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**Income diversification in the semi-arid zone of Nigeria : a study of
Gigane, Sokoto, north-west Nigeria**

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Citation

Iliya, M. A. (1999). Income diversification in the semi-arid zone of Nigeria : a study of Gigane, Sokoto, north-west Nigeria. Retrieved from <https://hdl.handle.net/1887/415>

Version: Not Applicable (or Unknown)

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DE-AGRARIANISATION AND RURAL EMPLOYMENT NETWORK

Afrika-Studiecentrum, Leiden
Centre for Research and Documentation (CRD), Kano



Income Diversification in the Semi-arid Zone of Nigeria: A Study of Gigane, Sokoto, North-west Nigeria

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ASC Working Paper 39 / 1999

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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 a 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, provide a discussion forum for work-in-progress, and assist in the publication and dissemination of completed analyses of research findings.

The following study by Dr M.A. Iliya is the product of collaboration between the Centre for Research and Documentation (CRD) in Kano and the Afrika-Studiecentrum. The specific objective of the research was to document the changing nature of rural livelihoods, links to urban areas and relationships between agricultural and non-agricultural work, with special emphasis on the evolution of informal economic 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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Acknowledgements

First and foremost I would like to thank the Dutch Ministry of Foreign Affairs for providing the funds for this research and for the chance to spend six weeks on a fellowship visit at the African Studies Centre in Leiden in 1998. The fellowship made it possible for me to stay away from my many routine administrative and teaching commitments and to concentrate on this report.

I also wish to acknowledge the invitation from Dr Deborah Bryceson of the African Studies Centre in 1994 to a workshop on De-agrarianisation and Rural Employment which led to this study. Mention must also be made of Dr Ken Swindell at CWAS, University of Birmingham for his comments on aspects of rural households in North-western Nigeria, members of the Nigerian study group under the leadership of Dr Raufu Mustapha (Oxford), Kate Meagher (also at Oxford), Dr M.B. Yunusa (A.B.U. Zaria) and Barth Chukwuezi (University of Nigeria, Nsukka). The team's several methodological meetings greatly influenced the quality of data collected and exposed me to relevant literature. Finally, permission to take up the fellowship at Leiden granted by the authorities of the Usmanu Danfodiyo University, Sokoto where I teach is sincerely acknowledged.

I am personally responsible for all the views expressed here and for any omissions or shortcomings in this report.

Income Diversification in the Semi-arid Zone of Nigeria: A Study of Gigane, Sokoto, North-west Nigeria

Introduction

Agriculture has been the mainstay of the Nigerian economy for a long time. From the 1960s up to the mid-1970s it employed almost 45 per cent of the labour force, accounted for half of the gross domestic product and was the main source of revenue. Cocoa, palm produce and rubber from the south and cotton, groundnuts and livestock produce from the north formed the major cash crops. These were produced along with a wide variety of food crops. In the south and in the Middle Belt, root crops such as yams and cassava were dominant, while in the drier northern part, grains such as millet, sorghum, maize and rice were the major food crops. With the advent of large oil revenues into the national economy in the second half of the 1970s, the role of agriculture in the economy began to decline in relative terms. It now accounts for less than 30 per cent of the GDP, employs about 55 per cent of the labour force and contributes less than 5 per cent of revenue generated. The bulk of Nigeria's income comes from oil proceeds which accounted for over 95 per cent of Nigeria's GDP by the end of the 1980s.

The decline in agriculture and the rise in oil proceeds have had a wide ranging impact on all facets of the Nigerian socio-political economy. Huge oil revenues have made it possible to diversify the economy in a number of ways. On the political scene, state and local government areas have been created and the exercise has remained an ongoing process since 1967. From an initial three or four regions at the dawn of independence in 1960 the Nigerian federation has metamorphosed into a 36-state structure and about 700 local government area councils after five state-creation exercises between 1967 and 1996.

State and local government area headquarters have become focal points of rural-urban migration in search of opportunities outside farming. The growing incidence of construction work and the quest for higher education have, among other factors, attracted streams of migrants to urban areas at the expense of the rural agricultural sector. The rate of rural to urban migration has been put at 15 per cent and 25 per cent for the 1970s and 1980s respectively (Yusuf 1996).

The government has attempted to distribute the benefits of oil income to the agricultural sector. River Basin Development Authorities (RBDAs) were embarked upon to harness the limited water resources in the drier northern states and to utilise the abundant waters in the southern states more effectively. By the late 1980s, various RBDAs were in charge of specific geopolitical regions. Large-scale irrigation projects as well as efforts to assist small indigenous farmers with inputs and advice were undertaken by the RBDAs. On the other hand, state governments in liaison with the federal government and the World Bank entered into a tripartite

agreement called the Agricultural Development Project (ADP) to boost wet-season agriculture in which most rural farmers are involved. In theory these ADPs are to make available inputs of seeds, fertiliser, insecticides, ploughs and tractor hire services at subsidised rates to farmers and to advise them on how best to increase productivity. In addition, the ADPs were intended to create an enabling environment by constructing feeder roads to take inputs to farmers and for farmers to take their produce to the market. This is aimed at reducing the expected rise in rural to urban migration arising from industrial urban transformations which the government embarked upon using its huge proceeds from oil. However, rural-to-urban migration increased in the 1980s and an absolute decline in food and cash crops were recorded. Ironically, illegal food crop exports across the border into Niger, Benin and Cameroon increased generating foreign exchange and raising domestic food prices in urban areas. This forced the government to import food in addition to other consumable items in spite of the ADP and RBDA programmes aimed at boosting agriculture.

Absolute decline in oil revenue towards the mid-1980s, coupled with mismanagement, dashed all hopes of establishing a solid economy to take the country into the 1990s and beyond.

As the oil 'flash' disappeared, the construction and manufacturing industries of the 1970s and 1980s could no longer provide jobs. Many began to produce at below capacity levels (Yusuf 1996). The federal government, in an attempt to address the problem, came up with a Structural Adjustment Programme (SAP). It devalued the local currency, allowed it to float, and removed many subsidies which forced a number of industries and financial institutions to retrench or close down. In turn, this set up a process of some migrants returning home.

The decline in oil revenues and the resultant Structural Adjustment Programme to revamp the economy have had a profound effect on the rural economy. This has varied between and within Nigeria's five ecological zones. Those hardest hit are areas of limited seasonal rainfall, rural in nature, furthest away from seats of power be they federal or state, and those lacking government presence. Gigane is just such an area located in the northern Sudan-Sahel region of Nigeria.

Study Objectives

Returns of small rural households from agricultural investment are unlikely to provide sufficient basis for a means of livelihood in Sub-Saharan regions all year round. Agriculture for most has been oriented to subsistence farming with farmers operating within the confines of their indigenous socio-economic and physical environments. The farming systems which have evolved are in many ways a reflection of an adaptation to existing physio-cultural and economic realities. They have survived under colonial and post-colonial regimes. There is no gain in saying that these systems have failed to meet the challenges of time, or new systems have by-passed them. In the words of Rodney (1972): 'We are yet to understand why despite years of

colonialism, African hoes have survived and are still an indispensable tool in Sub-Saharan agriculture'.

Changes in the economies of many Sub-Saharan countries within the last three decades have left most rural people poorer (World Bank 1995). Ironically, the state in most African countries appears to be insensitive to the situation and even where there are physical structures and policies to address the situation every small positive change has been recorded. The contention has been that development efforts have not matched indigenous patterns and values.

A further argument has been the extent to which agriculture alone can lead to an improvement in people's living standards, *vis-à-vis* the inherent problems within the sector and whether it can absorb both existing labour and prospective new entrants into the market without a decline in farm holdings and subsequently a decline in household per capita income (Mulat Demeke 1997). Thus, it is imperative that diversification into non-farming activities be developed, improved upon and sustained to offer real opportunities, not just as an alternative means of livelihood but to serve as a supplement to agriculture. This goal is outside the realm of subsistence farmers and requires outside intervention. This study investigates trends in income diversification; examines the relationship between farm and non-farm activities (NFA); identifies the major constraints to non-farm activities; delves into the gender factor in income diversification; and proposes policy guidelines to develop non-farm activities within the region.

The process of de-agrarianisation taking place in Gigané is examined to see how it relates to both farm and non-farm diversification strategies. The linkage that exists between the two different sectors, the physical, cultural as well as economic parameters within which diversification is taking place, existing problems and above all the likely concepts and policy issues at stake will be reviewed.

Literature Review

Scholarly attention has shifted from the 1960s and 1970s prescription of appropriate models of development to Structural Adjustment Programmes in the 1980s and 1990s (World Bank 1981, 1990 and 1995). During the first period, emphasis was placed on transformation whereas later sustainable development was stressed (Helliner 1996; Elcher 1996). This latter approach was advocated by both the World Bank and other aid agencies which maintain that a better way of addressing past mistakes and Sub-Saharan Africa's inherent problems of development is first to understand existing paradigms which explain prevailing means of livelihood and thereafter offer appropriate prescriptions.

It has been observed that early development models tested in Sub-Saharan Africa set in motion a process of de-agrarianisation whereby able-bodied men and women migrated to the cities and towns, thus not just abandoning farms but also giving up other indigenous means of livelihood. Furthermore, prevailing institutions on the ground provided little or no mechanism to check the effects of environmentally-induced problems such as drought, famine, land scarcity and land degradation, thus inducing migration (Mortimore 1989).

