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The dynamics of population, land scarcity, agriculture and non-agricultural activities: West Usambara mountains, Lushoto District, Tanzania

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Citation

Jambiya, G. (1998). The dynamics of population, land scarcity, agriculture and non-agricultural activities: West Usambara mountains, Lushoto District, Tanzania. *Asc Working Paper Series*, (28). Retrieved from <https://hdl.handle.net/1887/423>

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DE-AGRARIANISATION AND RURAL EMPLOYMENT NETWORK

Afrika-Studiecentrum, Leiden
Institute of Resource Assessment, Dar es Salaam

The Dynamics of Population, Land Scarcity, Agriculture and Non-Agricultural Activities: West Usambara Mountains, Lushoto District, Tanzania

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ASC Working Paper 28 / 1998

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Preface

This working paper provides research findings emanating from the De-Agrarianisation and Rural Employment (DARE) Research Programme funded by the Dutch Ministry of Foreign Affairs and coordinated by the Afrika-Studiecentrum in conjunction with African research teams from institutions in Ethiopia, Nigeria, Tanzania and South Africa. We wish to acknowledge the encouragement of Hans Slot of the Ministry of Foreign Affairs and the editorial skills of Ann Reeves for providing vital back-up for the work of the programme's research teams.

Despite Sub-Saharan Africa's agrarian image, the rural peasant population is diminishing in relative size and significance. From a multi-disciplinary perspective, the DARE programme has sought to dissect the process of change, drawing attention to the new labour patterns and unfolding rural-urban relations now taking place. The programme research theme consists of four sub-themes: economic dynamics, spatial mobility and settlement patterns, social identity adaptations and gender transformations.

The objectives of the DARE programme have been to:

- 1) compare and contrast the process of de-agrarianisation in various rural areas of Africa in terms of an economic activity reorientation, occupational adjustment, social identification, and spatial relocation of rural dwellers away from strictly peasant modes of livelihood;
- 2) examine how risks on rural household production and exchange influence the extent and nature of non-agricultural activities in rural economies;
- 3) explore the inter-relationship between agriculture and the service sector in African economies; and
- 4) publish and disseminate the research findings to policy makers and scholars in Africa and elsewhere.

The Afrika-Studiecentrum's role has been to facilitate the formulation of country case-study research in various rural African localities by African researchers, to provide a discussion forum for work-in-progress, and to assist in the publication and dissemination of completed analyses of research findings.

The following study by Dr. George Jambiya of the Geography Department at the University of Dar es Salaam is the product of collaboration between the Institute of Resource Assessment and the Afrika-Studiecentrum. The specific objective of the research was to document the changing nature of land and labour allocation between different generations within rural households, with special emphasis on the evolution of non-agricultural labour activities.

The overall findings from the DARE programme are intended to provide insight into the processes of change which are moulding the livelihood prospects of African rural and urban dwellers of the next century. It is hoped that the knowledge gained may be useful for formulating more effective developmental policies to assist in short-circuiting Sub-Saharan Africa's current economic and political vulnerabilities.

Dr Deborah Fahy Bryceson
DARE Programme Coordinator

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The Dynamics of Population, Land Scarcity, Agriculture and Non-Agricultural Activities: West Usambara Mountains, Lushoto District, Tanzania

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This report presents the findings of research carried out between December 1996 and December 1997 in two villages in Lushoto District which formed a part of the Beyond the Shamba research project undertaken by the Institute of Resource Assessment of the University of Dar es Salaam and the Afrika-Studiecentrum, Leiden, funded by the Dutch Ministry of Foreign Affairs. This study is one of four regional studies of agricultural and non-agricultural activities and their change over time within Tanzanian villages. As such there was a standardised research methodology that is outlined in the Appendix. It involved a general broad survey of individuals within the selected villages to determine the pattern of non-agricultural activities over time, a survey of existing non-agricultural enterprises within the village, a survey of Standard Seven school children's career expectations and attitudes towards work, and an in-depth survey of career patterns of different generations within selected households.

Two villages were surveyed: Kweminyasa, a high altitude tea-growing village, and Lukozi, situated in a valley where horticultural production is the most important form of commercial agriculture. The report is divided into three main sections consisting of background about the study area, a review of the survey findings, and an analytical summary of findings and recommendations arising from the research.

Background to Lushoto District

Ethnic Composition and History

The geography of the Usambara Mountains is important for an understanding of problems associated with high population growth and the subsequent high population density in the area.

The mountainous areas of Lushoto District are home to three main ethnic groups, the WaShambaa, the WaPare and WaMbughu people. According to Egger (1980) the composition of these three main ethnic groups consists of the WaShambaa 78 per cent, WaPare 14 per cent, and WaMbughu 5 per cent. The first two, the WaShambaa and WaPare, are a Bantu-speaking people and the WaMbughu a very small Hamitic-speaking group. The West Usambara Mountains are historically known as the home of the WaShambaa with their unique Shambaa mountain kingdom and chiefdoms (Shambalai) of the 19th century which existed until the arrival

of German colonials when widespread land alienation spelt the beginning of the end of the kingdom.

The WaShambaa are a sturdy mountain people. The WaPare came from the immediate north while the WaMbughu are said to have come from northern Tanzania. The WaPare migrated from the South Pare mountains located to the north of the Usambaras, crossing Mkomazi on the Uмба plains to settle mainly in the north-west and central parts of the West Usambara mountains. The WaPare came largely as a result of a combination of inter-clan conflicts, wars with the WaChagga and WaMaasai, land pressure in the South Pare Mountains, and subsequent opening of some gazetted forests in the early 1960s.

Local legend has it that the WaMbughu originated somewhere in the north-east of Africa, between the Nile and the Ethiopian Highlands. The WaMbughu came much earlier than the WaPare and a small minority have maintained their traditions, language and way of life in small enclaves around the Magamba, Lukozi and Mkuzi areas. All three groups of people live in a harmonious manner working and trading among each other. Inter-marriages are also quite common, though less with the WaMbughu.

Climate, Soils and Agriculture

Compared to much of the rest of the country, Lushoto enjoys a relatively cool climate of between 18°- 23°C with the maximum occurring in March and minimum in July, and a high rainfall of between 600-2,000 mm per annum. The area is characterised by an extremely high rainfall variability. The mean annual precipitation decreases from the south-west to the north, from 2,000 mm to 600 mm per annum. Peasant cultivation is based on the following rainfall patterns; *Vuli* (the short rains) from October to December; *masika* (the long rains) from March to June, and *mluati* (the intermediate rains) from July to September. Different crops are cultivated in each of these 'seasons'.

Mean rainfall intensity ranges from 5-15 mm per rain-day, with January, July and October measuring between 5 and 10 mm per rain-day and April measuring 10 to 15 mm per rain-day. Three agro-ecological zones are found in the West Usambaras, which are dry-warm (with rainfall of 500-800 mm at altitudes of between 1200-1800 m above sea level), dry-cold (rainfall of 500-800 mm at altitudes ranging between 1700-2100 m above sea level) and humid-warm (with rainfall of between 800-1700 mm at altitudes between 1000-1300 m above sea level).

Given the geology of the area, the soils in the mountains vary depending on the landform. The lateric and red loams on the higher slopes deteriorate rapidly when the forests are cleared. The grey loamy mineral soils and the grey/black soils are fertile, though the latter occur mainly on the escarpment floor. The colluvial soils in the valleys are ideal for irrigation agriculture. The area consists of relatively good soils and most of the valley streams have water flowing throughout the year. Traditional irrigation agriculture is common in many areas and especially in the booming horticultural market.

The dominant economic activity in Lushoto District and in the mountains is agriculture in which it is estimated that 90 per cent of the economically-active population are engaged (Shelukindo and Kilasi 1993). Most cultivation takes place on steep slopes where over the years erosion and land degradation have been rampant although a project targeting soil erosion and deforestation is starting to control the problem. On the valley bottoms (*vitivoni*), irrigation is widely applied and horticultural crops are grown mainly for the urban market but also for local consumption.

During German and then British colonial rule, both tea and coffee were introduced as cash crops. By the 1960s tea had become an important smallholder cash crop for peasant producers in Bumbuli Division. During the colonial period large areas of natural forest were demarcated as forest reserves. Because of the good soils, adequate soil water and industrious people, the valley bottoms have made Lushoto a centre of commercial horticultural production in Tanzania, mainly producing for the coastal city of Dar es Salaam (pop. 3,000,000) and the municipality of Tanga (pop. 250,000).

Peasant farmers in the mountain areas produce firstly to meet their basic food requirements, producing mainly maize, beans, Irish potatoes, sweet potatoes, bananas (plantain), cassava and a range of vegetables such as cabbages, carrots, tomatoes, onions etc. for domestic consumption. Over the last 30 years there has been a growing demand for land as agriculture has remained the mainstay of the local economy and horticulture has gained rapid popularity and become a source of important cash income. Many households also keep livestock which consist of a few heads of cattle, sheep and goats.

