

DE-AGRARIANISATION AND RURAL EMPLOYMENT NETWORK

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Changing Lifestyles in Farming Societies of Sukumaland: Kwimba District, Tanzania

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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 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. Ndalakwa Madulu is the product of collaboration between the Institute of Resource Assessment and the Afrika-Studiecentrum. The specific objective of the research was to document the changing nature of land and labour allocation between different generations within rural households, with special emphasis on the evolution of non-agricultural labour activities.

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

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Changing Lifestyles in Farming Societies of Sukumaland:*

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This paper examines the changing lifestyle in rural Sukumaland. A case study of two villages in Kwimba District is used to demonstrate the nature and extent of the change in life patterns and resource control at the household level. Farming in Sukumaland constitutes an economic livelihood and a social identity. Almost everybody in the rural areas identifies himself/herself as a farmer. There is a widespread belief that food self-sufficiency is an important indicator of material wealth and prosperity. In other words, the value of man is in food production. Throughout Kwimba District, land is distributed at the family level through the traditional land tenure system. However, land has increasingly become scarce due to population pressure and migration flows of people to other areas are on the increase. Traditionally, Sukuma investment was directed at building up livestock and farms which were a source of pride and prestige. Recent developments have necessitated both social and economic change. Among youth, for example, investment is largely directed towards better housing and trade rather than to cattle and farming. Such conditions create a conflict of interest and investment between the two generations. The attitudes of youth to farming are a clear indicator of the shrinking agricultural sector at least in terms of investments and labour allocation. This change may be influenced by many factors such as increasing levels of education, availability of alternative economic opportunities, non-sustainable agricultural conditions, resource scarcity and rapid population growth.

Introduction

This paper examines intergenerational resource transfers, investment and lifestyle, the changing features of the household economic base and control of major factors of production (land, labour, and capital). Two villages in Kwimba District of Mwanza region in northern Tanzania are used as case studies to reflect the changing situation in Sukumaland. The hypothesis to be

* Sukumaland refers to an area south of Lake Victoria. It covers the whole of Mwanza and Shinyanga and parts of Mara, Kagera and Tabora regions. The inhabitants of this area are the Sukuma, the largest group among the 120 ethnic tribes in Tanzania (Lupande 1997). Several explorers like Stanley, Speke and Burton visited Sukumaland (Meertens *et al.* 1995). By 1948, there were 46 Sukuma chiefdoms covering an area of 16,000 square miles (Abrahams 1989, Cory 1953).

tested is that regions with high demographic pressures, land scarcity and restricted access to natural resources develop alternative employment opportunities to absorb their growing landless populations.

Historically, the Sukuma belong to the Bantu group who migrated from south of Lake Chad some 400 to 500 years ago through the Congo river basin and across Lake Tanganyika before they settled south of Lake Victoria (Malcolm 1953). At the beginning of German colonial rule (1890-1919), the Sukuma had already started agricultural intensification in response to population pressure (Meertens *et al.* 1995). As security was enhanced, settlements extended further from the village centres, new lands were cleared and the agricultural intensification skills adopted earlier, namely fertilisation of the soil by use of animal manure, became less necessary (Lupande 1997).

During British rule (1919-1961), an ambitious tsetse fly eradication campaign was implemented between 1923 and 1929 by clearing away their bushland natural habitat (Austen 1968). This campaign opened up more land for agriculture and created new tsetse-free outlets for grazing purposes. Moreover, the Sukumaland Development Scheme (SDS)¹ which was in operation during the 1947-1956 period was instrumental in population resettlement. By 1952, over 30,000 people had moved to Geita District and many agro-pastoral families moved to Bariadi, Maswa and Meatu Districts (Fuggles-Couchman 1964, Malcolm 1953, Meertens *et al.* 1995). These resettlement programmes were the origin of Sukuma migrations which are still operating to date. Currently, Sukuma agro-pastoral families occupy large areas of land in Kagera, Tabora, Rukwa, and Mbeya regions (Charnley 1994, Kikula *et al.* 1996). The migratory behaviour of the Sukuma is stimulated by both population and environmental pressure.² The process of moving away from congested areas to sparsely populated areas is a coping strategy found in many Tanzanian semi-arid environments (Madulu 1996).

According to Abrahams (1989), the Sukuma have a local history of well-organised neighbourhood group collaboration in work and maintenance of law and order. Neighbourhood groups are organised at village or sub-village levels and constitute an important labour source. Abrahams argues that:

Agricultural cooperation between neighbours takes place mainly through the medium of local cultivation and threshing teams (*malika*) which do the work for individual members

¹ The main objectives of the Sukumaland Development Scheme were to educate people in proper methods of land use, draw off excess population and livestock into prepared expansion areas (Fuggles-Couchman 1964:78), improve crop culture, conserve crop residue for dry season fodder, and increase manure production, gully stopping and planting of live hedges. In other words, the SDS aimed to rehabilitate and develop the natural resources of the whole area (Cory 1953). The scheme affected over 1 million people with 2 million head of cattle and 2 million sheep and goats, occupying 23,310 sq. km.

² The main environmental problems experienced in Sukumaland in general and Kwimba district in particular are water shortages, scarcity of pasture, deforestation, soil erosion and loss of soil fertility.

of the team in turn. Sometimes, neighbours get together to eradicate agricultural pests such as wild pigs (Abrahams 1967:53).

Neighbourhood groups are led by elected great youths (*basumba batale*) who have the function of organising mutual help, agricultural works and social activities (Austen 1968). Given the fact that Sukuma agriculture is both land-extensive and labour-intensive, local neighbourhood groups remain an important institution in the society.

