. When brought together, they can provide good virtual environments for urban design (Batty & Densham 1996). It is recommended that spatial planners be equipped with a strong command of software applications and the use of the above-mentioned three technologies, to facilitate easy design and visualization of planning projects.

32.4.5 PlanRep2 planning

PlanRep2 (Planning and Reporting) is software that has been designed by PMO-RALG and the Ministry of Finance for use by every local government authority for planning and reporting. It enables councils to do the following:

1. Create a Performance Budget framework of objectives, targets, and activities
2. Link any target to an MKUKUTA cluster strategy (MKUKUTA is the national strategy for growth and poverty reduction)
3. Link each activity with a person responsible

4. Calculate projected revenue from formula-based and other grants from central government, own sources, the community, and development partners
5. Allocate conditional projected revenue to performance budget targets
6. Allocate unconditional projected revenue to local authority departments and sections
7. Enter budgets for personal emoluments (PE), other charges (OC), and development projects
8. Export budget information to the Ministry of Finance and PMO-RALG
9. Enter expenditure from manual or electronic accounting systems (Epicor)
10. Enter actual start and finish dates, together with reasons for delays
11. Enter reports on physical implementation of development targets: fit for purpose, value for money, judicial compliance, and adherence to policy
12. Produce a wide range of core and supplementary printouts containing useful information for various stakeholders.

Further information about PlanRep2, LGMD (Local Government Monitoring Database), Epicor (financial management), DROMAS (transport and transportation management), and other software can be found on the PMO-RALG website (www.pmoralg.go.tz).

32.5 E-participation

Planning at any level nowadays requires a high level of participation by all community members and other development stakeholders, since plans basically affect everyone. Planners can take advantage of ICT developments to encourage more participation through electronic participation (e-participation). E-participation for planning refers to the use of ICT by planners to solicit views or consult target groups and other stakeholders in the planning process. The following sub-sections will discuss several e-participation methods and tools used for this purpose, such as interactive social media or social networks, mobile phones, planning blogs, chat rooms, and discussion forums.

32.5.1 Interactive social media

Social media (also known as social networks) is a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0 and that allow the creation and exchange of user-generated con-

tent (Kaplan & Haenlein 2010). Furthermore, social media depend on mobile and web-based technologies to create highly interactive platforms, through which individuals and communities share, co-create, discuss, and modify user-generated content (Kaplan & Haenlein 2010). Table 32.1 lists seven of the most popular social media people are using both on the web and on mobile phones. Planners can use these social media in soliciting information required for planning, thereby increasing the participation of stakeholders in planning processes.

Table 32.1
Popular social media

Social media	Description	Web address
Facebook	Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and videos, send messages, and keep in touch with friends, family, and colleagues. Facebook can be accessed by using a computer, phone, or t. Users can log in with a phone number or e-mail address	www.Facebook.com
Twitter	Twitter is a free micro-blogging service that allows registered members to broadcast short posts called tweets. Twitter can be accessed by using a computer, phone, or t. Users can log in with a phone number or e-mail address	https://twitter.com
Google+	Google+ can be accessed by using a computer, phone, or tablet. Users can log in by typing a Google username and password	https://plus.google.com

Table 32.1
Poplar social media

Social media	Description	Web address
YouTube	YouTube is the most visited site in the world. It is an essential tool for any business or individual looking to reach a large number of people. YouTube can still be recognized as a separate social network on its own, one that revolves entirely around content such as video production, vlogging, movie-making, and music sharing	www.youtube.com
LinkedIn	Known as the social network for your career, LinkedIn is one of the main sites along with Facebook, Twitter, and Google+. Individuals can promote themselves and their businesses, outline their education and work experience, make connections with other professionals, interact in group discussions, post job ads, or apply for jobs	www.linkedin.com
Instagram	Instagram has grown to be one of the most popular social networks for photo sharing that the mobile web has ever seen	https://instagram.com
Reddit	Reddit is a social news website and forum where stories are socially curated and promoted by site members. The site is composed of hundreds of sub-communities, known as 'subreddits'. Each subreddit has a specific topic, such as technology, politics, or music	www.reddit.com

32.5.2 Mobile phones

Usage of mobile phone SMS is empowering citizens to voice their opinion on social and political issues and increase dialogue on governance issues in Africa. In economic and financial services, the use of mobile banking has

increased through services such as Mpesa, Tigo-Pesa, and Airtel Money. Mobile phones are also used in marketing of various services and products through specialized applications. The usage of such a simple thing as SMS could help to bridge the gap between connectivity and affordability and allow citizens to voice their opinions online. A good example of how SMS services are playing a role in connecting the government with citizens (mobile governance or m-governance) is software called Frontline SMS.