For a long time therefore de-agrarianisation was seen to have negative connotations as it meant leaving the land. The literature on Sub-Saharan African development from the mid-1970s to the early 1980s was filled with expressions such as 'back to the land' and 'back to the farm' as if agriculture alone was Africa's economic future. While it was right to call for a return to agriculture in view of declining food production, mounting import bills on food and in some cities pressure on existing urban facilities, there is no doubt that other rural non-farm opportunities could ease the problems given the existing but neglected aspect of diverse forms of rural livelihood.

Attempts to redefine de-agrarianisation have varied with individual scholars subject to their inclination, and the environmental context within which their studies are based. De-agrarianisation has been construed as 'the shading of the agricultural population to the town and rural non-farm sector' (Gaidzanwa 1997). A more tacit acceptance of de-agrarianisation with a multiplicity of meanings is 'to incorporate rural to urban, farm to non-farm, traditional to modern movement of rural people' in their bid to improve their livelihood both in time and space (Bank 1997). Instead of attempting a restricted definition of de-agrarianisation, Bryceson (1996) lists some of its components and refers to it as a process of occupational adjustment, income-earning reorientation, social identification and spatial relocation of rural dwellers *away from* strictly peasant modes of livelihood. This process, it is argued, leads to diversification into non-farm activities as a means of improving both individual and household livelihoods. Thus, de-agrarianisation does not necessarily mean abandoning farming but is rather the act of diversifying into other areas of livelihood to complement farmwork incomes.

Ellis (1998) has observed that much has been written on various aspects of income diversification. There are those who have utilised case studies to address some pertinent issues (Adams 1994; Carter 1997) and some have attempted a comparative analysis to show variations in labour inputs, types and income levels (Sahn 1994; Reardon 1997) and others have offered a lucid explanation of rural changes in both time and space (Bryceson 1996; Heyer 1996). Rural livelihood diversification studies have brought into the limelight a number of issues. These include rural poverty household risk strategies, intra-household relations, rural-urban linkages, types and contributions of farm activities, and the effects of rural urban migration (Ellis 1998). The triggering circumstances for each of these themes varies. It could be as a result of climatic variability (Ibrahim 1997; Mortimore 1989); a response to land shortages due to an increase in population density (Boserup 1981; Mortimore 1989; Habtu 1997); the introduction of a structural adjustment programme (Pedersen 1997; Bagachwa 1997); coping with the breakdown of indigenous institutions of group survival strategies (Norman *et al.* 1982; Hill 1972); the outcome of adapting western education values (Madulu 1997) and a response to rising costs of farm inputs and food (Mulat Demeke 1997; Meagher and Mustapha 1997).

The propelling force behind both individual and household diversification is the desire to increase income and thus reduce risk. Thus, non-farm activities have existed as an integral part

of rural economies, responding to both exogenous and endogenous rural forces in time and space. What are these non-farm activities?

There are some conceptual problems in defining what non-farm activities are. Mulat Demeke (1997) refers to them as 'activities within the secondary and tertiary sectors of employment of both permanent and casual nature'. This definition does not capture a number of primary sector activities such as hunting animals and bees, sourcing for fuelwood and water. Haggblade *et al.* (1989) define it to include 'all economic services, construction, mining, commerce and manufacturing'. Furthermore, it is said 'to incorporate agro-industrial activities which store, process and market agricultural commodities'. These are more characteristics than definitions. Non-farm activities should include both formal and informal services besides own farm jobs, which people do and are paid for either in cash or in kind, and where the return is used to improve livelihoods. The specification that it should not be own farmwork is necessary as a lot of income earned by some household categories is derived from farm-related work on other people's farms (Meagher and Mustapha 1997).

Diversification into non-farm activities has both positive and negative impacts on individuals and households. It could reduce risk and loss of income in the event of crop failure, prevent rural populations from migrating, and provide income to propel the farm sector (Ellis 1998). Conversely, diversification may have an adverse effect on production when labour is scarce and resources have to be shared between many activities (Preston 1989). It has been noted that family nutritional standards fall as males migrate and women are left to shoulder the entire burden of farming and bringing up children (Hart 1994). As Bryceson (1996) notes, the widespread incidence of rural non-farm activities in Sub-Saharan Africa does not necessarily represent development of labour specialisation within these activities, neither is it an indication that incomes earned are substantially higher. Generally, there is a recognition of the need for further investigations into how policies can be shaped to bring about meaningful improvement of rural people's livelihoods. The existence of both indigenous as well as modern non-farm activities in rural Sub-Saharan Africa is indicative of the fact that other means of rural sources of livelihood besides the farm exist and need improvement.

Research Methodology

Gigane village consists of eleven wards with the main administrative ward, Shiyar Maigari, located roughly in the centre. These wards together with their farmlands occupy an area of approximately 30 sq km with a population of approximately 20,000 people. The 1991 national population census recorded 18,571 indicating a density of 570 persons per square kilometre (NPC 1993) which follows Sokoto with 820 persons per km. Gigane is within the Sokoto close-settled zone (Swindell 1985).

Gigane was purposefully chosen for this study to represent an area of relatively high rural population density away from the main road and international boundary, and deficient in grain production. The village is located at latitude 13°30' N and longitude 5°10' E lying 70 km from

Sokoto, the state capital and 25 km from the border town of Illela on the Nigeria-Niger border and 10 km off the all-season tarred Sokoto-Illela road.

Data were collected over a period of twelve months at three levels from July 1996 to June 1997. One hundred households, representing 5 per cent of the approximately 2,000 households in all the wards, were randomly chosen from a list of tax payers supplied by the village head. A general questionnaire was administered and from these 100 household heads, 40 were randomly selected along with their wives (72) and other male household heads staying with them (54) and were interviewed with an in-depth questionnaire. Some specific activities were monitored throughout the twelve-month period of fieldwork using a monitoring questionnaire. The timing of the research made it possible to cover three major seasons of farming and non-farm activities in Gigane: the wet *damina*, harvest *huntun* and dry *bazara* seasons.

In order to focus more on non-farm activities, a quick census of all the households in the village was carried out. Their non-farm activities were categorised into 21 major types based on the similarity of their functions. Fifty households were systematically chosen and a non-farm activity questionnaire was administered to 35 males and 15 females. A household in the context of this research refers more to a unit of production than of cohabitation. Households are either single (*iyale*) or joint (*gandu*). These units of production are explained in detail later. Different statistical techniques were used to analyse the data: frequencies, t-tests and regression.

Based on total land holdings, the 100 household heads chosen were stratified into small, medium and large. Small households refer to those with an average total holding of less than two hectares. Medium-sized households refer to those with up to five hectares. And large households refer to those with above five hectares.

It is significant to mention that women or housewives interviewed were not classified according to the land they owned but rather on the basis of the household size they fell into as a result of stratification. Generally, only a few own farmland which is cultivated for them by their sons, relations or hired labourers.

There were some inherent limitations with the sampling technique. The purposeful approach is not always a good representation, particularly given the fact that settlement location is a function of a number of socio-economic, physical and political variables. Thus one settlement specifically chosen may not reveal a lot, nor could it provide a strong basis for generalisation. Furthermore, our sample sizes for both the household and non-farm activity interviews appear too small to form a significant basis for inferences and conclusions. In spite of these limitations we believe our sample reveals some common and general characteristics of most Hausaland settlements and households and compares favourably to studies with a more elaborate choice of samples (Norman *et al.* 1982; Norman and Goddard 1971; Nigeria 1985). In addition, the monitoring aspect of our data collection provides valuable insights into peculiar aspects of rural economics such as labour, income, expenditure, production and land figures than some of the quick rural surveys that claim to be statistically more appropriate. We shall try

to explain how some of these monitored aspects were approached when we discuss them in this text.

The Study Area

History

Not much, if anything has been written specifically about the history and people of Gigane. Little can be inferred from the writings on Gwadabawa, the district headquarters that played a dominant role in the 1804 *Jihad* wars and oral reports from residents of Gigane itself. It was no doubt a big old settlement which according to oral traditions preceded the *Jihad*, a period of Fulani reformation of Islam in northern Nigeria. The *Jihad* leader, Usmanu Danfodiyo, was said to have passed through Gigane several times during the wars with the Zambarwa in the southern Niger Republic and Gobirawa to the east of Gwadabawa. On one occasion, he spent the night there and it is claimed that the support he received from Gigane's residents boosted his army and facilitated his success in the north and east. He, in turn, blessed the people of Gigane for their hospitality and support. According to the village head and some elders, this explains the rich alluvial soil (*niama*) which Allah has given them, its high population concentration (*jama 'a*), second after Gwadabawa the district headquarters, and the prosperous rural economy (*arziki*) they enjoyed up until five years ago.