Population Distribution and Land Pressure

The West Usambara Mountains are among the most densely populated areas in Tanzania. Today, Lushoto District has a population in excess of 400,000 which is growing at a rate of between 2.2 and 2.8 per cent per annum. In 1988, the average population density was 192 persons per km², and today this is estimated to be about 254 persons per km² (of arable land) which is extremely high by any standards. Emphasis is placed on arable land density given that a large part of the district is covered by steep slopes, numerous protected forests and lowlands which are agriculturally less productive. It is estimated that the so-called *effective density*, i.e. the arable land to total population, is well over 900 per km² (Mascarenhas and Madulu 1997).

A German-Tanzanian initiative known as the Soil Erosion, Conservation and Agroforestry Project (SECAP) has been established and is focusing on the intertwined problems of population, falling agricultural incomes and ecological concerns. The broad objective is to control the problems of soil erosion and overgrazing which have arisen from pressure on land resources caused by increasing densities and the abandoning of traditional fine-tuned and site orientation of land-use systems. The project is also addressing the root problems leading to emerging environmental indicators. The long-term aim is to assist in improving the living

conditions of the rural population by stabilising the ecological environment and introducing an economically viable and ecologically adapted land-use system.

Mascarenhas and Madulu (1997:15) note that deforestation and land degradation are still regarded as a serious problem in the West Usambaras. The average farm size under smallholder cultivation stands at about 1.8 ha. per household and the household size on average is 7 which is higher than the national average of 6. Distributing the available land per potentially productive person in the household leads to farm sizes ranging from between 0.25 to 0.5 ha., which is far too small for any meaningful agriculture especially as a source of livelihood. The situation is compounded by soil degradation, vulnerability to soil erosion due to the high relief and deforestation, and more recently by irregular climatic cycles in the form of the El Nino phenomenon which have led to food insecurity and hunger. The long- and short-term responses of the mountain people have been a mixture of agricultural intensification, land sales, and circular and rural-urban migration. Of late there is growing evidence of another trend, that of residing in the village and combining non-farm with farm activities.

Although the annual population increase is not as large as the mean national growth rate, the male-female ratio of 83:100 gives a clear indication of the high level of male out-migration from the area (Lynch 1993). The population-land pressure problems of Lushoto have attracted interest and forewarnings since colonial times; indeed it became an area which attracted those of the Malthusian school of thought. But so far, the mountain people have been resilient and responded successfully in various ways to famines, floods, pestilence and disease.

Economic Modes of Livelihood

Although there were some estates during the colonial and early post-colonial period, agriculture in this area is dominated by smallholder cultivation, much of it dependent on rain-fed agriculture, but also on an increasing amount based on traditional irrigation which is being supported by a Dutch-Tanzanian programme known as the Traditional Irrigation Project (TIP). On the whole, field sizes are small and most farmers tend to practice mixed cultivation. The forests of the area have been an important source of livelihood, but over time have been subjected to considerable deforestation, with adverse ecological implications. Farm produce and non-farm products are either sold locally or, more often, traded during village market days.

Traditionally, most of the economic activities have been based at the household level, and in this patrilineal society, the male head of household is the centre of decision making. The division of land use and crop cultivation between male and female often reflects this situation. A fairly recent development has been a substantial involvement in horticulture and fruit growing. Although the area is renown for its fruit (plums, strawberries, pears, apples, peaches) and vegetables (cabbages, carrots, onions, tomatoes, cauliflower), it is only over the last 15-20 years that this type of agriculture has developed into a local industry providing cash incomes and a very high demand for the valley bottom land with its soil-rich areas (*vitivo*).

The farmers in Lushoto have traditionally been smallholder subsistence cultivators, however, over time they have gradually entered into the production of commodities through two main channels. The first began during the colonial period when settler farms were introduced and more recently a small number of wealthy farmers have bought into these large production units. Such farms are large-scale and operate along commercial lines, requiring significant labour and capital inputs (Lynch 1993). This has also created a class of landowners and labourers.

The second group involves those with sufficient land to embark on commercial production of horticultural crops and/or fruit (as cash crops) on a small scale. Fruit and vegetables are very important since it is possible to produce more than one harvest per year and some mature at a faster rate than traditional subsistence crops.

Those without access to the type and amount of land necessary to enter these channels remain as subsistence farmers. As the population in the area increases, pressure on the land's carrying capacity is also increasing. In response there has been tremendous pressure on the producers to increase output to retain economic viability. First, in the 1960s, there was the process of extensification when 3,000 hectares of forest reserve were cleared and distributed to farmers in the district (Taube 1988). Lukozi village is one such area. This was followed by attempts to increase the land carrying capacity (through what may be termed as the Boserupian solution) by producers adopting exotic varieties of fruit and vegetables and using agricultural inputs. In a study of fruit and vegetable farmers in Lushoto, Lynch (1993) concludes that despite using modern agricultural inputs and having good conditions, this type of highly developed production is only possible for producers with significant quantities of capital and land, though these are still a minority in both study villages.

Survey Findings

Comparison of the Two Surveyed Villages' Location and Infrastructure

Kweminyasa village is situated along the Soni-Bumbuli road. It is essentially a tea and coffee-growing area with the main subsistence crops being maize, bananas, cassava and vegetables. The Mponde Tea Factory owned by the Tanzania Tea Authority is situated right next to the village. The Mponde/Kweminyasa area is very hilly and served by a series of dirt roads which are periodically maintained to allow access for tea-collecting vehicles.

The main village has a number of satellite settlements around it. It has market days on Sundays and Thursdays and these are important events in the village and for the village economy. The village's proximity to the tea factory implies that some people obtain full or part-time employment at the factory. Like most other villages it has a basic service infrastructure including schools, a village office and shops. Health services are offered either through the tea factory dispensary or the large Lutheran hospital at Bumbuli about 8 kilometres away. The area has several water sources (spring water) and also has electricity as a result of the tea factory being nearby, but very few villagers have managed to electrify their houses. There are two forest reserves bordering the village, and these are important sources of firewood, legal or otherwise.

Kweminyasa village has fairly good road connections, although it is served directly by just one mini-bus which travels on alternate days between Dar es Salaam and the village. The main forms of transport are pick-up vehicles which pass through en route to distant village markets, missionary vehicles and vehicles from the tea factories. However, because there is no guaranteed transport most people resort to travelling on foot to Soni, where there are more frequent means of transport. The absence of reliable transport is another factor that has not encouraged the growth of the horticulture business in this area.

Lukozi village is on the main road between Lushoto and Mlalo. It is a junction village with roads fanning out towards Lushoto, Shume-Gologolo and Mlalo. These roads also hug three long valleys as they radiate out from the village. The village itself lies at the valley bottom and consists of several satellite settlements nearby. The main settlement is surrounded by gently rising hills, where on the middle slopes maize and cassava are grown and more recently also wheat .

Prior to independence in 1961, the village of Lukozi did not exist. The area that is now occupied by the village was part of what the locals refer to as *Kandele Kamphala* forest¹ or part of the Magamba Forest reserve. Even before independence there were ominous signs of population pressure in the Usambara and Pare mountains and with it a demand for more cultivable land. After 1961, part of the forest was distributed to the locals who were in dire need of land and subsequently many WaPare moved into the area. Several areas were settled, for example Lukozi, Malindi and Mnadani.

An extensive valley runs from Kandele Kamphala Forest. Valley cultivation commenced as soon as the first satellite settlement started in Ndabwa and clearing continued until it encroached on the forest reserve. The development of the village economy was centred around the exploitation of the surrounding forests, hillside and hilltop cultivation, and valley (*vitivo*) cultivation. The population of the village has grown substantially since the 1960s and currently stands at around 7,000 persons.

By virtue of being a junction settlement and a centre of horticulture and agriculture, Lukozi village is relatively well connected. It has an all-weather dirt road which is well maintained, with buses connecting the village to Dar es Salaam, Tanga, Moshi and Arusha. There are also dozens of large 10 and 31/2 ton trucks which visit the village regularly to collect horticultural produce to supply urban markets. Lukozi has thus benefited, and suffered from the consequences of being well connected to major urban areas.

¹ *Kandele kamphaa* (the disappearing young woman) is a mythical creature in the form of a beautiful young woman who appears suddenly in front of a person or a vehicle travelling along the forest roads. To avoid hitting her, the driver suddenly swerves only to cause a tragic accident as he plummets down a steep valley. Those travelling on foot would be so attracted to her that they would disappear with her without trace. Many similar events are said to have occurred in this forest in the 1950s and 1960s.