The number of smartphone users is growing very rapidly. There are several applications which enable smartphone users to share ideas, photos, videos, voice recordings, etc. A good example of e-participation software is WhatsApp Messenger, a cross-platform instant messaging application that allows iPhone, BlackBerry, Android, Windows Phone, and Nokia smartphone users to exchange text, images, videos, and audio messages for free. Professional planners can avail of such tools to increase the participation of stakeholders, with a minimal use of resources (finance, time).

32.5.3 Blogs

Blogs are web logs that are updated on a regular basis by their author. They can contain information related to a specific topic. In some cases, blogs are used as daily diaries about people's personal lives or political views, or even as social commentaries. The truth of the matter is that blogs can be shaped into whatever the authors want them to be. Planners are therefore encouraged to create their own blogs to enable e-participation by the citizens in their area.

32.5.4 Chat rooms

A chat room is a web site, part of a web site, or part of an online service that provides a venue for communities of users with a common interest to communicate in real time. Forums and discussion groups, in comparison, allow users to post messages but do not have the capacity for live interactive messaging. Chat room users register for the chat room of their choice, choose a user name and password, and log into a particular room (most sites have multiple chat rooms). Inside the chat room, generally there is a list of the people currently online, who also are alerted that another person has entered the chat room. Various sites, such as Yahoo, provide a directory of chat sites.

Others, such as MSN web communities, guide users through the steps required to create their own chat room.

32.5.5 Discussion forums

An Internet forum, or message board, is an online discussion site where people can hold conversations in the form of posted messages. They differ from chat rooms in that messages are often longer than one line of text and are, at least temporarily, archived. Also, depending on the access level of a user or the forum set-up, a posted message may need to be approved by a moderator before it becomes visible. A discussion forum is a virtual place on the Internet where conversations can take place and information can be shared more easily among a geographically dispersed group of people. Discussion forums are typically created around a specific topic of common interest or for a specific user group around a particular piece of work. Discussion forums are typically asynchronous, meaning the participants do not have to be online at the same time. One example of a discussion forum is the FAO-designed forum, the 'Global Forum on Food Security and Nutrition' (<http://www.fao.org/fsnforum/>).

32.6. Final remarks

As an integral part of society, planners need to utilize the power of knowledge in the planning process, through enhanced use of KM. Knowledge sharing in different departments and sections of an organization improves existing processes for doing things. KM software is a very important strategic technology to improve the quality of service delivery. Since planners need to have accurate information and data during the planning process, this chapter has presented the required skills and techniques for accessing and evaluating the data and information available in web-based depositories. Given the rapid developments in computer technology and its increasing availability, planners can now use the power of ICT in planning, through the use of electronic planning (e-planning) and participation (e-participation). GIS, Remote Sensing, and VR technologies have been explained as e-planning tools that planners can utilize in the planning process. Since planning requires participation, it is important that the planner knows how to utilize ICT to ensure good governance and transparency in planning.