These myths about the greatness and importance of a village or people are common in most Hausa settlements which preceded the *Jihad* and which could not confront the well-organised army of the Jihadists. Both hospitality by residents and their conscription into the *Jihad* army were inevitable if they wanted peace. Gigane's greatness, therefore, lies more with the fact that it made peace with the Jihadists rather than being confrontational which could have led to its destruction and replacement by other settlements around. More importantly however, is the fact that Gigane is located near a valley where not only is dry-season farming possible but water for domestic use is obtained easily in comparison with many rural areas within the region. Furthermore, it is on the trade route between Sokoto, the southern Niger Republic and the great cities of the Sahara Desert. Thus, instead of being an area of high out-migration, it served as a focal point of rural-rural migration within the region. It is the second largest settlement in Gwadabawa local government area and the fifth in the northern part of Sokoto State after Illela, Gwadabawa, Kware, Gidan Madi and Gada.

Archival reports further reveal that the proximity of Gigane to the border town of Illela, the 1960 irrigation project at Kalmalo Lake some 26 km away, and its socio-political significance within the district and region have all combined to influence the level of economic activities in the village. Its residents have shops in the weekly Illela and Gwadbawa markets, and trade in goods such as textiles, household wares and grains. Others keep livestock, grow grain, and engage in vegetable trading to the south of Nigeria and sometimes in the Republics of Benin, Dahomey and Ghana.

Physical Environment

Gigane falls squarely on the Sokoto Plain, a monotonous lowland derived mainly from softer sedimentary rock deposited mainly during the Paleocene period (Davis 1983). The plain averages some 300m above sea level, except in areas of valleys and uplands where it drops to 150m and rises above 500m respectively (Gill 1967). Around Gigane, the monotony is broken by the tributaries of Kalmalo Lake 26 kilometres to the north, The soil is mostly sandy with some lateritic surfaces which have developed as a result of bad cultivation techniques and/or erosional processes of wind and rainfall.

The prevailing weather around Gigane can be explained in terms of the changing weather systems associated with the movement of the Inter Tropical Discontinuity (ITD) from north to south and back to the north again during the year. Rain falls from mid-May to October (*damina*), with more than half of the mean annual falling in July and August (*kaka*). As the ITD moves southwards at a relatively faster rate, the rainy season recedes until it stops completely when the ITD moves out of the region to the south. Mean annual rainfall is about 650 mm. After the rainy season comes a dry dusty and relatively cold north-easterly wind called the harmattan (*hunturu*). Temperatures during this period can drop to 65°F in the early morning and rise to 75°F during the afternoon. The harmattan is followed by a period of very hot weather (*bazara*) from April to May. Temperatures can be as high as 90°F to sometimes 100°F in the afternoons. The dry season (*rani*) lasts from October to April and the rainy season (*damina*) lasts for only four months, May to September. The season is characterised by the late arrival and early cessation of rain with some brief spells of drought when it does not rain at all for 10 to 20 days. During such periods, crops wilt to a point where replanting becomes inevitable. Within the last ten years at least one of these problems has been experienced every year causing poor harvests (SEP 1995).

The climate and to large extent human attempts to cultivate the soil and rear animals have shaped the vegetation. The area is characterised by dotted trees and shrubs. Most plants have developed adaptive mechanisms to withstand the long dry season, and animals have learnt to scavenge for pasture. Plants have deep tap-root systems, shade their leaves during the dry season and have thick bark. Trees include the baobab, locust bean, and the taramind whose fruits are used as food, as well as its leaves and roots serving as food and sometimes medicine. In recent times, a new tree, the *neem*, has been introduced, initially to provide shade, but since the 1970s under a World Bank project, it has been used as a shelter belt to check the encroaching desert. Various types of vegetation are used for fuelwood cooking.

Socio-economic Characteristics of the People

Like many other parts of northern Nigeria, land to build houses and to farm is not difficult to obtain in Gigane. The existing indigenous system together with Islamic laws of inheritance have made it possible for individuals to own the plots on which they build houses. However, since the mid-1970s when Gwadabawa Local Government Area was created, coupled with

Gigane's proximity to the tarred Illela-Sokoto road, land sales within the village have increased considerably. The village head reported that one in every ten houses was built on purchased plots. Indigenes of Gigane who had left the village in the previous 10 years began to return home, not to settle down but to buy residential plots and put up structures which they either allow their relations to occupy on a temporary basis, or they lock them up and use them when they visit the village. This land speculation is in anticipation that one day Gigane will become a local government headquarters. It was estimated that 23 per cent of the sampled households own undeveloped plots within and around Gigane which suggests that land speculation is common.

Another common asset in Gigane is a radio. Some 23 per cent of the sampled households own them, most having been purchased before 1991. The fairly wide availability of radios indicates the possibility of easy dissemination of information. Radios are always left on at very high volume to enable neighbours to hear what is going on. This has facilitated the outreach of educational programmes. Other assets owned by some 10 per cent of the people of Gigane include bicycles, irrigation pumps and sewing machines. Except for irrigation pumps which 90 per cent of owners acquired after 1991, most other assets were acquired before 1991 (Table I).

Table 1: Types of Assets Owned

Types of assets	% of HH owning	% of HH who acquired before 1991	% of HH acquired after 1991	% of assets in good condition
House/land plots	93	90	10	86
Trucks	3	67	23	67
Motor vehicles	5	80	20	80
Motto cycles	6	83	17	100
Bicycles	8	63	27	88
Tractors	-	-	-	-
Ox ploughs	2	100	-	100
Irrigation pumps	9	11	89	89
Threshing machines	-	-	-	-
Oil processing machines	-	-	-	-
Electric generators	-	-	-	-
Sewing machines	7	71	29	100
Grain grinding machine	1	100	100	100
Radio cassette players	20	70	30	95

Source: Author's fieldwork

From another perspective, Gigane is a good example of a typical village consisting mainly of poor people. Out of a total of almost 20 possible areas of rural expenditure only 10 per cent of the sample cut back on their expenditures on staple foods. Expenditure on protein and clothing was drastically reduced by over 50 per cent and 70 per cent respectively (Table 2). The high expenditure on food has affected the level of investment in non-farm activities. The table further reveals that while only 20 per cent of the sample were able to increase their investment in non-farm activities, some 25 per cent actually cut back and 35 per cent maintained their level of involvement.

Table 2: Changes in Rural Household Expenditure in Gigane (% of Households)

Expenditure	Cutbacks	Increase	No change	Not relevant	Total
Staple food	10	58	27	5	100
Meat	74	10	12	4	100
Eggs	59	3	8	30	100
Rice	70	4	17	9	100
Cooking oil	52	2	18	28	100
Fuel	41	2	9	48	100
Clothing	74	11	17	3	100
Transport	52	7	19	22	100
Medicine	36	4	34	26	100
Education	33	22	17	27	100
Agric. inputs	33	45	16	18	100
Agric. wage labour	14	60	4	18	100
NFA inputs	25	20	35	20	100
NFA labour	16	13	37	23	100
Assistance to relatives	16	12	45	27	100
Religious dues	11	11	40	38	100
Membership dues	47	8	12	33	100
Ceremonies	42	15	25	18	100
House repairs	30	26	33	11	100

Source: Author's fieldwork

Gigane is dominated by the Hausa who have, over the years, intermarried with settled pastoral Fulani. The fusion of these two ethnic groups produced the Hausa-Fulani who are quite different from the pastoral Fulani who are still on the move with their livestock. In this study we will use Hausa to refer to the Hausa-Fulani for two reasons. The Hausa language is widely spoken even by the settled Fulani and secondly, in popular literature, the world 'Hausa'

refers to both the ethnic group and the spoken language (Adamu 1978). The prevalence of the Hausa language is one of the ironies of the *Jihad*. Despite the conquest of the *maguzawa* (who are believed to be the real Hausas) and the enthronement of a Fulani leadership, the Hausa language prevailed and came to be spoken as the caliphate *lingua franca*. Furthermore, Hausa is spoken even within the ruling class. Fulani is only spoken amongst a few pastoralists until they intermarry with the Hausa when they too gradually switch to Hausa. The Hausa therefore constitute 82 per cent of the population of Gigane while the Fulani and Zabarmawa account for 10 per cent and 8 per cent respectively.

Except for one female household head, all the others were male. The Hausa are patrilineal, taking descent from the father. This lineage pattern has been influenced by Islam which vests the custody of the household in males rather than females who are supposed to be secluded. The only female household head was a widow living with her younger brother who at the time of the interview had travelled to Ibadan to trade in grains. The mean age for the sample is 44 years. About 84 per cent of our sample are within the age group 25 to 45 years. Of this group, 44 per cent are 15-40 years old and 40 per cent are 41-45 years of age. According to migration literature, these age groups have a high propensity to migrate and at the same time are highly susceptible to ideas and innovations (Mabogunje, Ajaebu and Abedgbola 1981).

All the residents are Muslims except for an Ibo who runs a pharmacy. This is a clear indication of the effect of the 1804 Fulani *Jihad*. Generally, in and around Sokoto, the seat of the Caliphate, there are only a few Christians concentrated in urban areas. The few Hausa and Fulani who are Christian are descendants of families who had contact with missionaries in the 1920s and 1930s. They can be found around the towns of Wamakko and Illela (Adeleye 1971).

Polygamy (with up to four wives) is allowed by Islam. Fifty-four per cent of household heads have only one wife and about 10 per cent have more than three wives, giving a mean of two wives. This low incidence of polygamy may be indicative of the nature of our youthful sample with 44 per cent younger than 40 years of age. For the average Muslim Hausa man who marries his first wife before he is 20 years old, it is possible to have more than two wives by the age of 40. One plausible explanation for men marrying fewer wives these days may be the high cost of marriage in relation to the general downturn in the economy since the mid-1980s (Iliya 1988).