Demographic Characteristics and Migration Patterns

Lukozi village is the larger of the two villages and appears to be the more prosperous of the two. It has about 7,000 persons and 1,200 households while Kweminyasa has roughly 5,000 people and 840 households (village leadership estimates). What is strikingly apparent in both villages is the number of children and very young people under the age of 15, and a relative absence of those aged between 16 and 20. From discussions with village leaders and local parish authorities, it became evident that both villages have experienced considerable population growth and expansion over the last 20 years, and this has reduced land availability.

The sex ratio for Tanga region is 96.5 males per 100 females, for Lushoto District it is 84.1 males/100 females, which suggests that there is a considerable out-migration of males. At Kweminyasa this was calculated to be 95 males/100 females and Lukozi 84.1 males/100 females, suggesting that there is a higher male out-migration rate at Lukozi and a slightly lower one at Kweminyasa.² In both cases however, it is evident that many young males are absent from the village.

According to the 1988 census, the average family size in the district is 5.6 persons per household. The Beyond the Shamba Phase I survey data came up with slightly higher levels, with Lukozi having an average size of 6 persons per households and Lukozi 5.8. Given the higher rates of out-migration, this suggests that family sizes are much greater than those reported in the 1988 census. A possible explanation for this is the increasingly common phenomenon observed in both villages of young men and women who leave children with their grandparents or other relatives while searching for work in urban or other areas. This ensures that they periodically send remittances back home and serves to expand the household size.

Traditionally, the West Usambaras experienced periodic and circular migration, but it appears to have intensified in recent years. Migration can be rural-urban or rural-rural. The first type is closely related to non-farm work, while the second consists of seeking farm work in other rural areas that have more land available and also a demand for labour. Responses from the Beyond the Shamba Phase I survey showed that a majority of adult offspring had remained within the village, but a fair proportion had migrated permanently.³

The survey results show that 6.2 per cent of households had their first son living in another district, region or country. For the second son, the proportion is 4.8 per cent of households and for the third this drops to 3 per cent. For daughters, the proportions are fairly similar though slightly less. The first children are normally older and have their own households, but younger children are also those who are now most likely to migrate due to new perceptions, norms and behaviour trends. Overall, 23 per cent of households have male children who have migrated and 17 per cent have female children who have migrated (Table 1).

² Based on 1988 ward data.

³ Most parents maintained that their offspring had gone elsewhere to seek work or an income on a temporary basis and would eventually come back.

Table 1: Proportions of Households with Sons and Daughters Who Have Migrated

Sons	Percentage	Daughters	Percentage
First Son	6.2	First Daughter	6.2
Second Son	4.8	Second Daughter	3.8
Third Son	3.0	Third Daughter	2.2
Fourth Son	1.4	Fourth Daughter	1.4
Fifth Son	7.8	Fifth Daughter	0.3
Sixth Son	0.5	Sixth Daughter	3.7

Source: Beyond the Shamba Phase 1 Survey

Taking this data into consideration, an interesting insight is provided by the village authorities which is also corroborated by the local parish priest. The following discussion with the Lukozi village chairman took place in December 1996:

We have a very youthful population here as you have seen for yourself, but most youth, especially males, upon completing standard seven hold the desire to follow the vegetable trucks and head for towns. Some enter the horticulture and fruit trade, but this is now saturated and so others go into the *mitumba* (second-hand clothes) business or any other work, rather than stay here. Everybody in this village wants to do *biashara* (trading) of whatever sort, and many households are engaged in this one way or another. I know this because this is where I get the village income from.

Because many youth go away and some eventually get married wherever they are, the sex ratio here is lopsided in favour of women and this has its problems. Many people have two or more wives, but it is the tradition here and the women are there. For those who go to the towns or *nyika* (lowlands/plains), if they are successful and are good boys then their families benefit. Sadly, some eventually forget their parents, but I think they are not doing this on purpose, it is because they have not succeeded wherever they are and it is difficult to come back with nothing. I would say that at least one in four households has a father, mother, son or daughter away from the village seeking an income, usually in the larger towns in the region. People from here go as far as Kenya. In fact even the young girls are beginning to go away to get jobs in towns, this is quite common now. They remain here to do what? Many eventually become pregnant and add to the burden at home because the father is often not responsible. We deal with the cases, I know all this.

Some do return eventually, but now we have a serious problem of crime, and our local court is very busy. Magistrates have to come in daily from Mlalo and Lushoto. The main problems are land disputes, fights and theft. The last one is a new and increasingly common and disturbing crime. You ask why? There is no more land and we are many now in this village. If you do not have enough or good land, agriculture alone does not pay nowadays. Everyone must *bangaiza* (struggle to scratch an income from whatever possible sources). There is also so much begging now, all these are bad signs. Yes, of course part of this is due to the food shortage, but this did not begin today, my colleagues here who have been around longer will verify that it is nearly ten years since this phenomenon became evident.

Two things are important here. First, an increasing proportion of both male and female children are migrating from the villages and, second, the reasons for their leaving are largely based on a bleak economic outlook in their home villages. Other studies have confirmed these

trends, for example, the high man/land ratio particularly in the more densely populated parts of the West Usambaras is a fact underlying observed migrations (Shechambo 1993). Thompson (1993) has used in-depth household data to show that the life cycle of males in the West Usambaras are characterised by periods of migration and trading mainly with urban areas.

Most of the interviewees managed to complete primary education, although the proportion of females is lower than males. A significantly larger proportion of females (21.8 per cent) compared to males (9.1 per cent) did not receive any formal education (Table 2). This suggests that females are still disadvantaged in terms of education in the area, a fact that is corroborated by interviews with young females who had just completed primary seven and who complained of the archaic attitude that held female children to be 'less valuable' than male children.

Table 2: Education Levels of Male and Female Children

n = 851	Males (%)	Females (%)
No education	9.1	21.8
Primary	85.0	72.4
Secondary	5.0	5.6
Post-secondary	1.0	0.3

Source: Beyond the Shamba Phase I Survey

Generally women have a lower education level than men. Female children are eventually married off and therefore it is another family or household who will 'benefit' from their presence in adulthood. But, in such a changing situation as encountered in both villages, this has serious repercussions with respect to the possibility of females engaging in non-farm activities which often require certain training or skills. Female youth are disadvantaged and consequently have a narrower range of alternatives available to them.

Agricultural and Non-Agricultural Activities

In both villages it was observed that 98.1 per cent of all respondents had taken part in some kind of agricultural activity at one time or another. This implies that both villages are predominantly agricultural and although agriculture is still very important, in recent years it appears that its benefits have declined or stagnated. Yields and sales from agriculture are inadequate to meet all household requirements, both in terms of cash incomes and food security.

Table 3: Participants in Economic Activities

	Number	Percentage
No response	49	5.6
Agriculture	644	75.6
Non-agriculture	159	18.8
Total	852	100.0

Source: Beyond the Shamba Phase I Survey

What is interesting is that a significant proportion of the activities are family based as 59.6 per cent of the non-farm activities include some family members, 23.6 per cent employ other people and 16.9 per cent are conducted alone. About a quarter of those interviewed (24.4 per cent) claimed to have generated substantial proportions of their household incomes from non-agricultural activities. Although some 75.6 per cent still obtain the lion's share of their income from agriculture, the proportion of those who are earning an income from non-agricultural activities alone is also growing, highlighting the importance of this activity.

The main constraints to agricultural production mentioned by the respondents were declining soil fertility (53 per cent), scarcity of land (34.9 per cent), and landlessness (8.9 per cent). The respondents ranked 'old age' second (72.7 per cent of all second-place factors) suggesting that there is a shortage of labour in both areas, and the factor ranked in third place was declining farm incomes (27.7 per cent). Clearly the shortages of land and labour are critical and explain and support the generally held view that youth are disappearing or are not interested in agriculture. These responses reinforce what other studies and the numerous in-depth discussions confirmed in these areas, that there is a shortage of land, that the youth, with the support of their parents, are gradually disengaging from agriculture and that agriculture does not pay.

The aspirations of those in primary school also reveal an interesting insight. Forty-seven standard seven school children were interviewed. Twenty were from Lukozi and 27 from Kweminyasa villages. In Lukozi it is evident that many pupils have lost interest in agriculture and have no aspirations in this direction. They see further education as a better alternative, while trading (*biashara*) is also of growing importance (Table 4). The same would have been the response in Kweminyasa it was thought, had the school teacher been absent during the interviews. Given the agrarian foundations, together with the effects of local culture, there is a strong moral compulsion to identify oneself with farming.