References

- Ball J., Capanni, N. & Watt, S. (2008). 'Virtual reality for mutual understanding in landscape planning', *International Journal of Social Sciences* 2(2): 78–88.
- Batty, M. & Densham, P.J. (1996). 'Decision support, GIS, and urban planning', *Sistema Terra* 5(1): 72–76.
- Berry, J.K. & Sailor, J.K. (1987). 'Use of a geographic information system for storm runoff prediction from small urban watersheds', *Environmental Management* 11(1): 21–27.
- Bhojaraju, G. (2005). 'Knowledge management: Why do we need it for corporates?', *Malaysian Journal of Library & Information Science* 10(2): 37–50.
- Brenner, C. & Haala, N. (1998). 'Fast production of virtual reality city models', *International Archives of Photogrammetry and Remote Sensing* 32(4): 77–84.
- Burrough, P.A. (1986). *Principles of Geographical Information Systems for Land Resources Assessment*. Oxford: Oxford University Press.
- Campbell, J.B. (2002). *Introduction to Remote Sensing*. Boca Raton, Florida: CRC Press.
- Google Earth (2007). Available at: <https://www.google.com/earth/>
- Haala, N., Brenner, C. & Anders, K.H. (1998). '3D urban GIS from laser altimeter and 2D map data', *International Archives of Photogrammetry and Remote Sensing* 32: 339–346.
- Kaplan, A.M. & Haenlein, M. (2010). 'Users of the world, Unite! The challenges and opportunities of social media', *Business Horizons* 53: 59–68. Available at <http://michaelhaenlein.eu/Publications/Kaplan,%20Andreas%20-%20Users%20of%20the%20world,%20unite.pdf> [Accessed on 13 May 2017]
- Kim, T.J., Wiggins, L.L. & Wright, J.R. (1989). *Expert Systems: Applications to Urban Planning*. New York: Springer-Verlag.
- Mandal, S. (2013). 'Brief introduction of virtual reality & its challenges', *International Journal of Scientific & Engineering Research* 4(4): 304–309.
- Mazuryk, T. & Gervautz, M. (1996). Virtual reality: History, applications, technology and future, Institute of Computer Graphics, Vienna University of Technology, Vienna.
- Tomlin, C.D. & Johnston, K.M. (1990). 'An experiment in land-use allocation with a geographic information system', in: *Introductory Readings in Geographic Information Systems* (pp. 159–169). London: Taylor & Francis.
- Yeh, A.G.-O. (1999). 'Urban planning and GIS', in: P.A. Longley, M. Goodchild, D. Maguire & D. Rhind (eds) *Geographical Information Systems: Principles, Techniques, Applications, and Management* (2nd ed.) (pp. 877–888). New York: John Wiley.
- Youngblut, C. (1998). Educational uses of virtual reality technology. DTIC Document.

33

Conflict Management and Development Planning

Mark Msaki, Hellen Stephen, John Safari, Hozen Mayaya, Baltazar Namwata

33.1 Introduction

Conflicts occur when two or more groups fail to get along with each other, especially when there is a mismatch of interests among them. Conflict is manifested through adversarial social action involving two or more actors, with the expression of differences often accompanied by intense hostilities. The definition of conflict is associated with competition for resources or other interests, value differences, or dissatisfaction with basic needs. Conflicts arise as a result of physical threats, such as direct aggression and intimidation, to the livelihoods of individuals. Sometimes these threats occur to either an individual or group identity, or when an individual, group, or community feels that the existing institutional frameworks are discriminatory (United Nations 2012). Nevertheless, conflicts are not always negative. They become a problem only when societal mechanisms and institutions for handling and resolving them break down and give way to violence (United Nations 2012). In the Tanzania context, conflicts can be classified on the basis of the actors engaged in the conflict: conflicts involving competing needs for land for residential versus agriculture use; conflicts between agricultural and livestock-keeping activities; conflicts involving competing land use for residential purposes, agriculture, and livestock rearing versus forest or wildlife areas; and conflicts emanating from local communities and investors.

In this chapter these types of conflict will be explained, along with various models of conflict resolution. The chapter has sections on understanding conflict management; models of conflict management; steps in conflict management; settlement and conflict resolution procedures; and the major types and causes of conflicts in Tanzania.

33.2 Understanding conflict management

The perception of threat or actual occurrence of conflict is necessary for the initiation of conflict prevention or management measures. Conflict management is a theoretical concept focusing on the limitation, mitigation, and/or containment of a conflict without necessarily solving it (Tanner 2000). Conflict management aims at reducing tension and preventing further escalation—and hence a change from a destructive to a constructive mode of interaction.

A development planner should therefore be aware of the causes and characteristics of the particular conflicts and actors involved while taking into consideration their positions, attitudes, behaviour, interests, needs, and motivations, without forgetting their relation with each other. Table 33.1 summarizes the structural causes of conflict. Structural causes are the pervasive factors, built into the policies, structures, and fabric of a society, that may create the pre-conditions for violent conflict.