Agro-pastoralism is the main mode of livelihood among the Sukuma in Kwimba District. Historical tales indicate that the Sukuma started farming many years ago using a sharpened ebony wood (*gembe*) for digging the ground (Lupande 1997). Nowadays, the hand hoe is still the most dominant agricultural tool, although ox-ploughs and tractors are also increasingly used. The most important food crops are maize, millet, sorghum, cassava, paddy, sweet potatoes, various types of legumes and vegetable crops like beans and cowpeas. The main cash crop grown is cotton. The Sukuma are famous for cotton production which was Tanzania's major export in the 1960s and 1970s. Cotton production declined during the years of economic crisis in the 1980s and recovered temporarily in the early 1990s, probably due to the coincidence of good rains and SAP policies. However, rice is now increasingly being used as a cash-earning crop due to declining production, low prices and unreliable payments for cotton.

The Study Area

Kwimba District

Kwimba District is located in Mwanza region, south of Lake Victoria (see map). The district formerly measured 6093 sq. km which was reduced to 3903 sq. km after the creation of Misungwi District³ in 1995. Kwimba is the most environmentally disadvantaged area of Mwanza region. The district has two well-defined wet and dry seasons (Wella *et al.* 1994). Rainfall tends to be scanty, patchy and unreliable with a mean annual rainfall of 800 mm (URT 1997). The dry season is both dry and windy. With an altitude ranging between 1000 to 1300 metres, Kwimba forms part of Tanzania's vast central plateau referred to as a '*cultivation steppe*' (Rounce *et al.* 1942). The economy is agro-pastoral with a bias towards farming. Small-scale peasant farming constitutes about 60 per cent of the district's agricultural output. Mixed cropping⁴ is common and is preferred as a strategy for minimising and spreading risks against crop failure.

The larger Kwimba District housed 29 per cent of the regional population in 1967, but the proportion declined to 23 per cent in 1978 and 1988. This decline can be explained by

³ The old Kwimba District had 188 villages of which 78 have been moved to the new Misungwi District. The colonial Kwimba District was even bigger. It covered Nera chiefdom which is now part of Magu District.

⁴ Mixed cropping refers to the cultivation of different crops simultaneously in the same plot.

boundary

changes in 1978 when Magu District was established. This explanation may also be relevant to the observed decline in growth rates between the 1967-78 and 1978-88 inter-censal periods as summarised in Table 1.

Table 1: Population Trends and Growth Rate in Kwimba District (1967-1988)

Year	Population			% of region	Growth rate (%)	Population density
	Male	Female	Total			
1967	150,879	154,564	305,443	28.9	-	50
1978	158,396	166,900	325,295	22.5	1.3	59
1988	207,565	220,229	427,794	22.8	2.7	77

Source: URT 1981, 1992

The estimated population for 1998 is about 553,816 people.⁵ The population density of the district rose from 50 people per sq. km in 1967⁶ to 59 persons in 1978 and to 77 persons in 1988 (URT 1992, 1994). Notable variations in population distribution and environmental conditions exist between villages, wards and divisions. These variations form a basis for varying responses to population and environmental pressures. Interviews were conducted in two villages, namely Mwankulwe and Mabuki. The two villages are within 40 kilometres of Ngudu, the district headquarters. However, due to the recent boundary changes, Mabuki village is now in the newly formed district of Misungwi.

Village Characteristics

Mwankulwe village is located along the Mwanza-Maswa road, about an hour's drive from Ngudu town on a badly rutted road (27 km). It is a traditional village enlarged during the villagisation exercise of 1974. The village has 15 sub-villages which are spread over a broad area. Some of the sub-villages are, in fact, as large as a single village. The large number of sub-villages is mainly due to the creation of new settlements after the collapse of the villagisation policy in the late 1980s. Villagers were allowed to return to their original settlements and farms where they had lived before villagisation. Mwankulwe village itself has about 410 households.

The village economy is based on small-scale subsistence farming and livestock keeping. The main crops cultivated include rice, maize, cotton, sweet potatoes and groundnuts. Trading

⁵ The 1998 population estimate for the new Kwimba District is 303,532 and about 250,284 people were estimated for the new Misungwi District.

⁶ Von Rotenhan (1968) gave a population density of 56 persons per square kilometre in Nyamilama Cooperative District (Kwimba) for 1963.

in agricultural products such as rice and maize is increasing where rice is sold *out* and maize is brought *in* from other villages. Ox-ploughs and ox-carts are commonly used for cultivation and transportation respectively. Transport is a major problem especially during the rainy season when the village is almost inaccessible to motorised transport due to the bad roads. The village is largely traditional and agricultural activities and livestock keeping are the dominant economic undertakings. There exist a few small shops in the village but the main shopping centre is in Malampaka some 15 kilometres away in Maswa District.

Mabuki is an extremely old village occupying a strategic position at the junction of the Mwanza-Shinyanga and Mwanza-Maswa roads some 50 km from Mwanza town. The village has 10 sub-villages scattered over a large area. It is a trading centre with weekly markets where abundant stocks of goods, bicycles and ox-plough parts, farm tools, new and second-hand textiles, as well as local foodstuffs are sold. In addition, Mabuki has a chicken wholesale market three times a week, involving bicycle transporters/traders.

Photo: Weekly chicken market in Mabuki village

The sellers collect chickens from surrounding villages, bartering for them with pots, pans and other domestic goods. The buyers bring the chickens by bicycle to Mwanza market. Other non-farm activities like retail shops, milling machines, bars, the sale of cooked food, tea rooms,

tailoring, vegetable sales, bicycle repairs, butchery, fish trading, and small-scale diamond mining are also found in the village.

Diamond mining is the most unusual of the non-farm activities found in Mabuki and is an activity pursued by large numbers of men in the village. A register of miners⁷ for 1992 lists 1043 names of which a handful are women. Two hundred and thirteen of those listed were local Mabuki residents, and another 173 were from other villages in Kwimba District, whereas the rest hailed from outside the district.

Photo: Involvement of youths in diamond mining activities, Mabuki village

There are several similarities between the two villages. In both villages, harvests are meagre and the prices obtained for cotton and diamonds are very low. The settlement patterns of both villages also look similar with scattered homesteads and the emergence of new sub-villages in recent years. This move has increased the village sizes in terms of coverage and the walking distance between households and sub-villages.