Early studies of households in the Nigerian savannahs (Norman *et al.* 1971) record the existence of large households in line with the polygamous practices of Muslim Hausa society. The average number of household members was 15 in single (*iyali*) and 30 in multiple (*gandu*) households. My survey in Gigane shows the average number of people living in single households is 8 as against 12 in multiple households, a decline of over 50 per cent within a period of about 20 years.

With the decline in indigenous forms of social cohesion such as the *gandu*, household heads have explored new forms of social relationships to raise capital, secure farm labour,

explore the possibility of getting inputs, and look for avenues to get competitive prices for their products. In Gigane, household heads are members of at least one or two associations. From the 100 sample heads of households, 20 are members of religious associations, 22 have joined social clubs and 25 are involved in other organisations (Table 3).

Table 3: Household Heads' Membership in Associations in Gigane

	Number	Average membership		Date started	
		Min.	Max.	Before 1991	After 1991
Village associations					
Rotating credit	7	3	36	3	4
Agric. cooperative	3	5	15	1	2
Community development association	20	3	120	10	10
Youth group	1	9		-	1
Age grade association	2	1	100	-	2
Ethnic association	1	16		-	1
Religious association	22	3	210	8	14
Communal labour group	2	5	10	2	-
Vigilante group	7	30	60	-	7
Women's development association	4	10	15	2	2
Social clubs	25	10	30	15	10
Professional associations	5	5	10	5	-

Source: Author's fieldwork

Ironically, membership of associations which seem to have some direct bearing on activities that would enhance both their farm and non-farm activities is low. For example, there are only three agricultural cooperatives, four women's development associations and seven rotating credit associations with a membership of as few as three and not more than 15 persons. The low membership of such associations has, as many respondents indicated, to do with the inability of the associations to meet their financial needs, problems with the embezzlement of association funds and the fact that some people received assistance from outside. On the other hand, religious, social and community development associations are more common and have more members. The high patronage of religious associations is a response to the wave of Islamic revivalism taking place, coupled with people's intrinsic desire to appear reverent. As many as 22 religious associations exist in Gigane.

Community development associations have in recent times served as avenues for non-governmental organisations through which to channel certain forms of support, not necessarily

financial, but also capacity building in nature. Secondly, since the mid-1980s, community development associations have been instrumental in environmental sanitation programmes and other rural projects such as road repairs and the provision of community facilities. The government has found them a convenient way of channelling funds for such activities from which members are sometimes found siphoning. Thirdly, social clubs have emerged as vehicles for popularity enhancement on the part of politicians seeking elective office. They have served as a conduit for mobilising support and boosting crowds at political rallies, for a fee. Thus it is not surprising that religious and community development associations have memberships of 100 to 210 persons.

The Farming System

Early works by Goddard and Norman in the 1960s and 1970s and more recently by Swindell and Iliya (1992) have tried to explain the existing farming systems and changes taking place within these systems in the Sokoto area. Basically, two types of farms exist: upland farms cultivated during the wet season with mainly grains and legumes, and lowland farms cultivated during the dry season by irrigation and growing mainly vegetables and more recently sugar cane. While upland farms are owned by almost all rural households, lowland farms, because of their limited supply, are owned by only a few. Farming generally is said to be the local population's major occupation (87%) while 13 per cent mainly rear cattle or engage in non-farm activities. Generally members of this last group engage in farming either as a second or third occupation. However, it would be a mistake to assume that the high level of participation in farming suggests an abundance of land and labour.

Land

Access to farmland within a two-kilometre radius of the village is mainly by inheritance. Within this zone, land is cultivated annually with no fallow and there is no land for new entrants. In the next band ranging from two to five kilometres radially from where Gigane borders other villages, land acquisition through communal right is possible. There is a small amount of fallow land which new entrants can clear. However, farmland is acquired mostly through inheritance (81%), as opposed to only 11 per cent and 8 per cent acquired through customary processes and purchase respectively. With lowland farms, 65 per cent were inherited, 31 per cent purchased, 10 per cent rented and 4 per cent obtained through customary rights. The well-to-do households were more likely to obtain land through customary rights. They used improved technologies which enabled them to cultivate neglected land further away from the main channel. A high degree of land scarcity is indicative of the very small proportion of land acquired through customary rights indicating Gigane's high population density within the Sokoto close-settled zone and the fact that 27 per cent of the sampled households were cultivating up to three farms which they did not own. These were farms they had rented or borrowed from people not resident in the village. Furthermore, some 45 per cent of the sample

indicated they had less farmland than their fathers did. Farm plots were generally small, ranging from less than a hectare (35%) to more than five hectares (5%) further away from the village. Most households have a mean total holding of less than 2 hectares (60%). Lowland farm plots are much smaller with a mean of less than 0.5 ha.

Table 4. Farm Land Distribution among Households

	Small		Medium		Large	
	Female	Male	Female	Male	Female	Male
Total group land holding (ha)	971	17,516	476	26,065	3,870	47,097
Average group plot size (ha)	0.5	2.6	0.7	3.7	0.7	5.3
% change in land size	0	43	0	15	0	0
Total dry land holding (ha)	11,633		19,661		33,587	

Source: Author's fieldwork 1996

Access to dry season farms (*fadama*) is generally difficult in Gigane. Fewer than 20 per cent of all village households own such land. Demand for *famada* land is high in view of the high income per hectare when compared to upland wet-season farms. But *fadama* land cultivation is further constrained by the high cost of cultivation mainly with respect to inputs and labour. For these reasons, many households, particularly the smaller ones, have either rented out such land or sold it. These constraints have affected women most in view of their limited opportunities to raise money. Only 7 per cent of women interviewed owned *fadama* land with none owning more than 0.25 hectares as opposed to 32 per cent of men with an average of 0.40 hectares. Again, only two women actually cultivate such land, others prefer to rent it out in view of the cost of production.

Labour

Gandu work units are not common in Gigane. Fewer than 10 per cent are still in *gandu* relations, all of which are the paternal type. Part of the explanation for this distribution has to do with household division once children come of age and marry. They may live within the household but operate independently. The almost total absence of joint family production units (*gandu*) within the area and the low priority household heads place on joint farms compared to their own farms is suggestive of labour scarcity in most households.

One general reason for the initial breakdown of what used to be joint family production units of father and sons is the fact that returns from farms tend to be small for most

households. Fathers can no longer meet the demands of their sons. This was reported by 73 per cent of sons farming alone and 52 per cent of fathers whose sons had left them. Most sons reported that, when alone, they find more time to engage in non-farm activities to supplement their incomes. Fathers on the other hand have been forced to either engage in or broaden the base of their non-farm activities not only for subsistence but also to meet their new farm labour requirements. In most cases they have not more than three family members to supply labour: himself, one other male and a teenage son since women hardly ever work on farms (Table 5).

Table 5: Household Heads' Potential Labour Force

	Adult		Children		Migrants	Other residents	Total
	Male	Female	Male	Female			
Available labour	2.0	1.0	1.0	1.0	0.0	0.0	5.0
Out migrants	1.0	0.0	0.0	0.0	0.0	0.0	1.0
Returned migrants	0.0	0.0	0.0	0.0	1.0	0.0	1.0

Source: Author's fieldwork

Another measure of the potential labour available to a household is the incidence of migration in and out of the village. This however is always difficult to assess. In rural Hausa societies when questions regarding the size of a family are asked, they more often than not report the number present at the time of the interview. It is common therefore to include a male migrant's wife or wives and the children they left behind. The Hausa family (*iyale*) is defined more as a unit comprising those living with the head to whom he has direct daily commitment regardless of blood ties. Most households reported only a few cases of both in and out migration. Migration of one or two household members either leaving or returning was reported by 12 per cent of the sample. The migrants were all males. Women on their own do not migrate except when they marry and move to their husband's home area.

The low level of migration may be a response to the limited opportunities available both in urban and rural destinations. Thus it could be asserted that the reported household labour scarcity has little to do with migration out of the village, but with a growing tendency for sons to be individualistic rather than communal in attitude. Many household heads (72%) traced this tendency back to the mid-1980s and saw it worsening in the early 1990s. This has led to an intensification and diversification of non-farm activities.

Farmers themselves appear to be investing a lot of their own labour in their farms with shortfalls met by hired labour. Some 47 per cent of household heads put in up to 30 per cent of their labour needs themselves, dependants living with them accounted for 31 per cent and the rest came from hired labour. The other group of household heads (53%) put in only 20 per cent of their labour needs themselves with hired labour accounting for 47 per cent, while the rest

came as assistance from relations. These figures confirm that many household heads, despite the contributions of their family, employ significant numbers of hired labourers. Scarcity of labour is further evident from the fact that 58 per cent of household heads are spending more time on their own farm now than five years ago. They invest little time on joint family farms and they now spend more on their own non-farm activities than ever before.