Table 4: Primary School Pupils' Aspirations

Aspirations	Lukozi percentage n = 20	Kweminyasa percentage n = 27
Higher education	50	14.8
Agriculture	30	81.5
Trade	15	3.7
Total	100	100.0

Source: Beyond the Shamba Standard Seven Student Survey

For most households, agriculture alone does not provide a large enough income to meet all basic requirements. Thus most households that have limited land and labour and which find themselves in such a position tend to be economically unstable and among the first threatened by food insecurity. Land scarcity also creates rural unemployment. The economic liberalisation policies first introduced in the 1980s created the desire for a wide range of consumer goods which cannot be obtained through incomes based on subsistence agriculture alone. Therefore those who do not have access to the *vitivo* or horticultural land have a limited range of options, all of which relate to non-agricultural activities. Far fewer are accumulators who have managed to increase the size of their holdings and who can make a limited reinvestment in agriculture through buying additional land, new farm equipment, dairy cattle, casual labour, seeds, fertiliser and pesticides.

Non-Agricultural Village Enterprises

A sample of 44 enterprises in both villages was selected for interviews. The focus was on the most accessible or visible enterprises or non-farm activities (NFAs), most of which were located in the centre of the village but also a few of which were in satellite settlements. In Kweminyasa/Mponde there were 24 interviews and in Lukozi 20. Over 91 per cent of those interviewed were owners of the enterprises. The most common types of enterprises in both villages are retailing (shops), selling of food in small outlets (*hoteli*) and tailoring (Table 5). Others include beer making and selling (in local beer halls and bars) and grain milling.

Table 5: Range of Enterprise Activities

	Kweminyasa (no.)	Lukozi (no.)	Total (percentage)
Commercial (shops & trading)	5	5	23.8
Food selling	4	3	15.9
Tailoring	5	1	13.6
Beer halls and <i>Pombe</i>	1	4	11.4
Handicrafts	4	1	11.4
Milling	1	2	6.8
Shoe repairs/shining	1	2	6.8
Others (carpentry, butchery, tile making/roofing, selling second-hand clothes (<i>mitumba</i>) and art)	3	2	10.3
Total	24	20	100.0

Source: Beyond the Shamba Enterprise Survey

In both villages it is mostly men (84 per cent) who operate these enterprises, although in Lukozi a quarter of such enterprises are operated by women while in Kweminyasa it is only 8 per cent. One explanation for this is that many females are disadvantaged in terms of basic education and skills, and therefore also lack confidence in their own ability to succeed in business. Until recently, in such a patrilineal society, many would not normally have been encouraged to embark on such enterprises at all. Women are mostly engaged in the making and selling of local beer.

Most respondents had only primary education (95.8 per cent) and only 4.2 per cent had any secondary education. Moreover, the level of skills, and especially traditional skills, required to run these enterprises is low. For example, 40.9 per cent of the respondents had no traditional skills at all, whereas 13.6 per cent had some technical training, and 45.5 per cent had received on the job training or an apprenticeship of some sort.

Most of the respondents (70.5 per cent) had no previous engagement in non-agricultural activities, 15.9 per cent had been involved in some business or other and 13.6 per cent were either engaged or employed in some other enterprise prior to the current ones (Table 6). A major difference was observed between the two villages, showing that 45 per cent of the Lukozi respondents had previously been engaged in non-agricultural activities, compared to just 8.4 per cent in Kweminyasa. This situation can be explained by the greater shortage of land in Lukozi and an earlier diversification attempts which took place there.

Table 6: Prior Involvement in NFA Activities

	Kweminyasa (no.)	Lukozi (no.)	Total (percentage)
No prior involvement in NFAs	22	9	70.5
Prior involvement in NFAs	2	11	29.5
Total	24	20	100.0

Source: Beyond the Shamba Enterprise Survey

Both the enterprise and general surveys show that participation in NFAs emerged particularly strongly in the 1980s following liberalisation policies and the subsequent decline and stagnation of farm incomes (Table 7). It is worthwhile to note that the period between 1980 and 1996 shows that the proportion of individuals participating in non-agricultural activities in both villages accounted for over a third of the population. This reinforces the contention that NFAs became noticeable, if not significant, during the 1980s. However, what is not known is the number of NFAs which may have been initiated earlier on but have since ceased to exist. It is apparent that the increasing participation of people in NFAs and enterprises commenced in the late 1970s and became especially pronounced in the early 1980s following further fragmentation of farm plots, a growth in population and falling or stagnating real incomes.

Table 7: Dates of Commencement of NFA Enterprises

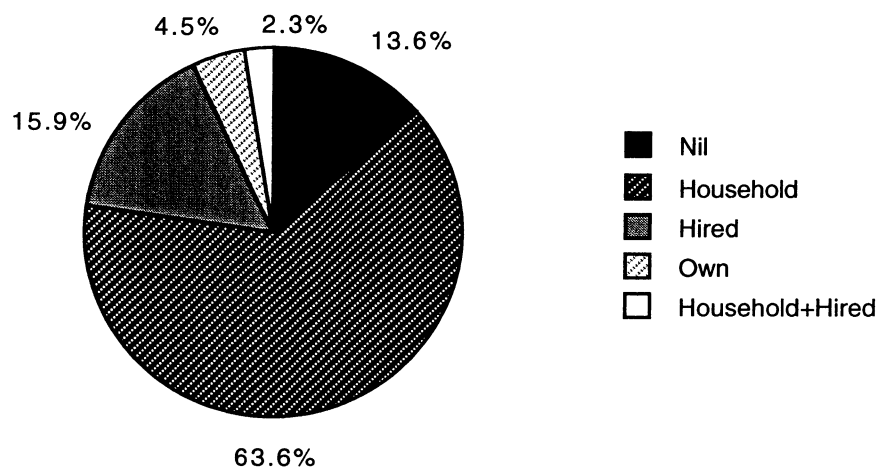
	General Survey (per cent) (Individuals in NFAs) n = 587	Enterprise Survey(per cent) n = 44
1930-1939	0.6	-
1940-1949	1.8	-
1950-1959	3.8	4.6
1960-1969	5.7	4.6
1970-1979	19.8	6.8
1980-1989	33.2	34.0
1990-1996	35.5	50.0
Total	100	100.0

Sources: Beyond the Shamba Phase I and Enterprise Surveys

Involvement in NFA appears to take up considerable time. For example, for most of the respondents (88.6 per cent), NFAs are an all-year-round activity and for 65.9 per cent of them, NFAs were a full-time activity. For 75 per cent, NFAs take up most of the week (6-7 days). The responses suggest that for the large majority of respondents, the NFAs have become their main economic activity, highlighting their importance in the village economy.

In both villages, labour utilised in the enterprise is primarily household labour, accounting for 63.6 per cent of the total sample (Figure 1). However, there are some differences between the villages in terms of hired labour. In Lukozi 30 per cent of the enterprises use hired labour compared to only 4.2 per cent in Kweminyasa. By contrast, 33.3 per cent of the enterprises in Kweminyasa utilise only their own labour while none of the Lukozi enterprises are restricted solely to own labour. Lukozi village has developed a tradition of hiring labour and this is rooted in both the horticultural activities and NFAs.

Figure 1: Labour Utilisation in NFA in Both Villages



Source: Beyond the Shamba Enterprise Survey

In terms of utilisation of labour by gender, it is mostly men (63.6 per cent), followed by both sexes (20.5 per cent) who make up those involved in NFAs. Women account for only 6.8 per cent of those participating in the village centre NFAs with premises, which suggests that women are at a disadvantage in larger capitalised NFAs. This may help to explain why many younger women are beginning to join the out-migration process to sell their labour elsewhere, and are going to urban areas to work as domestic workers or as bar maids. Within the village, women often sell their labour, a practice that is known as *kinyange*. The only other activity that is dominated by women is the brewing and selling of beer in *pombe* shops and bars.

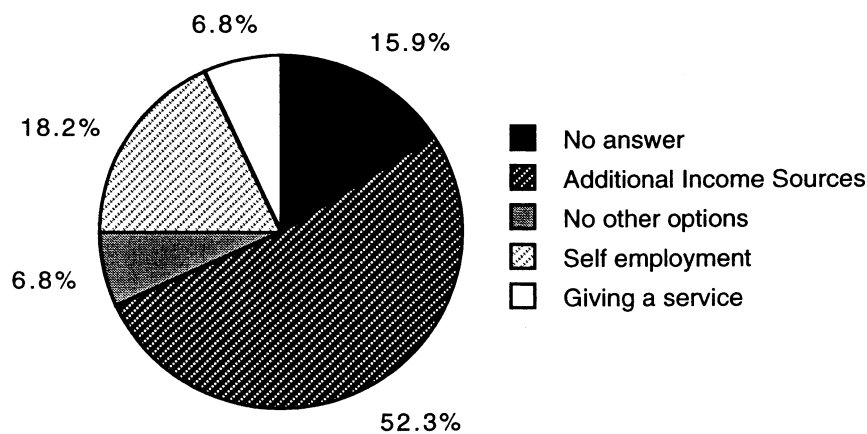
In terms of employment creation, it was shown that the quantity of hired labour for all the 44 enterprises in the survey was 84, which brings the average to about 2 persons per enterprise. The range of persons employed was between 0 and 7. Thus, at the moment NFAs hire an average of two persons per unit, in addition to the owners and members of the household. The overall impact of labour utilisation is clearly significant.