Demography

⁷ *Orodha ya Majina ya Wachimbaji Wadogo Wadogo wa Almasi Kijiji cha Mwabuki, 1992.*

The demographic characteristics of the case villages also appear to be similar. In both villages, the population growth rate was 1.8 per cent for the 1978-88 inter-censal period. However, other variations exist in the population as shown in Table 2.

Table 2: Population Characteristics of the Study Villages (1978-1988)

Village	Year	Population			Sex ratio (see note)	Growth rate (%)
		Male	Female	Total		
Mwankulwe	1978	1367	1366	2733	100	1.8
	1988	1570	1690	3260	93	
	% increase	14.9	23.7	19.3	-	
Mabuki	1978	2064	2247	4315	92	1.8
	1988	2761	2387	5148	116	
	% increase	33.8	6.2	19.3	-	

Source: URT 1981, 1992

Note: A sex ratio (SR) is a measure of sex composition which is usually defined as the number of males per 100 females. A SR of less than 100 is a reflection of fewer males in the population as compared to the female population. A SR above 100 indicates the presence of more males in the population than females.

One of the most evident demographic differences between the two villages is the change in sex ratios (SR). In Mwankulwe village, a notable increase in the number of females was recorded between 1978 and 1988 (SR decreased from 100 to 93). However, the opposite was true in Mabuki village (SR increased from 92 to 116). These changes are also reflected in the percentage change in male and female populations which was much higher among the male population in Mabuki as opposed to the females in Mwankulwe. These variations reflect the existence of sex-selective migration patterns in the case villages. The higher male increase in Mabuki signals a high immigration rate probably due to mining activities in that village. In Mwankulwe, the increase in the number of women may be explained by a large number of males remaining in the village, hence, more women came into the village through marriage. Similarly, the increase may be explained by a male selective out-migration probably in search of alternative employment elsewhere.

The extended family culture is still very strong in rural areas of Kwimba District. In most households, there is only one head of household even if there are many husbands and wives i.e. if the father is still alive, no son will claim to be a head of household. The father maintains his position and gives orders even to his married sons. When the father dies, one son, usually the eldest, is chosen to head the household with the assistance of the widowed mother. However, changes have started to penetrate into this traditional family structure. The younger generations have in some cases started to move out of this arrangement by creating their own economic bases. The disintegration of the traditional family structure gained momentum especially during

the villagisation period when other means of obtaining land (i.e. through the village government) were made possible.

Photo: Arrangement of houses in a traditional extended family structure, Mwankulwe village

It was reported by some old men that a majority of young men now prefer to engage in trading rather than in agriculture directly. While investment in livestock is rapidly declining, investment in better housing and trading is increasing.

Migration

Migration is one of the basic components of population growth. In Sukumaland, movements of population from areas of high population density to areas with less density have been experienced for a long time. Earlier resettlement programmes of people and livestock were initiated during the colonial anti-tsetse reclamation policies in the 1923-28 period (Austen 1968). By 1929, about 166 sq. km of forest had already been cleared in Shinyanga District, 88 sq. km in Kwimba District and a large area in Maswa District. Nearly a thousand households were resettled during these early campaigns. Such migration trends have continued in Sukumaland. The major reasons forcing people to migrate include the search for new farming land, better pasture and water for their livestock, and employment opportunities (URT 1997). During the 1988 population census, Mwanza region recorded a net out-migration trend probably due to land pressure for both farming and livestock keeping. Kwimba District is not an exception.

The migratory behaviour of the population is reflected in the characteristics of the population in Mwankulwe and Mabuki villages where an average of 30 per cent of village respondents were born outside the village. More migrants were reported in Mabuki village where over a third of the respondents (37 per cent) were born elsewhere as compared to just a fifth in Mwankulwe (23 per cent). To demonstrate the extent of migration in Mabuki, some 526 migrant miners were recorded in 1992. In contrast, Mwankulwe village reported just seven migrant households.

A close look at the migrant population indicates that short-distance movements are dominant. A large number of those born elsewhere came from other villages within the district. However, there is a notable proportion of migrants in Mabuki who originated from other regions. From these observations it can be generalised that population movements from other regions have a lesser impact than movements from other districts of the same region.

Variations also exist in the extent of migration between the sexes. In Mwankulwe village, 14 per cent and 32 per cent of the male and female respondents, respectively, were born elsewhere. In this village, about a quarter of all female respondents and just over 10 per cent of the male respondents were born within Kwimba District and very few were born outside the district. In Mabuki village, 16 per cent of the male respondents and 21 per cent of the females were migrants from other villages in Kwimba District. The proportions born in other regions were 16 per cent for males and 12 per cent for females. Generally, long-distance movements are dominated by male migrants and short-distance travels are dominated by women. Migration among women is mainly caused by marriage when the bride moves to the homestead and village of her in-laws. Younger women are more likely to move for this reason than older age groups.

Age Structure

Table 3 shows the percentage distribution of the village population by broader age groups.

Table 3: Percentage Distribution of Population by Broader Age Groups, Sex and Villages (1988)

Age Groups	Mwankulwe			Mabuki			All villages		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
< 15	48.0	44.3	46.0	38.1	42.9	40.3	41.7	43.5	42.6
15-34	31.1	33.3	32.3	34.3	35.1	34.7	33.2	34.4	33.7
35-54	12.9	14.7	13.9	18.8	14.8	16.9	16.6	14.8	15.7
55+	8.0	7.7	7.8	8.8	7.1	7.7	8.5	7.4	8.0

Total (%)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Population	1570	1690	3260	2761	2387	5148	4331	4077	8408

Source: URT 1992

In both villages, the majority of people are young. In almost all categories, about two-fifths of the population are under 15 years of age. The proportion of youths aged 15-34 is much higher in Mabuki (35 per cent) than in Mwankulwe (32 per cent). Just over a fifth of the population in Mwankulwe and about a quarter of those in Mabuki were over 35 years of age. This variation has implications for the labour force and reproductive capacity of the population.