Table 33.1

Examples of structural conflict causes

Dimension	Conflict causes
Political factors	<ul style="list-style-type: none"> • Problems coping with transformation processes and rapid social change • Absence of legitimate government and good governance • Limited social and political participation • Inadequate formal and informal channels for conflict management • Limited institutional capacities
Economic factors	<ul style="list-style-type: none"> • Socio-economic inequality • Competition for natural resources • Insufficient satisfaction of basic needs
Social factors	<ul style="list-style-type: none"> • Social disintegration and marginalization • Political manipulation of ethnic and cultural differences; discrimination • Culture of violence; traumatization from earlier violence
Security factors	<ul style="list-style-type: none"> • Uncontrolled army units and arbitrary police actions • Presence of arms, especially small arms • Criminality and infringement of human rights
Security factors	<ul style="list-style-type: none"> • Negative consequences of international involvement • Negative consequence of national and international settings

Source: Leonhardt (2001)

Given the structural causes of conflicts, it is worth noting that conflicts have devastating effects on global and national economies and development. This is due to the fact that the existence of conflicts affects the use of resources and effective development planning. From this point of view, conflict management is an important undertaking in seeking solutions and avoiding conflict recurrences. Nevertheless, effective conflict management requires the development of conflict capability skills among managers and planners:

1. To recognize signs of conflict as early and clearly as possible
2. To understand the mechanisms that intensify and complicate conflict situations
3. To be able to use various methods to address conflicts
4. To know and be able to use techniques that can help to clarify positions and situations
5. To recognize when professional help is needed.

33.3 Conflict management models

Planners should understand well and recognize the existence of different models used in conflict management. Among the models used are the Lose–Lose model, Win–Lose model, and Win–Win model.

1. *The Lose–Lose model* of conflict management is an approach where nobody among the conflicting parties really gets what they want. The underlying causes and reasons for the conflict remain unaffected, leaving space for the same conflict to recur in future. The circumstances under which the Lose–Lose model can occur are avoidance, accommodation/smoothing, and compromise. Under avoidance, parties involved in the conflict act as if the conflict does not really exist and hope that it will gradually disappear. In accommodation/smoothing, parties involved in the conflict play down the differences, on the one hand, and highlight the similarities, on the other. Compromise occurs when the parties involved in the conflict give up something of value to the other. However, in such a situation, neither party gains in full what it desires, and the seeds for future conflicts may be sown. Therefore, although a conflict may appear to be settled through compromise, it may still recur at a later point in time.
2. *The Win–Lose model* is an approach in which one party involved in the conflict realizes its desires at the expense and to the exclusion of the other party's desires. Competition and authoritative command determine what is gained and what is lost and by whom. Competition is a situation under which victory is achieved through force, superior skills, or domination, while in authoritative command a formal authority dictates a solution.

Nevertheless, a Win–Lose approach fails to address the root causes of the conflict and tends to suppress the desires, views, and opinions of one of the conflicting parties. As a result, future conflicts over similar issues are likely to arise.

3. *The Win–Win model* is the result of collaboration between the interested parties to address real issues. It uses techniques of problem solving to reconcile differences. Collaboration is a direct and positive approach to conflict management that involves recognition by all conflicting parties that something is wrong and requires attention. Problem solving, on the other hand, involves gathering and evaluating information to solve problems and make decisions. True conflict resolution usually occurs when using this approach due to the fact that during problem solving all relevant issues are raised and openly discussed by conflicting parties, hence eliminating any reasons for the continuation of the conflict. In general, the idea of openness is critical, since real issues are not always on the surface and sometimes real actors to the conflict may be behind the scenes.

33.4 Key steps in conflict management

Conflict management begins by conflict analysis. There is a need to assess the indicators that relate to the structural causes of a conflict, the factors precipitating the conflict (accelerators and triggers), and the intensity of the conflict. The steps and key issues in conflict analysis are summarized in Table 33.2.

Conflict analysis provides details that are critical in developing conflict management objectives, developing conflict management strategies, identifying risks, and determining conflict indicators. Objective analysis involves selection of strategic objectives on the basis of internal considerations within the organization and defining them in more detail. Objective analysis therefore identifies the central problems that need to be addressed as part of a comprehensive solution to the conflict and the priorities of the target groups and other actors in the conflict.