Sixty-five per cent of the enterprise respondents reported taking up NFAs because it was an important source of additional income for them while another 18.2 per cent found that self

employment (*kujiajiri*) was something to be proud of. A further 6.8 per cent mentioned that other options were limited given their educational and skill limitations.

Specific questions inquiring about skills and training revealed that 54.5 per cent had no special training or skills apart from basic primary education, while 22.7 per cent managed to obtain skills through apprenticeships and from previous work experience (Figure 2). The remaining 22.7 per cent obtained training from a combination of secondary schooling, attending seminars and technical training.

Figure 2: Reasons for Taking Up NFAs

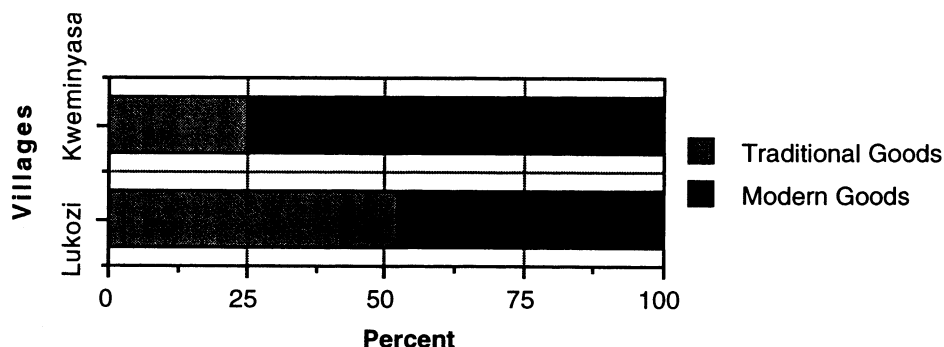


Source: Beyond the Shamba Enterprise Survey

Modern goods and services accounted for 61.4 per cent and the more traditional goods and services stood at 36.4 per cent (for 2.3 per cent there was one no response). Offering traditional goods and services implies the use of local materials and technology or offering services which have been around for a long time, e.g. selling local beer (*pombe*), handicrafts, shops etc. Modern goods and services include those utilising modern technology and imported raw materials and services that are relatively new to the area, e.g. electrical or diesel-operated milling machines, selling second-hand clothes, tile making, tailoring, shoe shining, butchery, food selling, carpentry, beer selling, maize mills, hawking, trading and running a shop. Traditional activities encompass: local beer brewing and selling, handicrafts, pitsawing and food processing.

Between the villages there is a difference between offering modern and traditional goods and services, where Lukozi's share of modern goods and services (51 per cent) is much higher than Kweminyasa's (35 per cent) (Figure 3). This is explained by Lukozi being a more 'recent' village with its location at a major road junction with connections to urban areas and its buoyant local horticultural economy. Kweminyasa is more remote and presumably physical distance plays a part in reducing innovations to the area. It is economically less buoyant but it does have more in terms of local resources that can be utilised for the production of traditional goods.

Figure 3: Share between Modern and Traditional Goods and Services

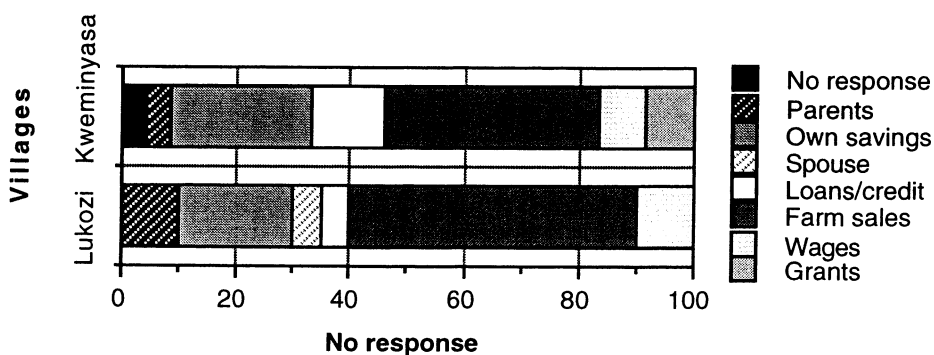


Source: Beyond the Shamba Enterprise Survey

Roughly 40 per cent of the enterprises served the market just within the village and 60 per cent offered goods and services to markets both within and outside the village. For example milling, selling food and beer, tailoring or shops cater for the local market, whereas carpentry and handicrafts include distant markets.

The main sources of capital emerge from farm sales (43.2 per cent), followed by their own savings (22.7 per cent) which come from multiple sources. Local loans and credit account for 9.1 per cent as does capital from wages. Although there are differences between the villages in terms of the proportion of sources of capital, by and large, the main sources remain farm sales and own savings (Figure 4). It is interesting though that, insofar as Kweminyasa village is concerned, grants from relatives and friends account for 9 per cent of capital that was utilised to commence the businesses, whereas capital from parents accounted for a similar proportion in Lukozi.

Figure 4: Sources of Capital



Source: Beyond the Shamba Enterprise Survey

In both villages, the volume of starting capital required to initiate an enterprise ranged from between 1,000/= to 700,000/= with the mean being around 100,000/=. For some of the enterprises, the real value of this capital is much higher now, especially for those that have been operating for two years or longer.⁴ These figures suggest that for most rural residents, 100,000/= is a considerable amount of money to risk, if it could be obtained in the first place.

Cross investment between agriculture and non-agricultural activities is common in both villages. A significant number of respondents from the enterprise survey revealed that they had obtained their initial investment from agriculture and often ploughed back income from non-agricultural activities into agriculture. The main intention is to secure food security and make use of the land that they still hold or are accumulating. Some 93 per cent of those operating enterprises are also engaged in agriculture. This confirms the responses of the general questionnaire. It is interesting that 75 per cent invested money from agriculture into enterprises and a further 83 per cent re-invested money from enterprises into agriculture. This suggests that the evolution and development of rural non-agricultural enterprises may be an attractive alternative in terms of generating the necessary capital to invest in agriculture locally.

Changing Household Structure and Content

Findings of the in-depth generational survey showed a gradual disintegration of the extended family with increasing focus on the nuclear family. On the whole most respondents suggested that their quality of life had declined slightly, particularly during the mid 1980s. Although a few households have seen their fortunes change for the better, most report that their financial situation has either stagnated or declined. While there is disturbing evidence of increasing poverty, many households are striving to hold onto their land and a few are actually increasing their farm sizes through accumulating farm plots.

The agrarian patriarchs who head rural households are beginning to lose their authority and control as younger males and females are obtaining control over their own incomes. Moreover, as an increasing number of males are not receiving any inheritance, their fathers feel that they are losing an important bond and that loss is amplified by the sons obtaining incomes from other sources. Finally, the rural households are becoming increasingly dependent on the remitted incomes over which they have no control. The situation is further compounded by the new roles female children are taking up. The effects of this gradual erosion of the authority of the rural patriarchs and the social implications are unknown but likely to be profound in terms of traditional social control.

Several changes between the generations have occurred in recent years. The fragmentation of land through inheritance and sale has meant that not all sons are going to inherit land from their fathers, something that was once unthinkable. Attitudes have changed accordingly. In the

⁴ Pride Tanzania is an NGO that gives soft loans to start up and expand enterprises up to a maximum of US \$ 1,000.00 (about 650,000/=). This is close to the maximum amount given during this survey.

1960s, young men first began to go further afield to seek employment or any other economic opportunities that they could find. By the 1980s this had become widely acceptable, and now it is perceived as the norm in many similar villages in the Usambaras. Moreover, in a household with many sons and very little land, it is not expected that all sons will inherit land so the alternative is to look for income-generating opportunities elsewhere, hence the out-migration of the youth.

There are also changes in outlook. Many youthful males are prepared to venture further or take up non-farm economic activities either locally or elsewhere. In response to the economic liberalisation policies, many see that engaging in trade, at whatever level, provides much better prospects than tilling the land. The prevailing notion is that, if capital and the right guidance and connections are obtained, then the returns are much faster and more reliable. Thus many are aspiring to enter trading activities ranging from the *machinga* hawking activities to fruit and vegetable trading. These are predominantly male-dominated activities carried out in distant urban centres, such as Tanga, Dar es Salaam, Moshi and Arusha.

Hitherto, most young women upon completion of primary school education would await marriage, and through marriage would get access to land for cultivating food crops and perhaps some livestock too. Contemporary young women in both villages now also have a changed outlook. In both areas promising young husbands are hard to come by and the trend has become one of either entering into a polygamous marriage, which many are increasingly reluctant to do, or ending up as a single parent. Since most women can only get access to land through their parents, male relatives or husbands, the current situation is to their disadvantage, and in the group interviews they complained vehemently about this. In response many young women, soon after completing their primary education, look to urban centres to obtain employment as domestic workers or barmaids. Relatively uneducated, they nonetheless hope to find jobs in the service sector.