The survey data indicate a notable concentration of people in the age groups 20-39 and 18-39 years in Mwankulwe and Mabuki villages respectively. These concentrations of the population suggest that there are more young people in Mabuki than in Mwankulwe. As far as the sex distribution of the respondents is concerned, more than half of the respondents in both villages were male. The proportion of female respondents was 47 per cent and 45 per cent in Mwankulwe and Mabuki villages respectively.

Education

Education influences people's way of thinking and stimulates new ideas and economic opportunities. However, the impact of education on people's lifestyle is largely dependent upon its type and the level attained. About 48 per cent of the women and 27 per cent of the men in Mwankulwe have no formal education. In Mabuki, the proportion of respondents with no formal education were 38 and 22 per cent for women and men respectively. In all cases, there is clear evidence that women have limited access to educational facilities especially in Mwankulwe village. In both villages, however, the majority of people have completed primary education. This observation was true for the male respondents under age 45 and female respondents under the age of 35. In all age groups, more men than women had completed primary education. The proportion with higher education was negligible in both villages, especially among female respondents.

Agricultural Prospects and Constraints to Socio-Economic Development

Agriculture is the most important economic activity in Mwanza region. Over four-fifths of the respondents reported farming to be their most recent economic activity (94 per cent in Mwankulwe and 85 per cent in Mabuki). Rice (84 per cent), cotton (80 per cent), maize (75 per cent), sweet potatoes (73 per cent) and millet (57 per cent) are the most important crops grown. While rice and cotton are the main crops in Mwankulwe, maize and rice are dominant in Mabuki.

The Sukuma are considered to be an agro-pastoral community engaged in extensive farming and owning large herds of livestock (Kikula *et al.* 1991). Grazing on communal

grazing lands⁸ is usually free to any man, irrespective of the number of livestock he may have, and a cattle owner is allowed to let his cattle graze anywhere except on reserved grazing land (Cory 1953). However, it has been established that only 20 per cent of households own livestock and in Mabuki village the figure was less than 15 per cent. This observation is justified by the presence of a livestock breeding farm at Mabuki, which produces improved cattle breeds. In Mwankulwe village, 28 per cent of the households have cattle and 21 per cent own goats. However, the reports on livestock may be distorted by the fact that each head of livestock is taxed.

Agriculture provides food for the fast-growing population, raw materials for agro-industries, foreign exchange for the country, and employment for the majority of the rural population (URT 1997). Questions related to changes in agriculture elicit a long list of problems and dilemmas. On the negative side, land scarcity, increasing aridity, lack of agricultural tools and inputs, high prices of inputs, crops bought on credit, loss of soil fertility and unpredictable weather as well as crumbling productive infrastructures feature prominently. Productive infrastructure includes a lack of livestock services and medicines, and the unavailability of pesticides for cotton. The absence of these inputs ranked high on the list of obstacles for agricultural success. Despite these problems, agriculture is still the main economic undertaking of the people in both villages.

Access to Land

The customary land tenure system is still dominant in Sukumaland. Traditionally, all land belonged to the chiefs, and subjects had use rights and enjoyed considerable security of tenure (Abrahams 1967). Every household had the right to hold land both for cultivation and for habitation (Cory 1954). There are five main ways of acquiring land:

- clearing land in an uncultivated area of virgin or regenerated forest,
- reallocation of a relinquished land holding,⁹
- inheritance from one's father or close kinsman,
- allocation by the land control authority in a cultivated area, and
- through the land market (Abrahams 1967, Wilemski 1994).

⁸ All uncultivated land and fallow fields during the period between crops are subject to common rights of pasture. Customarily a certain rotation in grazing land is followed during the different seasons of the year. As soon as the long rains start, the cattle are driven to the fallows nearest to the house, and during the following months to more distant fallows in steadily expanding circles. After the long rains, the cattle are driven into the *ikungu*. After the grain harvest they are grazed on the stubble left in the grain fields (Cory 1953).

⁹ Although this task was under the chiefs, it was given to the headsmen (*banangwa*) and the great youths (*basumba batale*). These were at the grassroots level in the community. During villagisation, the role of distributing land was given to the village council.

The most common strategy for acquiring land is through inheritance. Generally, a land holding is subject to customary inheritance law which favours only the eldest son in order to prevent the fragmentation of the original holding (Cory 1953; Wilemski 1994). Through inheritance, many people manage to acquire land in Sukumaland. Even with this type of inheritance law, no one in the family was denied the use right of the land. The elder son was just given the custodial role in the absence of the elders. The Sukuma land inheritance procedures are based on social solidarity which holds together the family and the community at large. It plays a substantial social role as a system of economic security for the family. However, several factors have put the customary land tenure system under pressure and consequently made it inadequate. These factors include population pressure, disappearing land reserves, scarcity of land and the market economy. Each of these factors operated in its own way that could not be handled by the customary land tenure system.

Although the Villagisation Act put the role of allocating land in the hands of the village council, traditional land ownership and distribution systems still prevail in the villages. This is the main reason for the creation of new sub-villages where people move back to their traditional farmlands. Two forces have been in operation to this end: (i) the villagers' desire to stay near their farms, and (ii) the intention of the original land owners to return confiscated land to their custody. These two forces are, however, manifestations of population pressure on the land. The effect of villagisation was to increase population density and the distance to farms. This had an impact on people's dependence on agriculture and farming practices. Due to population pressure, the use of land fallowing as a method of restoring soil fertility has declined significantly or has been abandoned altogether in many villages.

Other strategies of acquiring land include buying, hiring or borrowing land from neighbours or friends. Similarly, farmers supplement inherited land by seeking land elsewhere through new forests and public land¹⁰ clearings (Madulu 1996). Most public land that was formerly used for grazing purposes has been transformed into farmland in response to the high demand for land. These conditions do not offer sufficient opportunities for peasants to invest in intensive land use and land conservation as suggested by Tiffen *et al.* (1994) because land use rights are ambiguous.