Strategy development is very important in charting out the individual areas of responsibility and entry points for overcoming the causes of the conflict; it helps in identifying whether or not the political, legal, infrastructure, and security conditions are in place; it promotes conflict management; it helps in determining the correct timing for the conflict management; and it gives direction on the availability and right mix of resources for conflict management. Risk appraisal, on the other hand, helps in detecting and addressing

the risks to conflict management initiatives at an early stage. Nevertheless, in conflict management it is important to establish conflict indicators for measuring the achievements of conflict management initiatives. These indicators include interaction, cooperation, and reforms among parties and institutions involved in the conflict.

Table 33.2

Steps and key issues in conflict analysis

Steps	Key issues
Conflict profile	Provides a brief outline of the conflict and therefore helps in understanding both the problems surrounding the conflict and the challenges faced by conflict management. The conflict profile is useful in understanding the type and nature of the conflict, the development of conflicts over time, and the place or sites where the conflict is taking place
Stakeholder analysis	Clarifies the interests, positions, attitudes, needs, and relationships of the groups involved in or affected by the conflict. It also analyses each group's reasons for being involved in the conflict and the capacities of these stakeholders
Cause analysis	Inquires into the long-term structural factors which brought the conflict into being and which now make it so difficult to resolve. In this regard, cause analysis helps in setting priorities based on the importance of the causes and factors identified
Trends and opportunities	Assesses the present state of development of the conflict and identifies entry points for peace-building measures. In so doing, trends and opportunities are critical in determining the direction in which the conflict is developing; consequently, this analysis identifies initiatives to be taken at various levels in resolving the conflict
Capacity analysis	Assesses the present state of development of the conflict and identifies entry points for peace-building measures. In so doing, trends and opportunities are critical in determining the direction in which the conflict is developing; consequently, this analysis identifies initiatives to be taken at various levels in resolving the conflict

33.5 Settlement and resolution procedures

In addressing the conflict, planners should contextualize the nature of the conflict and the appropriate settlement and resolution procedures. The key conflict settlement and resolution procedures include mediation, negotiation, facilitation, and reconciliation.

1. *Mediation.* Mediation is often advocated as a more amicable way of ending conflict than adversarial bargaining. The achievement of mutually satisfactory outcomes in an efficient manner is derived from the opponents' willingness to be open to meeting the other's needs and interests. Mediation is more suitable than arbitration when emotions drive misperceptions and stereotypes which are deepened by poor communication or miscommunication. Since people do not see the issues in contention the same way and do not make the same assumptions, mediated communication is an effective means in clearing misunderstanding. Although there are many forms of mediation, in general, it is widely known for 'neutral' third-party assistance in reaching settlement. Theoretically, an intermediary intervention in the negotiation process is not supposed to be authoritative, in the sense that mediators do not make rulings or impose an agreement. Since they are making decisions, partisans may feel the process is fairer with mediation than with arbitration which they cannot control. In a classic definition, mediation is regarded as a process whereby a neutral third party, acceptable to all disputants, facilitates communication that enables parties to reach a negotiated settlement. A negotiation process can be modified or extended by the involvement of a third party. The participation of a mediator in negotiation creates dynamics which are different from straight negotiation. The assistance process helps the parties arrive at an agreement voluntarily without resorting to physical force or invoking the authority of law.
2. *Negotiation.* Negotiation is a process to resolve differences in goals that arise from dissimilar interests and perspectives. A commitment to a positive, mutually beneficial solution is necessary to uncover underlying issues and identify areas of common ground. Effective negotiators select the right starting point for bargaining, with the establishment of clear communication for better understanding of each other's positions. Fair, efficient outcomes can emerge from the exchange of concessions in a search for creative solutions. In successful negotiation, persuasion is adopted as a means of social influence to change an adversary's perceptions. The settlement of differences through accommodation stems from the recognition of the legitimacy of each other's claims.
3. *Facilitation.* Reaching consensus or some kind of agreement by facilitative methods is often essential to finding acceptable options for different parties. Mutual satisfaction stems from innovative and flexible solutions arrived at by the maximum involvement of participants along with individual capacity building. As a non-authoritarian and non-judgmental mode of decision making, facilitative methods have been applied to a broad set of issues in a wide range of settings, from promotion of mutu-

al understanding in a protracted conflict to reconciliation. A facilitative process can also be utilized for communal problem solving, as well as for creating an opportunity for informal contact between members of antagonistic communities that might lead to official negotiations. The core value of facilitation is empowerment by enhancing—in direct and indirect ways—a positive, personal, relational, and systemic change.