The aspirations and also the economic options available to the contemporary generation of youth in both villages is increasingly away from agriculture into non-agricultural activities either locally or elsewhere. The youthful and parental generations are aware of this reality and are accommodating it with varying degrees of reluctance and success.

A number of group interviews were conducted which focused on two main age and gender groups, young and old, men and women. The following table reflects the concerns and preoccupations of each group.

Table 8: Generational and Gender Attitudes towards Agriculture

	Men	Women
Young	They accept the inevitable, that most are unlikely to inherit land and that the best alternative is for them to engage in trade. The future is not in agriculture, it is in other income-earning opportunities either locally or elsewhere. They enjoy control over their own income.	Expressed frustration at their exclusion from access to their own agricultural land, but also were prepared to attempt alternative income-earning possibilities. Disappointed with the lack of prospects and the bleak future that they are facing. They are also eager to earn their own income and have control over it.
Old	They are concerned and frustrated that they can no longer give much in terms of birthrights to their male children, and are losing their authority and control over household incomes. They are also concerned about the shortage of labour resulting from their children going away, but also look forward to remittances.	Their children, male and now even female, are going away. There is no help in the home, but they pray that their migrating children will not forget them. Their lot appears to be even worse and are simply dependent on the fact that their children tend to think of themselves first. They too are losing hope in farm incomes

Source: Beyond the Shamba Group Interviews

The in-depth interviews shed light on household history as well as revealing people's future expectations. In the sample survey, there were a few successful households (12.6 per cent), those that are just getting by (32.8 per cent) and those that are slipping back (54.6 per cent) and in danger of losing out.

Karim Saidi Sowa is a 35-year-old man, who was born in Kweminyasa village and has always lived there. He has a wife and four children. Both his parents come from the same area and he has a number of small plots which now amount to about 5 acres. Karim is considered to be a wise and energetic young man, who is succeeding economically while others are failing. Nonetheless he is concerned about what the future holds, not so much for himself but more for his children. This is his story:

Upon finishing primary school, I did not succeed in getting into secondary school. I helped my father on his plots and gradually was able to get some capital. That was in the good old days when the price of tea leaves was good. My father lent me some money and the rest I raised myself and started a small shop. Gradually business picked up and then I was able to buy land from other people in the village. It was difficult at first because land is hard to get, it was only in times of hunger or when people have very serious problems like illness, or have a court case or whatever, that they are forced to sell land. I buy it because I need it and anyway most people prefer to sell to a local person. I did this until now. I have five acres and I cultivate tea, a bit of coffee and food crops. I now want to try horticulture too.

I cannot do all the farming myself and so sometimes I hire labour. Many people are willing to work to get some cash, life is hard here nowadays. Today a quarter of an acre of tea sells for just 50,000/=. That plot across there is for sale if you want it. The man who is selling it has to send his boy to Soni Secondary School and he has no

money, but the boy is smart and if he succeeds, then maybe he will pull his brothers and sisters out of poverty. The same area of a *Kitivo* sells for 100,000/= and the land on the slopes for maize, bananas and cassava sells for 60,000/= for quarter of an acre. The future of agriculture here is not so good, but land is still important. It gets us food and some cash now and then and its value appreciates when times are good. I hear that they [the government] want to send some people to Handeni, just as they tried years ago but failed and people died. I am ready to try as I now know what to do. There I can get a lot of land and cultivate maize, but I will also retain my properties and household here. Most people are ready to migrate if they can either get land elsewhere or some other worthwhile economic activity.

I say the prospects of agriculture are not good because now we cannot afford to buy fertiliser and other inputs. It's too expensive and land is not available. I am still paying back a loan I took out two years ago, but now there are no more loans available. Who is interested in giving credit to farmers? That is why I also have a shop and see that piece of land? I have just purchased it and I intend to build a *hoteli* and guest house. There are no guest houses here as you know and no one cooks good food for sale. If I succeed it means I can educate my children and when I am old I can also give them land, as my father did. Moreover, they can take over the business. Our father has four boys and three girls and us boys got one and a half acres each, if I give that to my children then there is not enough for everyone, that is why I am buying land and also doing business. I can get as much as 200,00 shillings per annum from tea alone, and a bit less from coffee. We grow most of our own food and get a small but steady income from the shop.

Karim's household is a successful one and he is respected within the village. It has land and is acquiring more land. He has successfully combined agriculture and commerce and is investing in his children's education. His house is a fair sized one and has a wide range of assets including various articles of furniture, a radio, a sewing machine, a bicycle, farm tools, etc..

The following is the story of a whole household which has set a new trend by shifting from agriculture to trade and then to handicrafts. It is the story of Mzee Waziri Abeidi (Mzee Pika), who is in his late 50s, and his sons. His children have chosen to stay in the village but are doing more than just cultivating alone. They are engaged in non-agricultural activities, but even so they are only just getting by. There are too many of them and they do not have enough land. For this household non-farm activities are very important.

I was born in this place, Mahange, which is a satellite (*kitongoji*) settlement of Kweminyasa village. I have a wife and 9 children, three others died. I had some primary education. My late father, Mzee Saidi Nyangasa, taught me the basic skills of weaving *nyungo*, which is basically a male activity in this village. However, as I grew up, I did not engage in this activity, instead I was predominantly a peasant farmer, just like most others around here growing tea, coffee, maize and cassava.

In 1962 I was cultivating less and less and more occupied in selling fish, which I would buy from the river fishermen anywhere along the Ruvu river, between Korogwe and Hedaru I would then bring the fish up to the mountains and start selling from Soni to here. However, even this additional economic activity was not enough to cater for my household's needs, so during any lull period, I also debarked wattle trees and sold the dried bark to the Giraffe Wattle Extract factory in Lushoto. Meanwhile I also continued to farm my two acres of tea, which is fairly large compared to most farms/holdings here which are often less than two acres.

My success with selling fish and debarking wattle were short lived. Sometimes the fish would spoil and the profit margins were often very low. There were also difficulties with the wattle bark. Over the years more and more wattle trees have been cut down for firewood and other uses and reforestation has not kept up with the rate

of felling. Now there are very few trees around to harvest. The wattle factory has also had management problems which have affected our incomes, though nowadays I hear it is functioning again.

Given such a situation and with agriculture offering little hope, the only other alternative was to use the weaving skills passed down to me by my father and make the *nyungos* to sell locally, but mostly in the Soni market (22 kms) down the road via Bumbuli. We take the *nyungo* to various places on market days. I also improved my skills and trained five of my nine children. I trained only the males, since the female children can go into pottery and the other children are still too young to learn. My sons also have apprentices who work together with them on a part-time basis.

The apprentices also work on their farms picking tea from 6.00 am till 1.00 pm. From 2.00 till 6.00 pm they work on making *nyungos* either alone or in groups (division of labour type). The making of *nyungos* has five main stages from weaving to final painting. If they work in groups, or wish to hire helpers, say 3 to 4 people, then they can make up to five *nyungos* per day, and if they work alone the same number of *nyungos* can take between 3 to 4 days.

Sometimes I can secure an order from a distant place such as Tanga, Arusha, and Moshi, so the group labour may not be adequate and we often have to hire additional labour, both male and female. This can be an exciting time since it means our incomes get a boost and the effect of the money that comes in can be felt in many households in our *kitongoji*. On the whole one can net at least 300/= per *nyungo* (after all costs). For you city people this may be small change, but when you consider that a person can sell his or her labour for a whole day for between 300/= to 500/= a day, the *nyungo* business is an attractive alternative.

Really, I cannot deny that the *nyungo* business is a life-saver here and when we do not get orders it can get economically depressing. Orders come from as far as Soni, Moshi, Same, Mlalo, Arusha and even Taveta in Kenya. Agriculture is still important in that we get some food, but with less land and with the collapse of the tea economy a good number of us are trying other alternatives. As far as the *nyungos* are concerned, it is hard work to make them, the raw materials are becoming scarce and where they are now available, we are not allowed to take them (i.e. in the forest reserves) as the forest officers claim that we're not allowed to take forest products from the reserve. So many people resort to illegally cutting down trees from the forests. Another problem is that it is also hard to market the *nyungos*. I have to go to Bwiko, along the Ruvu river to get reeds (along the Korogwe-Mwanga road).

My young brother, I am telling you, as you can see for yourself, there are very limited opportunities around here. The tea economy has failed us, and even if it had not, it soon would. There are too many of us now, the population has grown and it would be much higher if the youth did not go elsewhere to seek their fortune (*riziki*). I am lucky in that most of my sons and daughters are here and they are struggling to make a living by combining this *nyungo* business and some farming. How long this will sustain us, no one knows but *Inshallah*.