In Kwimba District, there is no uniformity as far as land ownership is concerned. Broad variations exist between households with regard to the amount of land owned ranging from 3 to 100 hectares. However, the majority of the households own only small plots due to land fragmentation and rapid population growth. The survey data demonstrate that over 90 per cent

¹⁰ Public land refers to land which is not cultivated and not reserved by law for forestry, wildlife, or other special purposes. Such land is economically important because it serves as reserve land for many other uses such as grazing, building poles and fuel wood collection etc.

of the households in Kwimba experience land shortage. This problem was ranked first by 69 per cent of the respondents, and second by 27 per cent of the respondents. Variations in the severity of the land problem exist between villages depending on the extent of population pressure and land use competition between different social and economic activities. For example, land scarcity is much evident in Mabuki where over 90 per cent of the households ranked it as their major agricultural obstacle as compared to only 45 per cent in Mwankulwe. The reasons for land shortages include insufficient land and poor land use planning. In Mabuki village, land shortage is, to a certain extent, caused by increasing land alienation due to private and foreign large-scale diamond miners. These tendencies have resulted in people being chased from their homesteads and farms. Although the problem did not feature among the causes of land shortage mentioned, the general feeling gathered from the discussions with village leaders and key informants is that land alienation is a serious problem in Mabuki. Recently, the national government offered various large-scale private miners mining rights on hundreds of acres of farm land. This move left many peasants with an uncertain future because much of their arable land is being confiscated for mining purposes. The implication of this is the emerging land use conflicts between agriculture, livestock keeping and mining.

Technological Change and Labour in Agriculture

Considerable technological advancements have been achieved over the years in Sukuma farming. Given the terrain and the nature of the soil in Kwimba District,¹¹ ox-plough and tractor schemes were introduced in the 1940s and 1960s respectively (Meertens *et al.* 1995). However, tractor schemes were later abandoned and replaced by ox-ploughing that is now widespread. Ox-carts are also common and bicycles are everywhere. Part of the technological impetus with regard to transport is no doubt spurred on by population pressure and deforestation. Deforestation is serious and has resulted in the need to cover increased distances in the search for firewood and water.¹² District and village by-laws stipulate that people are only allowed to collect firewood during the dry season for a period of about two months each year. During this period, large amounts of wood are collected and are usually transported by mechanical means rather than in small amounts on the head.

Perceived Prospects for Peasant Agriculture

¹¹ Most of Kwimba District is very flat and dominated by heavy black cotton soils (*mbuga*). This type of soil is difficult to cultivate and was only settled after 1945 when the British government accelerated the distribution of ploughs and tractors (Meertens *et al.* 1995).

¹² The assistance given under the Health through Sanitation and Water (HESAWA) programme is credited with reducing the water problem in the lake zone (Mwanza, Mara and Kagera regions).

Farming is the most preferred occupation in Kwimba District. About 58 per cent of the respondents prefer to do farming only. Another 31 per cent prefer a combination of farming and non-farm activities, and a small proportion (5 per cent) prefer non-farm activities alone. Table 4 shows the inter-village variations as far as occupational preferences are concerned.

Table 4: Percentage Distribution of Respondents by Occupational Preference

Preference	Mwankulwe	Mabuki	All villages
Farming only	59.8	55.3	57.6
Farming and NFA	25.8	36.3	31.0
NFA only	3.8	6.5	5.1
Not stated	10.6	1.9	6.3
Total (%)	100.0	100.0	100.0
Total (number)	799	799	1598

Source: Survey data 1995

The majority of people in both villages prefer farming. The data show that more people prefer to do non-farm activities in Mabuki than in Mwankulwe. Over two-fifths of the respondents in Mabuki mentioned non-farm activities but only a third in Mwankulwe mentioned non-farm activities as a preference. Different reasons are given for the reported preferences. The main reason for those who prefer 'farming only' is that farming is considered to be the only means of survival (42 per cent). Other important reasons include food self-sufficiency (10 per cent), enough experience in farming (13 per cent) and lack of economic capability to do other activities (8 per cent). These observations support the argument that farming in Kwimba District is an occupational identity and a source of pride. Farming is considered to be the main pivot both for survival and development.

This occupational identity was clearly demonstrated in the people's responses concerning the occupational preferences of their offspring. Over 70 per cent of the respondents in Mwankulwe and 90 per cent of those in Mabuki said nobody could survive village life without farming. This situation is understandable in Mwankulwe but was surprising in Mabuki where residents are not only heavily engaged in trade, but also in diamond mining. The idea of having enough experience in farming was more in evidence in Mabuki (11 per cent) than in Mwankulwe (4 per cent). In all villages, however, there is a clear understanding that farming is the main means of survival. The motives for combining farming and non-farm activities are to 'satisfy family needs' (15 per cent) and attain 'economic advancement' (7 per cent). Preference for non-farm activities alone is caused by the need to supply family needs and to generate more income.

People are adamant that their main occupation is agriculture but one wonders why people still value agriculture so highly under such changing and challenging conditions. One explanation is the value of food self-sufficiency in society as an indicator of a good and prosperous family. One has to feed one's family before thinking of other things. In general terms, farming is life and is a source of respect. Malcolm (1953) described a large family as 'an asset' and an indicator of wealth. He argues that:

The wealthy man is the man with a large family. ... [In the past] a large family meant power in war or chase. Those days are over, but the large family is still an asset of unequalled value as it means more hoes, and hoes spell grain which is the most important material wealth today. With grain, cattle can be bought as can all other necessities or luxuries of life, so that the fundamental measure of richness in Sukumaland ... lies in food (Malcolm, 1953:51-52).

In Sukumaland, wealth differentiation is largely centred on agricultural performance. Large families are common where there is food to eat. Many poor families sell their labour in exchange for food. This observation was echoed by Austen (1968) who argued that among the Sukuma, life centres around the growing of cereals. Given the level of technology and type of tools used, a large family becomes an important component of production as it provides the labour needed to produce enough food and cash.