4. *Reconciliation.* Once conflict is resolved, relationship changes are necessary to remove negative emotional residues that can ignite future hostilities. In overcoming violence and building peaceful relations, fractured social bonds need to be reconstructed, resetting people's expectations of themselves and others. However, the remnant of deep divisions among communities based on fear and anger creates serious challenges to putting a broken social fabric back together. Reconciliation activities need to be set in the context of overcoming marginalization, alienation, and other psychological and social effects of violent conflict.

33.6 Conflicts in Tanzania

Conflict management over the use of land and natural resources, in particular, are the most critical challenges facing Tanzania. Resource use conflicts often have negative economic, social, ecological, and spatial development effects (Wehrmann 2008). Such conflicts arise from the weak institutions responsible for natural resources markets such as the markets for land, forests, water, oil, gas, and minerals; prohibition of poor people from accessing potential resources for their day-to-day well-being; and widespread illegal action that avails of opportunities for well-being advancement.

33.6.1 Types of conflicts

In Tanzania, land-based conflict is the dominant type of conflict, arising from the fact that all socio-economic activities take place on land, and land as a resource is scarce in quantity and quality. The following are some of the major land use conflicts that prevail in Tanzania.

The first type of conflict involves competing needs for land for residential requirements versus agriculture. Such land use conflicts may occur in urban areas. This is due to boundaries being extended to include rich agricultural lands on the fringes. Similarly, in rural areas, increases in population and the consequent increases in household generation cause increased demands

for land for residential houses and for agriculture. The second type conflict is between agricultural and livestock-keeping activities. Over the last four decades, Tanzania has witnessed conflicts between farmers and pastoralists. In many cases, such conflicts have been fierce and have ended claiming the lives of people. Possible conflicts concerning use of land for animal or crop husbandry ought to be prevented early by determining the type and size of each activity to be undertaken in any particular village.

Another important source of conflict involves competing land use for residential purposes, agriculture, and livestock-rearing, versus forest or wildlife areas. Growing competition over resources—as a result of factors such as population increase, land degradation, and climate change resulting in mobility of pastoralists and livestock—are a major cause of such conflicts. Likewise, villagers near wildlife-controlled areas and reserves tend to expand their activities into these areas. These problems are experienced primarily in regions with vast national parks, such as Serengeti. Under these conditions, it is important to encourage appropriate crop and livestock husbandry, which will increase productivity and thus reduce demands for land. The final type of conflict is that emanating from local communities and investors. Evidence indicates that in almost all areas under investment, there are clashes and conflicts between investors and local communities. This has happened in areas such as Kilwa, Kisarawe, Loliondo, Bagamoyo, Rufiji, Kigoma, and Rukwa, where investors are said to have grabbed land from locals.

33.7 Conclusion

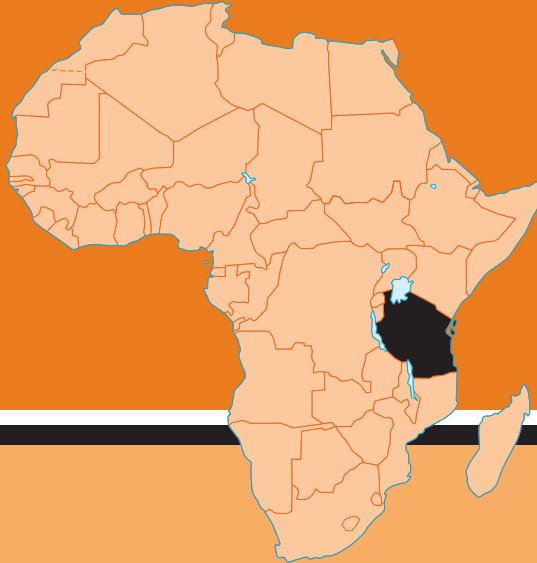
Despite its application to a variety of situations, conflict has traditionally been relegated to competition for resources or other interests, value differences, or dissatisfaction with basic needs. Conflict between parties can be prevented or handled if there is better knowledge and understanding of each party's situation and interests. A careful distribution of the responsibilities and duties between the parties must be meticulously performed and documented. It must also take regulatory requirements into consideration. These requirements increase the complexity of development undertakings and lead to a higher risk of disagreements and conflicts. The counter measures to conflicts are preparations, dialogue, more preparations and more dialogue, and, finally, agreements among the parties.