One would have expected that with labour shortages, there would be widespread use of ox-ploughs and tractors. These are seldom owned or used due to the mixed crop pattern and the height of the crops. Only two household heads owned an ox-plough and nobody owned a tractor. Hiring is more common with 25 per cent and 7 per cent of household heads hiring ox-ploughs and tractors respectively. Ox-ploughs cost more than N10,000, excluding the cost of the oxen. A tractor ranges from N500,000 to N1,000,000 excluding the cost of fuel and maintenance. The charges per hectare of work by both the tractor and ox-plough range from N2,000 to N3,000 per hectare compared to about N1,500 for manual labour including food. Fuel shortages have been a recurring problem in Nigeria since 1990 and charges for tractor use may be higher during these periods.

Capital Investment

The absence of fallow in Gigane, a natural technique through which soils regain their fertility, has made it necessary for either manure to be brought from home or purchased. Manure supplies are insufficient and the demand for fertilisers high. Chemical fertilisers are in short supply when and where available and are expensive, costing from N1,000 to N1,500 per 50 kg bag. This is more than most farmers can afford and as such only 37 per cent of the sample used chemical fertiliser. These households tended to be the larger households which could achieve the desired quantity per hectare.

Livestock Rearing

A wide variety of animals including sheep, cattle, goats, donkeys, camels and poultry are kept by households in small numbers. Some 71 per cent of households keep a combination of any three of these animals except for chickens which are kept by almost every household. Numbers owned vary from zero to three cattle, zero to five sheep and goats, zero to two donkeys and between ten and twenty chickens to sometimes three times this many. This contrasts with the number kept by Fulani households residing in wards surrounding the main village and again varies from those owned by transient Fulani pastoralists who camp in the fields for usually three to four weeks before they move on. For these two groups the number of livestock may range from ten to fifty head of cattle, about 100 sheep and goats, five donkeys and no chickens. They may not be wholly owned by one person but are kept together for easy grazing on a rotational basis by children from the different groups within the unit.

Livestock are grazed in open fields and near valleys where good forage can be found. They are taken every morning and return to their base in the evening where they are given grain

husks (*dusa*) or leaves (*harawa*) as a supplement. Younger animals are kept at home until they are strong enough to follow the others out to graze. The transient Fulani pastoralists exchange manure for grain by grazing their livestock on the stubble in the fields during the dry season. They move out of the region southwards as fodder becomes scarce, and northwards as the rainy season begins.

Animal produce, mainly milk and butter, are delivered to Gigane daily or taken to Gwadabawa or Illela on market days mainly by Fulani women. Hausa women purchase it and blend the milk with millet balls (*fura*) which they sell within the village as a favourite rural Hausa afternoon meal. Some households buy milk from Fulani women and use it at home. Some of the proceeds realised from sales of animal produce are used to purchase grains, buy soup ingredients, toilet soap and other basic household needs. Sometimes the distance to market is considerable and the cost of return transportation, mainly by bus or truck, has to be met from the proceeds. The women may also assist with the purchase of livestock food supplements. The balance from sales is kept by the women and over time is used to increase their stock of sheep and sometimes cattle. Livestock keeping by pastoralists and even among Hausa women is seen as a means of saving in the absence of formal savings institutions. Livestock offspring are therefore in the words of Berkvens (1997) 'equated to interest on savings'.

Livestock compliments crop farming in many ways by providing manure to use on farms, or alternatively sheep and goats are sold to purchase fertilisers and hire labour. Some 20 per cent of the sample heads indicated that livestock are their second major source of capital for boosting agriculture and provide income to meet various basic domestic needs throughout the year. Sources of income for animal feed come from the sale of crop produce (31%), income from non-farm activities (28%), and farm produce mainly in kind (24%).

A number of factors within the last two decades have contributed to a reduction in the number of livestock owned. Drought has become a common occurrence over the last three decades. The net result has been that many households (65%) have fewer livestock compared to their parents and their major problem is finding enough animal feed. The pastoralists' aggressive search for feed has brought them into conflict with Hausa farmers who see them not only as competitors for the limited forage available, but also as a threat to agriculture, grazing their livestock on fields not yet completely harvested. But as Baba (1986) argues, conflicts between pastoralist and agriculturalist are more directly related to the state's attempt to enhance farming through several River Basin Development Projects, thus depriving pastoralists of access to natural grazing areas.

Factors Inducing Non-Farm Activities in Gigane

Climate

The weather in Gigane encourages people to participate in non-farm activities. Rainfall is seasonal, lasting only three to four months a year. The rainy season is more often than not characterised by a late arrival, spells of drought and an early cessation of rains. Since the drought of the mid-1970s, most rainy seasons have experienced at least two of these phenomena which have an adverse affect on productivity (Mortimore 1989). Most farmers (87%) see farming as a risky business and have engaged in non-farm activities principally to survive. For many households, returns from farms are inadequate to see them through the year. Non-farm activities have provided them with some income to meet their basic needs and survive.

Land

Lowland cultivation which could provide some form of income is scarce. Thus the current prevailing assumption (Iliya 1995; Singh 1997) that lowland farming is a way out of rural poverty does not hold for many households in Gigane. For small households, the size of their plots coupled with the lowland cultivation costs of labour and inputs have made them abandon lowland cultivation and instead they rent or even sell their land and work as hired labourers or in non-farm activities. Some have ended up with handsome returns.

Labour

Poor climate and limited access to lowland farms have combined to induce seasonal migration out of the area. Out-migration has, in turn, affected local labour availability particularly during the wet season thereby affecting productivity. The cost of hired labour tends to be high and thus only a few can afford it. This has inversely affected production inducing many poor households to engage in non-farm activities.

Changing Values

There are apparent signs of people wanting to be on their own. Many sons leave their main household and even when they remain within it they try to be as independent as possible. This has affected labour inputs as well as cash investment on farms for small and medium households thus lowering their income from the farm. Fathers and sons have diversified their income-earning bases by diversifying their survival strategies. Thus, it is more the inability of farms to provide household needs that has led to the division of homes. This initial impetus has further been accelerated by what appears to be more promising non-farm opportunities both within and outside the village. Individualism has grown within households reducing the dependency of youth and women on the male heads of household.

Woman have become more independent for three reasons. Those in polygamous households have realised that their husband cannot meet all their needs and they have in turn

responded by engaging in non-farm activities both within the household and outside. Rivalry and jealousy between women in polygamous households have led to the quest to improve one's self beyond what husbands can provide. But most importantly, the cost of ceremonies (*biki*) appears to be the most important single factor for women engaging in non-farm activities. The custom of giving presents in cash or in kind to a female friend or relation on the occasion of a birth or marriage, and the expectation of reciprocity entails heavy expenditure for women that husbands cannot meet. Women see this reciprocal gesture as a form of investment or savings which can be used in times of need. Thus marriages and naming ceremonies are a strong inducement for women to partake in non-farm activities since farming itself is not profitable.

Recent macro-economic (SAP) and socio-cultural (Better Life and Family Support) programmes have increased people's appreciation of non-farm opportunities. With the demise of the oil boom and the launching of SAP, the rural sector has been coaxed in two ways. One was the promise of a revitalisation of agriculture and the second was the opportunity for diversification into non-farm activities. In Gigane where natural agricultural conditions are not favourable, non-farm activities appear to be the natural option. Any benefits that SAP might have brought to agriculture were monopolised by men not women. Thus the two women-based programmes which provided women with opportunities to engage in non-farm activities were seized upon.

Due to the variety of reasons outlined above, returns from agriculture have been small while rural people's commitments are numerous. To compensate, non-farm activities have proliferated in Gigane. There are 37 major categories and 168 sub-types of non-farm activities based on their similarity of function. Broadly, 15 are of the indigenous type where basic assets or inputs are derived from the natural environment as against 22 modern types where the major inputs or tools can be traced to industrial outputs (Table 6). Over three-quarters of our sample household heads and 8,756 villagers out of the entire village population of 20,176 engage in at least one form of non-farm activity or another with an average of at least two for the men and three for the women.

Non-farm activities in Gigane are age-old but modern types date back to 1923. According to the village head, retail trading was first started by a resident trader of Gigane who returned from Mecca (where he had been on pilgrimage) via Kano with some textiles, cigarettes, sweets and candles to sell along with some indigenous wares. Later, migration (in and out) together with the construction of the Sokoto-Illela road in 1957 led to a proliferation of both indigenous and modern non-farm activities.

Engaging in non-farm activities is usually a response to a combination of factors associated with population growth, changes in climate, income level, societal values and macroeconomic and political decisions (Bryceson 1996). People will engage in non-farm activities principally to augment their income, improve their livelihood and reduce risk in the event of crop failure. As the village head recalled, there was a proliferation of non-farm activities during and after the

mid-1970s Sub-Saharan drought. Many migrants remitted money home for relations to start a business (*sana'a*) mainly in modern non-farm activities as the drought had destroyed the basis or sources of most indigenous types of non-farm activities. Many such businesses have prospered to date and this could possibly be the reason why there are more modern forms of non-farm activity than indigenous types in Gigane. In addition, modern forms of non-farm activities have offered a form of competition.