Regardless of the amount of land owned and the extent to which land scarcity is felt in different households, there is an indication of promising prospects in agriculture. Over three-quarters of the people interviewed saw a promising future in agriculture (76 per cent in Mwankulwe and almost 79 per cent in Mabuki). This observation demonstrates the value of agriculture in Kwimba District where it is considered to be the cornerstone of people's social and economic advancement. The reasons given for promising prospects in agriculture vary from village to village depending on existing circumstances. While favourable climate (31 per cent) and food self-sufficiency (10 per cent) were dominant in Mwankulwe, high productivity (22 per cent) and a favourable climate (13 per cent) were important in Mabuki. Other reasons included the value placed on self-determination, the availability of a large amount of land, and/or sufficient resources.

However, some of the villagers were not comfortable with the current agricultural situation and they saw no promising future in agriculture. The main reasons for this lack of prospects include a lack of capital, shortage of labour, land scarcity and old age. Old age was prominent in Mabuki village probably because of the shortage of land connected with mining which pushes the older and less strong off available farm land. Moreover, the absence of the young people in the family due to diamond mining may accelerate this problem. By contrast, in Mwankulwe, shortages of labour prevailed because of the dispersal of children from the

traditional extended family system unlike formerly when all economic and social undertakings were done under the control of the head of the extended family (usually the father). Similarly, several constraints that did not exist in the past now hinder agricultural performance and/or livestock keeping. The major agricultural constraints are summarised in Table 5.

Table 5: Percentage Distribution of Respondents by Major Agricultural Problems and Village

Agricultural problems	Mwankulwe		Mabuki		All villages	
	Number	Per cent	Number	Per cent	Number	Per cent
Scarcity of land	33	4.1	20	2.5	53	3.3
Lack of tools/inputs	319	39.9	430	53.8	749	46.9
Natural calamities	18	2.3	76	9.5	94	5.9
Vermin	145	18.1	50	6.3	195	12.2
Low crop prices	47	5.9	21	2.6	68	4.3
Other problems	40	5.0	29	3.6	69	4.3
Not stated	197	24.7	173	21.7	370	23.2
Total	799	100	799	100	1598	100

Source: Survey data 1995

Lack of agricultural tools or inputs (47 per cent) and vermin (12 per cent) are the most dominant constraints to agricultural development in both villages. The high prices of various inputs account for the lack of agricultural inputs to a large extent. While natural calamities such as drought and floods feature notably in Mabuki (6 per cent), low crop prices also play a role in Mwankulwe (6 per cent). Other problems of lesser importance include water shortages, lack of extension services and scarcity of pasture.¹³

Over half of all the respondents mentioned lack of capital as a missing factor of agricultural production, especially in Mabuki where only 19 per cent of the respondents did not consider capital to be a major problem. By contrast in Mwankulwe, the more traditional village, about 73 per cent of the respondents did not view capital as a problem. These striking variations may be caused by the fact that the majority of the youth in Mabuki village who are capable of generating income or capital for the household are either absent or engaged in mining or trade. Although this may be an effect of sample bias, it may also be a reflection of changing investment patterns between generations. The absence of youth in the households leaves older people without recourse to family labour and at the same time they have greater

¹³ These constraints are grouped together as 'others'.

difficulty in earning non-farm income and gaining capital for agricultural investment themselves. Besides the structural problem, many mentioned other causes for their shortage of capital including poor transport, high taxes, delayed payments for crops and low rainfall. Generally, the old problems of low prices and peasants being given promissory notes rather than payments affect the marketing system and availability of capital for agricultural purposes. Farmers in both villages are caught in a price squeeze of spiralling costs for insecticides and other inputs that they need for their cotton, and depressed cotton prices. Those with suitable land grow rice as a cash crop, since prices are more promising.

Although notable attitudinal changes towards farming have occurred in recent years in the case study villages, the changes are largely directed to the type of investment rather than people moving out of farming *per se*. While the older generation used to invest in farming and livestock, the young generation now invests in better housing and non-farm activities like petty trade and mining.

The non-farm and farm sectors are interlinked in the sense that proceedings from non-farm activities are likely to be injected into agriculture in the form of hired labour, the use of tractors or ox-ploughs and the purchase of agricultural inputs. The younger generation is more likely to employ hired labour and mechanised ploughing than to directly involve themselves in manual tilling.

The quest for ownership and maintenance of these technological devices heightens the need for cash incomes. The increasing demand for cash has to a certain extent increased the need to engage in non-farm activities. Associated non-farm activities have emerged as a function of these technological changes including bicycle repairs and ox-cart making and maintenance.

Photo: Bicycle repair enterprise in Mwankulwe

Other village non-agricultural activities include about six retail shops in Mwankulwe and many more in Mabuki, beer brewing and milling machine businesses. The flourishing of these non-

farm activities suggests that there is not only an active non-agricultural sector, but also growing purchasing power.

In Sukuma culture, ownership of property or assets is an important indicator of success. Three main assets, namely land, cattle and the home, are the most commonly used measures of success and wealth. In many villages, rich people are those who own many cattle and large tracts of land. Ownership of cattle offers enough capital to purchase more land and the possibility of hiring labour. Over 45 per cent of the successful sons in Mwankulwe and 50 per cent of those in Mabuki own many cattle. Ownership of a house was an indicator of success for 19 per cent of the successful sons and 46 per cent of the successful daughters. Other indicators of success include owning a shop or a large farm.

The importance of agriculture as a measure of success was reflected when parents were asked about the occupation of their most successful sons and daughters. Most clearly identified farming as the main activity of their successful children both in past and present times. Almost three-quarters (74 per cent) of the successful sons and over three-fifths of successful daughters in Mwankulwe were engaged in farming in the past. Nowadays, about 48 per cent of successful sons and 59 per cent of successful daughters are farmers. Other non-farm activities conducted by successful children include employment, trade, and bicycle repairs.