Mzee Pika's family shows the struggles that many households are experiencing. It is just a matter of time before some of his children eventually leave in search of better opportunities elsewhere.

Finally there is the sombre story of the majority in both villages as told by Fatihya Amiri who is a young 18-year-old girl. Fatihya and her brothers have left the village and this reflects a growing trend. They are seeking either wage employment or an income from some form of trading. Of what they send home, very little is re-invested in agriculture because a significant

amount is for consumption. It is the story of most families and many youth. She comes from near Lukozi village and is now in the city.

My parents are poor. We do not have much land and life has become very hard. We have a few cows, we get milk and we cultivate most of our own food. There are many of us at home and we cannot get a good income in the village. There are 7 children in our family, 4 boys and 3 girls. My eldest brother, who is about 27, works in the city's main market as a trader and our other elder brother also helps him. One of my two older sisters works in Tanga as a domestic servant and the other is married and living in Lukozi village. I am also doing domestic work in the city. The other two boys are still young and are at school and helping our parents with the small farm plots. The youngest is a six-year-old girl. We are all likely to move away from the village as our father has very little land to give us. We girls do not get any land, that is the tradition. There is no work there, and agriculture does not pay nowadays. There is also persistent hunger. When we work in the towns, each of us sends some money and food now and then. It keeps those at home secure and we get their blessings. I had to go back to work in town and leave behind my 6-month-old baby girl with my mother. This was a very difficult decision, but I had to do it. The man who is responsible has not stepped forward and he has nothing. This is happening to most girls. Our family is poor but then so are most families in the area, we are not alone. We are not very well educated but then there is very little to earn in the village, that is why many of us are in town and doing whatever. I consider myself lucky.

Analytical Summary and Recommendations

Significance of Non-Agricultural Activities

For a growing number of households in the two study villages, agriculture alone is insufficient for generating a living. As farm plots decrease in size through fragmentation, and as populations continue to grow, households utilise whatever labour and skills they have, but they also tend to combine off-farm and non-farm activities to increase their earnings. It is clear that an increasing number of households are reducing their dependence on agriculture alone by opting for a diversification of income sources. This is a reasonable response given their experiences with the recent erratic weather cycle and the implications for food security and farm incomes. This is a survival strategy for most households, simply because both agricultural and non-agricultural incomes tend to be low and have a high degree of risk. There is no doubt that non-agricultural activities play an important role in the household economy. There is still land available on the market, albeit that during the study many were selling land. For others acquiring land is an accumulation strategy.

Households that are predominantly dependent on agriculture appear to be less well-off economically. By contrast, households that combine income sources or which have diversified have been able to cope with the various stresses that have affected both study villages between 1995 and 1997. All the formal and informal interviews clearly reflect this. It is only the large-scale farmers with a wide combination of crops that have managed to remain well-off, but these are few and far between.

More than a decade ago, the youth who migrated or abandoned agriculture for non-agricultural activities, were perceived as deserters or worse as lazy louts who had no pride in agriculture and upholding family traditions linked to the land. One researcher Mersmann (1994)

notes that families saw them as people who had a craving (*tamaa*), rather than a simple curiosity, to go to towns for the easy (and corrupt) life. The general reaction in the village to the migrants is that they do this because of *tamaa ya kwenda mjini*, which denies them a certain reputation in the village and even renders them outcasts. But this is gradually changing. Mersmann explains the process of the father yielding his farm *shambas* (plots) to his sons and those without land migrating to cities.

More recently attitudes to youth migration and non-farm activities seem to have changed considerably. For example, in Lukozi and Mponde, most parents and elders now refer to this as *kwenda kutafuta riziki/maisha* - to go to seek their fortune or prospects - which gives the youth a more positive reputation, but also holds them ransom to success. They are pressurised to prove their material success regularly by sending gifts home. This is either a process of survival or accumulation, depending on the specific situation of each household. The village home - *nyumbani* - used to be the only place for a man conscious of his social responsibilities, but now it is a place to visit whenever possible and occasionally send goods to. This is a commonly held view and actually encouraged by many households partly as a result of the shortage of farm land, but it is also in response to declining rural incomes and the need to reduce household dependency ratios.

In both villages, a young man or woman who has either migrated or is engaged in a non-farm activity, or both, and is supporting the family back at home, is now seen as a virtuous person, of whom families will speak with pride. The same applies to those who combine farm, off-farm and non-farm activities.

Main Findings of the Survey

1. There was a growing incidence of engagement in NFAs beginning in the 1980s.
2. Out-migration of the youthful male population to other districts in the lowlands and urban areas is increasing. The men seek cash earning activities or wage employment in order to remit cash and/or food back home. These days people are going further afield, even to neighbouring countries because of the lack of available land and also the low return from agriculture. Members of households are taking up other non-farm economic activities.
3. Circular migration to large towns such as Dar es Salaam, Tanga, Moshi and Arusha is declining. The type of work sought by men is mostly trade unless they have some skill to qualify them for other types of non-agricultural work. Young women, most of whom have some primary education, also seek non-farm employment. Initially they go into towns and return regularly and also remit cash or food, but after about three years they reduce the frequency of their return visits although continuing to remit some cash or food. The circulation effectively fades with time and they return only in times of family problems. Returning to the village for any length of time may cause them to lose their 'patch' in town where competition is high. This was found to be a new and common phenomenon especially for those who left the village a long time ago.

4. There is on-going circular migration to smaller towns, lowland estates and farms by males seeking temporary wage employment to supplement cash incomes and increase food security. In both villages an increasing number of people are heading for the new maize-belt areas along the Mombo-Korogwe and Segera-Chalinze Roads. This also includes a small number of young women.
5. Out-migration of young women to urban areas is increasing, since inheritance traditions deny them land which is in short supply anyway, and because of a shortage of male partners (who are single and have land). It is through marriage that most women get access to land.
6. Women are shunning involvement in polygamous or economically unstable relationships. Both villages have high contact rates with urban areas, and with male partners increasingly going to urban areas for extended periods (where there is a greater incidence of AIDS), young women are aware of the consequences of being a second or third wife in such a situation. Rather than marry locally, they prefer to migrate to urban areas for domestic jobs and remit incomes to gain approval and respect from their parents.
7. Those remaining behind (male and female) are combining farm and non-farm activities as land becomes scarcer and returns from agriculture stagnate. Between 1996 and 1997 land had to be sold due to hunger. A vicious cycle sets in whereby farm incomes decrease and become increasingly unstable leading to food insecurity and the option of leaving altogether. Those involved in non-farm and off-farm activities are diversifying incomes and/or livelihoods. But there are two main groups here, there are those who are doing this in response to socio-economic stress or necessity, and there are those who are doing this for accumulation purposes.
8. Some of the youth are abandoning agriculture altogether and seeking other more innovative economic alternatives locally or elsewhere. This shows that there is a greater degree of spatial mobility occurring in the search for alternative sources of income. It is common for many young males, and a growing number of females. The situation is reflected by the increasing number of youth who want to take up trading activities, ranging from the horticultural trade to the *machinga* phenomenon of trading any imported or second-hand goods.⁵
9. Agricultural encroachment on protected forests as well as illegal tree felling for domestic firewood and commercial purposes is an integral part of people's livelihood strategies. This is happening in both of the surveyed villages, indicating the level of economic pressures that most households are facing.

⁵ The *machinga* phenomenon referred to here is a recent trend of youth in many parts of Tanzania (and indeed in Kenya, Uganda and Zambia) to peddle consumer goods or second-hand clothes in many urban areas and to move from house to house and street to street. Initially it began in large municipalities but has now reached district town level.

10. The growing numbers of conflicts over land within and between families are forcing the losers to seek other alternatives. These are mainly off-farm and non-farm activities, but also disturbingly rural crime.
11. The process of income diversification is a spatially specific phenomenon. It is both a rural as well as an urban phenomenon and in each of these areas it is likely to occur or respond differently to different sets of problems and opportunities.
12. The upgrading of the road from Lushoto to Dar es Salaam, Tanga and Arusha has facilitated the movement of people and information between these places, making possible greater mobility in the pursuit of non-farm activities. Travel times have been reduced considerably. Lushoto's accessibility to Tanzania's major urban and market centres has contributed to its emergence as a major centre of horticultural supply.
13. The economic liberalisation and structural adjustment policies of the 1980s and 1990s compounded by extended periods of drought, and the impact of population growth on the little land available have all perversely affected local agriculture by worsening the terms of trade and influencing the allocation of labour between agriculture and non-agricultural activities, encouraging a process of out-migration. In both study villages there is a clear indication that most respondents are engaged in a spread of activities, i.e. farm, non-farm, and non-agricultural activities.
14. There are a growing number of landless rural youth and a small but also growing number of land owners who are accumulating land albeit very slowly. The population dynamics dictate that there is a growing proportion of rural landless youth who are now ready to sell their labour within the village to local larger-scale farmers.
15. There is cross-investment in farm and non-farm activities.
16. There is an on-going process in which households are shifting from mainly farm-based to mixed (farm and non-farm) and there are hints that the process may be proceeding to essentially non-farm based production over time.