Table 6: Categories of Non-Farm Activities in Gigane

Categories	Dominant sex	Total number engaged	Categories	Dominant sex	Total number engaged
<i>Low income activities</i>			<i>Low income activities</i>		
Extraction of natural resources	M (82)	112	-	-	-
Low income services	F (156)	210	-	-	-
Food & beverages	F (489)	510	Food & beverages	F (1070)	63
Farm produce processing	F (450)	730	Farm produce processing	F (1020)	424
Livestock produce	F (407)	645	-	-	-
<i>Medium income services</i>			<i>Medium income services</i>		
Clothing	M/F (-)	100	Clothing	M/F (-)	395
Hair/body services	F (60)	85	Hair/body services	F (40)	45
Carpentry	M (35)	35	Carpentry	M (52)	67
Building	M (20)	25	Plumbing	M (75)	78
Welding	M (10)	11	Building	M (15)	19
Retail trading	F (170)	76	Welding	M (18)	18
Agric. wage labour	M (450)	673	Transporting	M/F (-)	77
Asset retails	F (20)	31	Retail trading	F (100)	187
<i>High income services</i>			<i>High income services</i>		
Livestock trading	M (12)	17	Driving	M (64)	64
Grain trading	M/F (210)	359	Mechanic	M (16)	16
			Extraction	M (18)	26
			Transport	M/F (-)	19

Wholesale trading	M/F (-)	283
Provision stores	M (42)	65
Pharmacy	M (13)	19
Contractors	M/F (-)	41
Asset rental	F (31)	45
Prostitution	F (15)	17
Public employee	M/F (-)	389
Private employee	M/F (-)	12

Source: Author's fieldwork

General Characteristics of Non-Farm Activities in Gigane

About 92 per cent of non-farm activities are service-oriented and operate throughout the year. This is, to a large extent, a result of the size of the village and its proximity to major towns such as Illela and Gwadabawa providing year-round demand for many of its products. Gigane's weekly Wednesday market attracts people from within a 20-km radius and serves as an impetus for the demand of its goods. However, with a decline in the level of grains for poor households during the hungry season (May to July) there is a general reduction in their purchasing power and consequently in the demand for non-farm activity products.

Many non-farm activities (46%) are located within Gigane with a few branches (26%) outside the village. A possible explanation for this pattern could be the fact that they are self-owned (97%) and are organised on the basis of direct management. Proprietors put in most of the labour required themselves. The limited family labour in the village together with the low capital turnover in these activities has made business expansion impossible. Only 28 per cent and 14 per cent of the sample had an operator and a member of the family respectively to assist with the non-farm activity in 1996. Five years ago only 10 per cent had other people involved in the business besides the owner-manager (Table 7).

Table 7: Sources of Labour/Assistance to Household Heads

Number of household heads		% in 1996	% before 1992
With operators	1	28	10
	2	2	4
	3	0	0
With employee	1	4	1
	2	0	0
	3	2	2
With apprentice	1	4	2
	2	2	6
	3	5	4
With family labour	1	14	2
	2	10	4
	3	6	12
With tied labour	1	0	0
	2	0	3
	3	0	6

Non-farm activity labour inputs vary with the season as a response to both demand for products and services and also due to competing demands from other sectors of the rural economy. In 1992 the heaviest concentration of time spent both per day and week on non-farm activities was during the dry season when farm labour demands were lower (Table 8). A mean of ten hours per day and 5.2 days per week were put into non-farm activities during the dry season of 1996 and comparable figures for 1992 were 9.7 hours per day and 4.9 days per week respectively. The shortest times recorded were during the rainy season. These figures support the fact that there is a relative decline in the time farmers put into non-farm activities during periods of intensive farm activity such as weeding and harvesting. During these periods, farm activities take up most of the morning and early-afternoon hours. Some non-farm activities, particularly those performed by women, occupy some of these hours but most are carried out in the evenings, sometimes until 1.00 am. Understandably, therefore, more time is spent on non-farm activities during the dry season.

Table 8: Household Heads' Mean Time Spent on Non-Farm Activities

	Harvest		Dry		Rainy		Average	
	1996	Pre 1992	1996	Pre 1992	1996	Pre 1992	1996	Pre 1992
<i>Hrs/day</i>								
Small	9.5	8.7	10.2	10.0	6.4	5.7	8.7	8.1
Medium	8.3	8.1	9.3	9.0	6.0	5.3	7.9	7.3
Large	8.3	5.0	10.5	10.0	7.2	6.0	7.6	7.1
Average	7.7	7.2	10.0	9.7	6.4	5.3	8.0	7.6
<i>Days/wk</i>								
Small	5.3	4.9	6.0	5.7	4.0	3.7	5.1	4.1
Medium	4.0	3.8	5.3	5.0	3.0	3.0	4.2	3.9
Large	3.2	3.0	4.2	4.0	3.2	2.8	3.2	3.3
Average	4.2	3.9	5.2	4.9	4.1	3.2	4.3	4.0

Source: Author's fieldwork 1996

Categorising households by size and time spent in non-farm activities varies. An average of nine hours per day and five days per week is spent by smaller households on non-farm activities as against only seven hours and three days by larger households. Larger households are more apt to be farming both during the dry season and wet season whereas smaller households must diversify into more non-farm activities because farming alone does not provide them with enough to subsist on.

About half of the household heads reported that the start-up capital for their non-farm activities had come from the sale of farm produce, 35 per cent from the sale of livestock and livestock produce and 15 per cent as assistance from relations. Only 5 per cent received it from informal credit sources. The negligible sourcing of start-up capital from formal and informal sources has more to do with the attitude of informal lenders who discourage people from seeking their help. Informal lenders have complained of a cash squeeze, but more importantly, the return on loans disbursed locally is small compared to investment in high-yielding opportunities such as contract jobs for the local government headquarters in Gwadabawa and wholesale grain exports across the border into the Republic of Niger (Iliya 1996). On the other hand, Gigane is remote so formal institutions insist on some form of collateral before loans are given. Furthermore, there is a lot of paper work involved which illiterate farmers find difficult to understand. It is correct to assert that there are limited opportunities to source start-up capital within Gigane which accounts not only for the small size and limited types of non-farm activities but also provides a possible reason for abandoning certain forms of activity.

The data reveal that many respondents have either abandoned at least three or started at least two other non-farm activities between 1980 and 1995 (Table 9). Most cases of

abandonment resulted from the small profit realised (47%) and not enough capital to continue (37%). Reasons for entering new types of non-farm activity have been the small start-up capital required and the ease of sustaining such activities in view of the limited funds available to participants. This implies that through experimentation most people have moved from high to medium and from medium to low income non-farm activities.

Table 9: NFAs Started and Abandoned 1980-1996

	Year started	% started	% abandoned	Place where NFAs were abandoned			
				Within Gigane	Around Gigane	South Nigeria	Outside Nigeria
1st NFA	Pre 1980	60	10	42	21	34	3
	1980-91	25	20	37	30	27	6
	1992-96	15	4	45	20	25	10
2nd NFA	Pre 1980	41	12.5	41	23	29	3
	1980-91	37	17.3	50	30	20	0
	1992-96	22	5.7	45	35	18	2
3rd NFA	Pre 1980	57	0.9	41	21	29	9
	1980-91	27	13	37	30	25	8
	1992-96	6	10	43	35	20	2
Average		32.2	10.1	42.3	27.2	25.2	4.7

Source: Author's fieldwork 1996

About half of the existing non-farm activities were started before 1980, a quarter after 1981 and the others after 1990. The period before 1980 coincides with the oil-boom period when non-farm opportunities were higher both within and outside the village. Construction work in towns and other urban employment enabled migrants to remit money to relations in rural areas who in turn invested in non-farm activities. This is in contrast to the years beginning in the mid-1980s and later with the introduction of the Structural Adjustment Programme (SAP), when existing urban sources of income declined (Swindell and Iliya 1996) thus affecting the prospects of getting new non-farm jobs as well as existing ones. Many non-farm activities have had to be abandoned. Most of the non-farm activities which were given up were within (42.3%) and around the village (27.2%) as against those at greater distance from the village such as those in southern Nigeria (25.2%) and outside the country (4.7%). While the former accounted for over 50 per cent of total non-farm activities abandoned, those at greater distance accounted for only about 30 per cent.

Most non-farm activities within and around the village are the small or medium-sized indigenous and modern activity types requiring limited capital which are highly susceptible to changes in the proprietor's source of income and tend to be dominated by low-income

households. This is in contrast to the non-farm activities at greater distances from the village that require a higher level of capital investment and are dominated by the well-to-do household heads. These non-farm activities include wholesale grain trading, transportation, prostitution, contract jobs and smuggling which, in spite of the depression, have performed better. There is further evidence from the data collected that 54 per cent of those in high-income modern non-farm activities said their businesses are performing better now than before 1990. On the contrary, 72 per cent of those in the lower income category said business was worse now than before 1990.

Women in Non-Farm Activities

Despite the dominance of Islam in Gigane and the widely practised seclusion of women (*kule*), large numbers engage in non-farm activities. Their activities span a greater range than the men's. Women participate in 89 different types of non-farm activities at all levels compared to men who are involved in only 79 types. Women are concentrated in the low and medium non-farm activities representing 63 per cent as opposed to 43 per cent in the high-income activities. Because of seclusion, they use their children and dependants staying with them as sales assistants and sometimes employing the services of a local resident male relation who does the running up and down on either an agreed formula for sharing profits or is paid for his labour. More often than not, the women own the largest share of the business.