The existence of non-farm activities has a knock-on effect for labour availability in agriculture. Just over 20 per cent of the respondents considered labour to be a problem. Labour shortage is much felt in Mabuki where over a third of the respondents ranked it second as compared to only 8 per cent in Mwankulwe.

Photo: Retail shop trading in Mwankulwe village

Photo: Diamond mining in Mabuki village

The importance of this factor in Mabuki is caused by labour competition between agriculture and other economic activities especially among the youth. Many youth invest much of their labour and capital in non-farm activities such as mining and trade rather than in agriculture. Another cause of labour shortage mentioned is the disintegration of the extended family system. An absence of sons in the family significantly reduces the labour available. The traditional homestead in Sukumaland was described by Lupande (1997) as follows:

The establishment of a homestead (*kaya*) is a symbol of manhood to a legally married man. A common site for a settlement was a hillside or elevated ground that was dry. When the ecology and environment of the place had been studied and found suitable, a round or circular house was built.... When the family grew with sons and daughters-in-law, new buildings surrounding the parental house were added. Ancestral huts, grainstores, racks for drying cassava and corrals for cows were among other constructions necessary to make a homestead. The whole group of buildings is surrounded by a circular fence usually made by euphorbia plants. ... There was always a fireplace where evening meals could be served and family and clan meetings held (Lupande 1997:7).

Homesteads were normally large to reflect the strong influence of extended family structures. In many cases, farm work was done together as a single family unit, even when several married sons were around. This system has been degraded although aspects of it still exist today, especially in Mwankulwe.

Photo: Extended family structure in Mwankulwe village

However, farming remains as the villagers' most common occupational identity, even for those households engaged in non-farm activities. The narration of the interview with Ngw'ana Bukwimba Kidilu of Mwankulwe demonstrates the importance of agriculture here:

I was born in Mungili-Mwankulwe. During the incidence of William (1956),¹⁴ I was not married. I first married in 1957. I have 8 children, 2 males and 6 females. My first daughter was born in 1957, she is now married. After two years I got a second child - a boy, then another boy followed by 5 girls. As far as land is concerned, we had only 1 acre when we married. Now we have 10 acres inherited after the death of my father. We also bought 2 acres within the village. The standard of living is low and has deteriorated because of bad weather causing drought. Poor harvests are common nowadays. I have been living in this village since I got married. My bride price was 6 cows which was a normal bride price. Now, bride price depends on agreement between the two families. Sometimes it is just 2 or 3 cows or money. The most important need for a family is food. I had food shortages during the 1974 famine (*Njaa ya Makopo*).... It is definitely impossible for one to live in the village without farming. Farming is the backbone of everything. We managed to buy 7 cows from farming. I can't allow any of my children to live without farming. What will they eat? I have to be strict. They are going to be married. If they are lazy, nobody will propose marriage and that will bring shame to me.

¹⁴ The story of William is very famous in the area. It happened in Malampaka in 1956 when William was a police soldier. Narrators say he killed many people in Malampaka and neighbouring villages because of social misunderstandings with his boss. For a long time people were unable to work on the farms until William was finally killed. This period of terror is still in the minds of the people and is narrated from one generation to another.

Development of Non-Farm Activities in Kwimba District

Non-farm activities have been practised in Sukumaland for centuries. Historical tales indicate that long-distance trade was organised through trade caravans even before colonial times. Tales of travels are common in Sukumaland (e.g. *kuja mbale* - literally meaning travelling far away to bring back hoes and other farm tools). Thus the pattern of agricultural investment from non-farm income sources has been a feature of the area throughout history. Key informants were aware of groups of people who travelled to Geita to bring back hoes, to Lake Eyasi (*Nyaraaja*) to bring back salt, and to the coast to bring back commodities like clothes. Given the hazards of travel in the past, namely dense forests, wild animals, and the long distances to the sources of commodities, groups of people travelled together for security reasons and to enhance their carrying capacity to bring back large amounts of various commodities. In many cases, the trading was done in a barter system by exchanging food and livestock for hoes, salt, clothes, pottery etc. In some cases labour was exchanged for the needed goods. Their travels were scheduled to allow the travellers to return home just before the annual rainy season.

This historical development of non-farm activities in Sukumaland highlights the fact that agriculture was the motivational force for all other activities in terms of commodities to be exchanged (food stuffs) and items to be brought in (hoes, machetes, axes etc.). The profits from this type of long-distance trade were invested in livestock and agriculture. Historically, non-farm activities in Sukumaland aimed at supplying the agricultural sector with the necessary imported tools and inputs through long-distance barter trade. The need for this has been displaced by the existence of modern trading in local shops, weekly markets, cooperative societies as well as the availability of reliable motorised means of transport to markets further afield.

Despite the legacy of long-distance travel and employment, recent observations of non-farm activities in Kwimba District indicate that only 15 per cent of the respondents have ever been involved in non-farm activities in the past, 13 per cent in Mwankulwe and 17 per cent in Mabuki. Only a limited number of the total rural population were involved in organised long-distance caravan trading and most of them are no longer alive or are too old to give information. Only about a third of those engaged in non-farm activities in the past started their activities before 1980 and most of the activities began between 1990 and 1995. Moreover, over half of the existing non-farm activities started in 1990 and nearly one third of them started between 1980 and 1989. These observations demonstrate that most non-farm activities in Kwimba District are recent and have been in existence for only about 5 to 10 years.

The development of non-farm activities is stimulated by many factors. In many cases, it is associated with population pressure, deteriorating agricultural production, land scarcity, climatic change, crop failure and food insecurity.