Policy Recommendations

1. The pressure on land is increasing due to population growth. The new trend in income diversification is encouraging and may serve to reduce land pressure. Meanwhile, firm state and local government policies need to recognise and lend support to non-farm activities in rural areas. In less than fifteen years time more than half of the African population will be urbanised in a situation of negligible industrial employment opportunities, a fact which needs to be acknowledged.
2. In the Usambara mountains, dependency on agriculture remains high, but there is an increasing desire and opportunity for the pursuit of non-farm income activities. Rural development and labour policies should be re-oriented to attempt to take advantage of this new trend, turning what are deemed to be problems into opportunities. There is the chance

to encourage rural non-agricultural enterprises to generate wealth that can then be reinvested in superior forms of agriculture.

3. Development strategies must recognise the on-going process in which more rural households in the Usambaras are obtaining a livelihood from complementary non-farm incomes and take this fact into account.

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Appendix

Research Methodology and Procedures

The study involved a general broad survey of individuals within the selected villages to determine the pattern of non-agricultural activities over time, a survey of existing non-agricultural enterprises within the village, a survey of Standard Seven school children's career expectations and attitudes towards work, and an in-depth survey of career patterns of different generations within selected households. The field data were complemented by use of secondary data, both on the district in general, and information extracted from nearby and the same study areas (Feierman 1990; Sender and Smith 1990; Lynch 1993; Shechambo 1993; Arnold 1994; Kajembe 1994; Mersmann 1994; Mascarenhas and Madulu 1997; Kaswamila and Mkavidanda 1997). Group discussions and interviews with key informants within the study villages and elsewhere were extensively used during and after the field work.

Selection and Training of the Research Team

The research team consisted of the Principal Researcher (RRTL) and eight enumerators who assisted in the field. The selection of the field assistants was based on gender and ethnic considerations. Three were male and five were female. Their ethnic backgrounds were as follows: four were WaShambaa, three were a Shambaa and Pare mix and one was a Mmbughu. Some of the assistants could speak more than one local ethnic language. Of the eight, six were KiShambaa speakers, three KiPare and two KiMmbughu speakers and all spoke KiSwahili. All but one of the eight enumerators had six years or more of secondary education. Four of the enumerators were recruited in Dar es Salaam, one each from the respective wards and one each from the respective villages. All had done various jobs including assisting in research in various areas. It was expected that, with this kind of background, they would be in a position to enrich the data collection process thanks to effective communication with the people and a good understanding of local problems. A few were later employed for Phase II and to assist in the data entry process.

Given the stringent time limitations that faced this study area, the enumerators were given two days class training and one day of field instruction by another principal researcher who had already completed the first phase of field study. This included going to the rural perimeter of Dar es Salaam and filling in trial questionnaires. The same exercise was repeated in Lushoto over 4 days in conjunction with those who had been recruited there. When difficulties were encountered, the enumerators were withdrawn and retrained. This was important to ensure good quality information.

Not all the people in the local areas are fully conversant in Kiswahili, especially the older generation. This was expected and the recruitment of assistants with the relevant ethnic and local backgrounds avoided language problems. However, since the questionnaires were in Kiswahili,

translation problems from any of the local languages into Kiswahili and then English may have occurred.

Survey Design and Schedule

Besides a week's initial visit to the area to select villages to survey there were two 4-week periods of field study: Phase I in December 1996 and Phase II in December 1997. In between a number of visits were made to the area when personal interviews were held with key individuals to establish trends and explanations for events occurring not only in the two study villages but also in Lushoto District in general. In addition, a few individuals from the same villages who had migrated to towns were traced and interviewed.

When this study was conducted between December 1996 and December 1997, both villages were under considerable duress from a combination of irregular rainfall and prolonged drought resulting in serious food shortages affecting many households. The situation was bad during Phase I of the study and became worse during Phase II. Many of the respondents were preoccupied with finding food and respondents often showed signs of loss of recall, impatience and frustration.

Phase I Survey of Individuals' Non-Agricultural Work Histories

The total sample size was 851 persons with 405 persons being interviewed from Kweminyasa and 446 in Lukozi. The target was at least 400 persons from each village and at the household level at least one person. Although this was a reduction from the 1600 households initially targeted, it was a figure which was still on the high side. For example, in a village such as Lukozi in which there were 774 households even if just one person per household had been interviewed this would imply a coverage of over 50 per cent. If the total adult population is taken as 5,000, then 8 per cent of all adults were covered. Such a coverage is adequate to draw acceptable conclusions on the villages under study. The village centres either did not have this size of population (i.e. number of households) or could not get 400 people who were willing to respond, so it was necessary to go to outlying or satellite settlements of the villages. Finally there was the danger of duplication and that several members of one household would answer the same questions, since it was not possible to conduct all interviews at the household. Many were carried out in the fields or when the respondents were carrying out their various socio-economic activities. If a targeted respondent was particularly difficult, then the interview was either delayed or terminated.

To reduce the problem of duplication, the focus was first on heads of households, both male and female and secondly on senior female members of the villages. Most inhabitants of both villages were Moslems and there was a reluctance on the part of male heads of households to allow strangers to come and interview other members of their households. This is the norm and we were obliged to respect it. In fact even the non-Moslem households abide by this code of conduct. It also explains the larger number of female assistants, as it is not impolite for females

to interview males, although permission and acceptance by the other respondents were not always forthcoming. By and large there also seemed to be concern that other members of the household either were not capable of providing the correct answers, or might contradict the answers given by the head of household. However, in the end a fair balance of both genders was achieved in which the male respondents accounted for 55.7 per cent and female 44.2 per cent.

The general questionnaire attempted to gather a wide range information pertaining to the study problem. It was long and open-ended and in some sections a bit confusing, which resulted in a few respondents becoming suspicious or refusing to finish the questionnaire.

Enterprise Survey

Forty-four enterprises were surveyed. This was a straightforward exercise that was only marred by the fact that some of the respondents had already been interviewed in the general questionnaire and were concerned that their information might be used for taxation purposes. Village enterprises are subjected to local, district and national taxes and some respondents seemed to think that the survey was in lieu of some credit or technical assistance. Everything possible was done to allay their fears and also to reduce their expectations.

Standard Seven Survey

Forty students were interviewed. Like the enterprise survey, this too was pretty straightforward. However, in both cases the assistance of school teachers was sought to trace the respondents, and in one case the interviews were done in the presence of the teachers which probably influenced the responses since it would have been anticipated that the teachers would go through the questionnaires.

Phase II In-depth Interviews regarding Generational Career Patterns

This phase involved interviews with 32 people in Kweminyasa and 31 in Lukozi. The second phase was fraught with situational difficulties beyond our control, related to the worsening of famine conditions. Although food shortages were present during Phase I, they were greatly exacerbated by the time of Phase II. They arose from an extended period of drought which came soon after flash flooding. During the first phase, although people were facing considerable stress, and often showed a degree of anxiety and frustration, many helped and went out of their way to respond to questions. With the benefit of hindsight, this might have been connected with an expectation that the researchers would prompt the government to intervene by bringing in emergency supplies. Food relief did finally come but it was too little and too late for many.

Although during the first phase of field study difficulties were encountered, in Phase II the field experience was different and very difficult. The situation was further compounded by another survey on coffee growing in which some 2,000/= was given to each respondent (\$ 3.00, or Dfl. 6.5). Under these conditions a good number of respondents showed an unwillingness to

respond to questions and some demanded payment in return. It thus became a matter of policy to make a 'donation' after interviewing someone. It is uncertain to what extent these donations affected the responses, and the accuracy of the respondents' recall is also questionable considering that many were weak and tired from lack of food. There were also ominous signs of rain around this time and people were facing labour shortages and stretching themselves to the limit to prepare their farms. All these factors are likely to have influenced responses to some extent.

Not surprisingly, under these distressing circumstances, there seemed to be a kind of 'being researched fatigue' prevailing in the area. Both villages had already been subjected to research projects in recent years and nothing visible had appeared to come out of the studies that had affected the lives and livelihoods of the people in any way. This project thus faced difficulties and a lot of time and effort was spent dealing with the problem.

During Phase II a number of sensitive questions regarding household welfare were asked. This implied that constant monitoring had to be done and a great deal of patience exercised. Any sign of reluctance meant that an interview was delayed or changed and in some instances only one interview a day could be achieved.

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