Children do not get paid for the services they render to their mother. In Hausa custom, no amount of service for their parents, especially mothers, would compensate them for the motherly care they receive from conception to birth through childhood and into adolescence. On the other hand, children gain rewards when their mother buys them clothes for *sallah* an annual Islamic festival. Girls look forward to dresses and housewares that will be purchased for them when they get married. There is no doubt that this indispensable non-farm labour for women has been responsible for their success, self-assertion and an improvement in their socio-economic status. Ironically, this cheap source of labour for women is being threatened by the state which has introduced laws banning child labour of any sort. Their success remains to be seen.

One plausible explanation in recent times for the high number of women who participate in non-farm activities is the 1980 'Better Life for Rural Women' and the 1990 'Family Support Programme'. Both have emphasised the need for women's emancipation and involvement in the new socio-economic and political order. Huge funds have been budgeted every year since 1990 and in 1997 the programme was implemented by the Ministry of Women's Affairs at both the federal and state government level with a minister and commissioner of cabinet rank appointed. Whether these government measures have made a significant impact on women, particularly rural Hausa women, is difficult to assess within the context of this study, but their impact appears to have been limited.

Some 63 per cent of women said that they were aware of government campaigns to improve their well-being and 23 per cent have actually benefited by receipt of loans, sewing machines, workshops on techniques to improve food processing and record keeping, as well as fertilisers at subsidised prices. While these are no doubt helpful, very many women still have no access to land, especially dry-season lowland farms. They are thus almost entirely dependent on any non-farm income they can generate.

Comparative male income figures in similar rural areas reveal that the majority of women are not doing badly in non-farm activities. While they earn next to nothing in dry and wet-season farming, they make about N1,500 to N4,000 from livestock rearing and N1,000 to N13,000 per annum in non-farm activities (Table 10). This is still small compared to the income earned by men in similar jobs but women have limited access to cash to invest in these endeavours. This generalisation has however to be taken with caution as there are some women within medium-sized and large households with comparatively high incomes relative to those of men within the same category. Furthermore, there are some women within the small land-holding category with incomes comparable to those of many successful medium-sized and large households in high-income modern non-farm activities. For example, a woman within the small household category who owns a motorcycle given to her by an urban relation has somebody who uses the motorcycle to transport passengers (*kabu-kabu*) within Illela and sometimes across the border into the Niger Republic. Every day he brings in N250 net. This works out to approximately N75,000 per annum, an amount which not even a university professor earns as his basic salary. When given the means and opportunity, women can do very well in non-farm activities.

Table 10: Mean Income from both Agriculture and NFAs (in Naira)

		Small	Medium	Large
Wet season income	F	153	350	3,410
	M	10,178	17,618	26,368
Dry season income	F	0.0	0.0	0.0
	M	1,325	271	4,252
Wet and dry season income	F	153	350	3,410
	M	11,504	17,920	30,621
Livestock income	F	1,818	4,366	1,459
NFA income	F	13,389	10,019	7,746
	M	59,092	75,138	48,510

Farm and Non-Farm Incomes Compared

The literature on agriculture in Sub-Saharan Africa refers to it as the main basis for income and livelihood of the rural population. It is not surprising that when rural people are asked what their major occupation is they reply 'farming'. In spite of this claim by our respondents, income realised from agriculture is less than that from non-farm activities. Income from non-farm activities accounts for over 60 per cent of that in small and medium-sized households and almost 40 per cent for large households. This position tends to agree with many studies undertaken during the 1990s on rural economies in developing countries.

Table 11: Mean Household Income for Different Rural Activities (in Naira)

	Small income	% of total	Medium income	% of total	Large income	% of total
Wet season income	6,614	10.6	12,459	14.0	19,194	21.0
Dry season income	854	1.4	190	0.2	2,923	3.2
Wet and dry season income	7,468	12.1	12,649	14.2	22,117	24.2
Livestock income	4,165	6.7	7,011	7.9	11,468	12.2
Non-farm activities income	42,842	69.0	56,602	63.0	35,771	39.0
Total annual income	61,943		88,912		91,476	

Source: Author's fieldwork

Rainfall unreliability and land and labour shortages have generated a high propensity for smaller households to diversify into non-farm activities. Agriculture alone cannot provide their year-round food requirements. Diversification is seen as necessary for the survival of small households as compared to larger households which in addition to their diversified activities have a substantial part of their income coming from livestock and wet and dry-season farming.

Use of Non-Farm Income

About 42 per cent of households use two-thirds of their income realised from non-farm activities to maintain their households. It is used to purchase food, drugs, clothes and to pay for repairs to the house. A third is reinvested in the business. Some 35 per cent of households reinvest two-thirds of income realised into the business and use only a third to meet their household needs including ceremonies. This latter group consists mainly of the larger households which are able to provide a substantial proportion of their food needs from their farms. A third group, the very large households, either invested all non-farm income realised in

the business or saved about half of the proceeds and invested the money in agriculture including labour and fertiliser. Thus only the very large households are investing part of their non-farm income in agriculture.

Investing in agriculture, particularly upland cultivation, is not an easy decision to take. There is a general uncertainty as to when the rainy season will begin and end. Will the rains come early, remain consistent and last long enough for crops to mature? In addition, the cost of labour is high and fertilisers are not always available and when one does find them prices are usually very high. It is only the large households with sufficient cash reserves who divert some of their income from non-farm activities into farming. For them, farming may provide access to fertilisers at official government rates, some of which they can later resell, using the proceeds to hire labour. Amounts realised from fertiliser resale on the black market are so high that they can offset whatever loss may be incurred in crop cultivation due to poor weather or pests. On the other hand, for most smaller households food security comes first and foremost ahead of all other needs.

The contention of many rural households, particularly the smaller ones, that farming is their main occupation needs to be considered. They more often than not see wage labour on other people's farms and income from the processing of farm produce for wages as 'farming'. This was evident when during our pretesting of the questionnaire 57 per cent of the respondents included farm wage labour as farming and 42 per cent referred to all processing activities both in their household or elsewhere as 'farming'.

Problems with Participation in Non-Farm Activities

Diversity in the types of non-farm activities in Gigane does not imply that they are profitable. Many are small-scale, exist only at village level, employ no more than three persons including the owner, and are owned by a single proprietor.

The start-up capital is generally small for most small-scale businesses, usually less than N500 (approximately US\$6.00 at an exchange rate of N85 = US\$1). A hired labourer requires less than N100 to start a business. For a medium-sized business between N5,000 to N40,000 is required, while large-scale businesses such as transportation, wholesale trade in grain and livestock, and running a chemist shop would need about N50,000 or more.

Within Gigane, it is difficult to raise a loan of more than N5,000. Some people do have such amounts and more, but it would be hard to convince them to lend such an amount as a loan. Thus, larger amounts that would launch people into the medium and large-scale business categories have to come from formal sources such as banks, which do not operate in Gigane. Most businesses have relied on income generated either at household level or through assistance from urban relations or local sources. These loans are small in magnitude which restricts the scale of most businesses. This explains the localised nature of most non-farm activities.

Another major constraint to the expansion of non-farm activities in Gigane is labour. Labour scarcity is not so much a result of out-migration, but more a result of natural increase and family divisions. The average family size is only about eight including children under five who are of little use in the production process. Except for daughters who assist with the marketing of produce locally, labour to assist with production and expansion of a business outside the village is generally scarce. Thus most businesses tend to be small and local in nature.

Indigenous non-farm activities are expected to be improved with developments in science and technology but this has not been the case yet. Less than 80 kilometres away in Sokoto, the Energy Research Centre of the Usmanu Danfodiyo University has developed woodstoves, biogas heating devices and small solar and wind electricity generators but they have yet to be marketed or diffused (Sambo and Taylor 1994). These would improve the rural energy supply for food processing and preservation techniques for export to greater distances. This has not been the case and people have instead continued to pursue non-farm activities using indigenous techniques.

One would expect that, with the area being within the close-settled zone of high population density, there would be enough demand to spur mass production of goods and induce expansion and modification of activities. This has not been the case, possibly as a result of two factors. The existing types of goods and services produced are common to every other village in the area such that demand outside Gigane is limited. Furthermore, with the introduction of SAP, the purchasing power of most rural households has been reduced considerably to the extent that purchases are now restricted to only goods and services that are basic to survival.

Except for the recently introduced Better Life and Family Support programmes, there have been no serious government policies or programmes aimed at developing rural industries. Community banks have been set up, the People's Bank, and a proviso for small-scale industrial development but the impact of these along with the two women-based programmes has been limited. They are more political statements than programmes aimed at improving the well-being of rural people and very few have so far visibly benefited from any local initiatives.

Finally, one cannot discount the long-standing impact of colonialism which ignored indigenous craft and food-processing techniques at the expense of modern alternatives (Anarborg 1987). Indigenous crafts such as blacksmithing, weaving, textile work and food processing still dominate in rural areas and most farm and non-farm activities are still carried out manually. On the urban side of the spectrum, capital-intensive industries using mainly imported technologies dominate with no intermediate technology to either substitute or bridge the gap.

The few attempts to introduce intermediate technology have not been successful. They are either expensive to obtain, difficult to maintain, or are incompatible with the people's economic, physical or social environments (Iliya 1988). Reminiscent of early attempts to introduce improved farming and industrial techniques, they have ended up with a stockpile of abandoned machines mostly due to the absence of spare parts or harsh weather conditions. The structural adjustment programme further worsened the situation as the naira depreciated against the US dollar thereby making it impossible to import new machines or spare parts (Yusuf 1996).