What is critical and important for any planner in the proper management of a conflict is an analysis of the conflict's type and causes, before any action is

undertaken. A planner should look for the most appropriate model to assist in conflict management. The steps mentioned above are important but not to be followed to the letter. A planner should consider how to apply these steps; sometimes, he/she has to skip from one step to the other, not necessarily following the order as presented. It is clear that it is not enough just to manage conflicts; it is also necessary to go further and try to settle and resolve them.

References

- Leonhard, M. (2001). *Conflict Analysis for Project Planning and Management: A Practical Guide—Draft*. Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH.
- Tanner, F. (2000). 'Conflict prevention and conflict resolution: Limits of multilateralism,' *International Review of the Red Cross* 839: 541–558.
- United Nations (2012). Land conflict: Toolkit and guidance for preventing and managing land and natural resources conflict. http://www.un.org/en/events/environment-conflictday/pdf/GN_Land_Consultation.pdf [Accessed 20 January 2015].
- Wehrmann, B. (2008). Land conflicts. A practical guide to dealing with land disputes. Munchen, Germany. <http://www.giz.de/expertise/downloads/Fachexpertise/giz2008-en-land-conflicts.pdf> [Accessed 21 January 2015].



Occasional Publication 30

The Institute of Rural Development Planning (IRDP) is a corporate body established by Tanzania Parliamentary Act No. 8 of 1980; as a national centre for providing facilities, places and centre for training, research and consultancy in rural development planning and such other related disciplines.

The Tanzania Planners' Handbook is a practical guide in the process of planning for practicing planners and other professionals engaged as functional managers and officers in Tanzania. In seeking to provide practical guidelines for those professionally engaged in the planning process, the Handbook still focuses on presenting three main aspects: (i) required concepts; (ii) appropriate approaches and procedures; and (iii) relevant methods and techniques. It has been written to orient Planners to perform their daily work. It gives a review of major planning concepts and methods Planners need to be familiar with. It discusses the appropriate planning approaches and procedures the Planners can make use of. It explains and/or refers to the analytical tools that the Planners use to make planning successful. It indicates which optimum data are required for what kind of development to take place and where such data are available.

This second edition has been written as a combined effort by 61 staff of the IRDP as indicated in alphabetical order: Abiud Kaswamila, Adalbertus Kamanzi, Africanus Sarwatt, Agness Chawene, Aisha Mjegere, Allan Mfuru, Andrew Komba, Baltazar Namwata, Batimo Sebyiga, Benedict Kilobe, Benjamin Mwalugeni, Boniface Kauki, Canute Hyandye, Christina G. Mandara, Constantine Lifuliro, Danford Chisomi, Daniel Mpetu, Deodatus Buberwa, Domitilla Bashemera, Emmanuel Hauli, Emmanuel Nyankweli, Ezekiel Kanire, Francis Njau, Frank Hawassi, Galinoma Lubawa, George Kinyashi, Gerald Temu, Godrich Mnyone, Gulliver Simime, Hellen Stephen, Hija Mwatawala, Hozen Mayaya, Idd Masumbuko, Innocent Zilihona, Irene Reginard, Israel B. Katega, James Lwelamira, Jane Mbilinyi, John Safari, Joseph Haule, Judith Namabira, Juma Kidunda, Kenneth Kitundu, Mafuru Solomi, Mark Msaki, Martha Nhembo, Masumbuko Idd, Mwabless Malila, Omari Mzirai, Provident Dimoso, Revocatus Nyefwe, Rofina Mrosso, Stanslaus Msuya, Stephen James, Tafuteni Chusi, Tiberio Mdendemi, Titus Mwageni, Upendo Mmari, Vedastus Timothy Youze Mnguu, and Zacharia Masanyiwa.