Any attempt to improve the scope and profitability of existing non-farm activities would require the full participation of the state at all three levels of government; federal, state and local, to be meshed with the people's aspirations *vis-à-vis* their social and economic realities. In fact the whole process of addressing rural people's needs, especially diversification, should start by asking them what they want.

Summary and Conclusion

This study has tried to highlight the fact that the process of de-agrarianisation is taking place and that the forms of diversification being pursued in Gigane are both complex and varied. People are in no way abandoning farming completely but are finding ways to improve their means of livelihood. In and around Gigane, agriculture alone is either not enough or not possible. Rainfall is seasonal, and records over the years tend to reveal irregularities both in pattern and intensity. Rains are always late and are increasingly punctuated by incessant spells of drought. The result has been poor harvests for most if not all households.

In addition to the problem of insufficient rainfall, with the area being within the Sokoto close-settled zone of high population density, it makes it difficult to access sufficient land. Average total farm holdings for most people (smallholders) barely exceed 2 hectares for households of about 8 persons. The land situation is even worse when high value *fadama* land is considered. Not only do fewer than one third of the households own such land, but the plot size of household holdings of *fadama* land rarely exceeds 0.5 hectares.

Farming in Gigane has been further constrained by limited forms of family labour. Indigenous forms of joint family labour like the *gandu* have virtually disappeared due to higher expectations of sons and the fact that fathers cannot provide for their needs. Both sons and fathers thus tend to be independent of one another with each exploring non-farm opportunities as a means of either maintaining or improving his livelihood.

There is a range of non-farm activities in Gigane. Basically, these are either indigenous or modern, based on the major inputs or tools used with a high preponderance of modern types of non-farm activities. This is mainly because of the competition modern forms of non-farm activities have offered and also due to the fact that the bases and inputs for most indigenous forms of non-farm activities have disappeared. A critical look at non-farm activities in Gigane reveals that most are small-scale, located within the village and owned by one proprietor. Thus,

the return or income generated is small, making it very difficult to improve the livelihood of the owners. At best, for most households they have provided a means of survival in spite of their low agricultural returns.

New non-farm opportunities have emerged both as a result of climatically induced factors such as drought, and as a result of macroeconomic and social policies. It appears that during periods of difficult economic and social policy, there is a tendency for more households to become involved in modern non-farm activities. The mid-1970s drought and SAP offer some basis for these generalisations. Participation in non-farm activities in Gigane is more by the small and medium-sized households. Their returns from farming are not adequate to see them through the year. They have virtually no access to inputs of fertiliser and loans. These household members are into at least two non-farm activities, with their wives engaging in, on average, three different activities. However, given their poor economic base, their non-farm activities are generally small and localised, with a high propensity for change in type over time. On the other hand, large households are also involved in non-farm activities, but in limited numbers and concentrating on what are referred to as medium and high-income non-farm activities. At most they are engaged in one or two activities and their wives rarely participate at all.

Large household heads have tended to become more involved in farming in view of their easier access to both modern farm inputs particularly fertiliser and formal credit facilities. This is evident from a comparison of the proportion of their farm income to their total annual income. While income from non-farm activities for small and medium households is almost 70 per cent, that of large households is only about 40 per cent of their gross income. Most large household heads are contractors who operate in wholesale grain and livestock marketing over long distances both within Nigeria and across the border into the Republic of Niger and who are also involved in transportation and asset rental among other activities.

Non-farm activities in Gigane are more than just a survival strategy. For most small and medium households they are a means of making up for shortfalls in food needs, while for larger households they are a means of generating capital to invest in agriculture, particularly fertiliser, machinery and labour. For larger households, participation in agriculture qualifies them for a number of benefits such as inputs and loans from the state at subsidised rates. They more often than not sell the inputs at much higher rates and invest the proceeds in their farms.

Non-farm activities are also a means for capital accumulation for small households. Proceeds from their non-farm activities are used to meet their other non-food needs such as ceremonies, clothing, travel, and medical care. Instances when income from non-farm activities are invested in agriculture occur only when there is a substantial rise in income which reduces the fear of uncertainty and provides a means of overcoming the problem of labour shortages caused by the weakening of the extended household as a production unit.

These new kinship ties in Gigane are two-fold: one within and the other outside the local community. Each has affected both farming and non-farm activities differently. Generally, while within the village the social gap between fathers and sons and between brothers has widened and they have become less dependent on each other causing severe labour shortages, there tends to be a greater dependence of village family members on sons and relatives outside the village. Remittances of cash and inputs in most cases from urban family members have made a big difference both in the type and scale of village-based non-farm activities. Remittances have in a few cases made it possible to start new non-farm activities or expand existing ones (Iliya and Swindell 1997). This in a way has pushed many households up the social ladder but this scenario does not imply that migration in and out of Gigane is high. Field data reveal that migration is low. In spite of low migration, family sizes are small mainly due to splitting. This has in turn invariably affected farm and non-farm labour needs for males and females.

One significant aspect of income diversification in Gigane is the participation of women even though the area is predominantly Islamic and enforces women's seclusion from the public eye. Women's increasing desires to meet their commitments have made them explore possible non-farm activities more than farming. Such non-farm activities are effectively managed indoors using the services of children and male relations. But for most, such non-farm activities are small-scale and highly susceptible to climatic and macroeconomic changes, issues which are at the top of the agenda for a sustainable development policy of the Nigerian rural sector.

Policy Recommendations

The bulk (73%) of Nigeria's population of 100 million still live in rural areas and are engaged in farming as well as in non-farm activities. The oil boom did not change their productive techniques, neither has there been any significant improvement in their standard of living. Although many have increased their income in absolute terms, this increase has not kept pace with the value of the naira since the mid-1980s. The rural majority are still poor. There is a strong need to improve their living standards, not by distributing free handouts, but by creating an enabling and sustainable national, state and local government initiative in view of the fact that 90 per cent of all revenue is generated by the central government. The federal government must start by identifying the needs of the people. More often than not, attempts to improve the lot of the rural populace have taken a top-down instead of a bottom-up approach. The result has always been that either the people cannot afford the improvements, or intended policies do not mesh with their socio-cultural and physio-economic realities.

It requires a commitment by the state and other development agencies to create supportive policies and structures that will remove existing bottlenecks to non-farm activities. Individuals and groups should be given the opportunity to proceed with these non-farm activities in the most efficient and economic way to improve their livelihood.

A new strategy to revamp the ailing economy must be put in place. In many instances, government policies and programmes have sounded sensible but, when it comes to implementation, they fail to realise their set aims. They are either killed by inept bureaucracy or by corruption. It has been asserted that less than a quarter of the amount budgeted for government programmes and projects annually gets spent on them (Iliya 1995).

Ecological problems have been the bane of rural people's attempts to improve their welfare within and around Gigané. Rainfall deficiency, scarcity of drinking water and wind erosion have combined to seriously affect the productive capacity of rural people. Strategies that would relieve rural people of these problems are needed. In view of the magnitude of mismanagement at the macro level and in large-scale projects, intermediate or low-level techniques should be sought.

At the state level, the government must intensify its commitment to make rural areas more accessible and habitable. All-season roads must be provided to link local government areas with the state capital. Such roads are also needed to link up large rural settlements to local government and state headquarters. Many of these settlements are not connected by all-season roads. They are inaccessible during the rainy season and even in the dry season the roads can still be muddy or sandy. Rural areas like Gigané with a high population density and a large number of people engaged in the processing of agricultural produce require cheap sources of power such as electricity not only for the process procedure but also to preserve manufactured products. The present reliance on fuelwood as a means of heating food should be replaced with electricity not from the Rural Electricity Board (REB) but from the National Grid which is cheaper and more reliable. The REB has not lived up to expectations due to disrupted supplies of petroleum products (diesel) and incessant power plant breakdowns.

Illiteracy is a mayor problem in most rural areas. The problem with the predominantly Muslim Sudan-Sahel region is its reservations about the school system founded during the colonial period and its association with Christian values. The government must come up with a curriculum that would strike a balance between the two and thereby increase literacy rates and confidence in the people. The curriculum should allow for the teaching of Arabic and the inculcation of Islamic principles as compulsory aspects of the syllabus. Furthermore, local Islamic schools must be integrated and not allowed to operate outside state-controlled schools.

The local government council should initiate a package of measures that would stimulate artisan and small-scale industrial development within the village and create marketing avenues. The provision of basic infrastructure, utilities and services would improve the quality of life of rural dwellers and, at the same time, attract investors, government projects and financial institutions. The council should embark on serious training programmes introducing ideas and techniques to manage and improve aspects of indigenous skills and book-keeping methods.

There is a need for all three levels of government to involve traditional rulers who can play a key role in policy making. The local government council in particular must be prepared to

work closely with leaders who, once they are enlightened on new policies and programmes, can be instrumental in broadcasting and diffusing innovations within rural areas.

Women have shown their capacity to be innovative and have the potential to compete in a number of non-farm activities. Existing programmes tailored towards improving their socio-economic status need to be re-evaluated to remove constraints that hinder their accessibility to credit, training and access to land. The newly created Ministry of Women's Affairs is timely and appropriate, but it should not become bogged down in bureaucratic procedures. It should set itself a realistic agenda, and initiate and evaluate its programmes regularly.

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