Population growth has influenced land fragmentation and diversified economic activities. In addition to population growth, the demand for basic needs within the family has encouraged the development of non-farm activities. The failure of cooperatives and private crop buyers to pay peasants promptly has been a catalyst for starting non-farm activities to provide alternative sources of income. Generally, the engagement of people in non-farm activities can be viewed as a survival response to failures in the agricultural sector. In other cases, profits from non-farm activities are used to finance agricultural expansion through the purchase of agricultural tools such as hoes and ox-ploughs, and agricultural inputs like pesticides and fertilisers. Some non-farm activities are carried out during the slack agricultural season.

Type of Non-Farm Activities Performed

For analytical purposes, the various non-farm activities are grouped into eight broad categories. These include business, skilled crafts, handicrafts, employment, mining, service provision and others.¹⁵ Table 6 shows the non-farm activities carried out in the past and at present.

In the past, only a few people were engaged in business (6 per cent) and skilled crafts (4 per cent). Mining was almost non-existent in Mwankulwe but a few people were involved in mining activities in Mabuki (2 per cent). The lack of diversity in non-farm activity in the past and the low level of participation may have been influenced by land availability, good agricultural productivity and the persistence of strong cultural values and attitudes to agriculture. Even among those who performed some non-farm activities in the past, the drop-out rate was high. The reasons for abandoning past non-farm activities included poor success, illness, a desire to change activities, change of residence, the death of an owner, and divorce.

Past non-farm activities in Mwankulwe survived for much shorter periods than those in Mabuki. Almost two-thirds of non-farm activities in Mwankulwe lasted for just 1 to 5 years and a third for 6 years or more. In Mabuki, over two-fifths of past activities survived for 1 to 5 years (44 per cent) and almost an equal proportion (38 per cent) lasted for 11 years or more. The observed variation between the two case villages may be a function of location of the villages in relation to the transport network.

¹⁵ Employment includes activities such as teaching, tax collection, agricultural extension work, driving and health attendants. Business includes all sorts of petty trading such as fish trading, livestock and livestock products, retail shops, kiosks, tea rooms, sales of used clothes etc. Skilled crafts encompasses activities like carpentry, masonry, blacksmithy, tailoring and bicycle repairs. Handicrafts covers activities such as pottery and drum making. All mining-related activities are put in the mining category. Services include all service-oriented activities such as brewing, shoe-shining, milling, hairdressing and laundry. All other remaining activities are grouped as 'others'.

Table 6: Distribution of Respondents by Type of Non-Farm Activities Performed

Non-farm Activities	Mwankulwe		Mabuki		Both villages	
	Number	Percentage	Number	Percentage	Number	Percentage
Past Activities						
Business	57	7.1	44	5.5	101	6.3
Skilled crafts	26	3.3	41	5.1	67	4.2
Handicrafts	1	0.1	4	0.5	5	0.3
Service provision	5	0.6	6	0.8	11	0.7
Employment	9	1.1	5	0.6	14	0.9
Mining	1	0.1	19	2.4	20	1.3
Others	8	1.0	14	1.8	22	2.8
Not involved in NFA	692	86.6	666	83.4	1358	85.0
Total	799	100.0	799	100.0	1598	100.0
Recent Activities						
Business	32	4.0	74	9.3	106	6.6
Skilled crafts	9	1.1	22	2.8	31	1.9
Handicrafts	1	0.1	2	0.3	3	0.2
Service provision	2	0.1	3	0.4	5	0.3
Employment	10	1.3	11	1.4	21	1.3
Mining	-	-	124	15.5	124	7.8
Others	4	0.5	13	1.6	17	1.1
Not involved in NFA	741	92.7	550	68.8	1291	80.8
Total	799	100.0	799	100.0	1598	100.0

Source: Survey data (1995)

Recently, participation in non-farm activities has markedly increased. Almost a fifth of rural residents (19 per cent) are currently involved in non-farm activities. However, there are notable variations between villages with regard to the rate of involvement. About 31 per cent of the respondents in Mabuki were involved in non-farm activities as compared to only 7 per cent in Mwankulwe. Generally, the number engaged in non-farm activities is almost four times higher in Mabuki than in Mwankulwe. Four reasons are given to explain this variation. (i) Mabuki is located along a major road network which includes the intersection of two main roads and it faces no transport problems at any time of the year. (ii) At a crossroads, consumer demand for service-oriented activities is more readily available in Mabuki than in Mwankulwe. (iii) The availability of mining opportunities in Mabuki provides a single, large activity employing many people and generating purchasing power. (iv) The presence of a livestock breeding centre in Mabuki makes the diffusion of innovations and the exchange of ideas easier than in Mwankulwe with its remote location. These factors create a suitable environment for flourishing non-farm activities. This is demonstrated by the presence of many people

in Mabuki (about 40 per cent) who would like to be involved in non-farm activities in the future as compared to only a third in Mwankulwe.

Mining is done exclusively in Mabuki village. Historical tales indicate that diamond mining at Mabuki started long ago before the opening of the Williamson Diamond Mines at Mwaui in 1940 (Jones 1981, Kimambo 1984). This is confirmed by the presence of an old sand/gravel hill and an old scrap heap.

Photo: Old diamond mine at Mabuki

Similarly, a big well which was constructed for mining purposes is still operational. Recently, significant increases in mining activities in Mabuki have occurred following the initiation of a government policy which allows small-scale miners to operate. More than one large-scale foreign mining company has started mining activities in the area and others are researching potential mining sites. Most miners are migrant men from other villages within and outside Mwanza region. Mining activities are generally destructive and have led to serious environmental problems. The ongoing trend of expanding mining activities in Mabuki will deprive more and more people of land. These people will definitely move out of agriculture to engage in mining, trading or the provision of various services to the mining community. Others will be forced to migrate or work as labourers on the farms of other farmers. The re-establishment of mining activities has, however, given impetus to service-oriented non-farm activities such as bars, hotels/tea rooms, pharmacies and shops.

Photo: Environmental destruction of former farmlands caused by diamond mining in Mabuki village

Engagement in non-farm activities is basically intended to supplement the earnings from agriculture. In some cases, trade in food crops is used as a source of income. Some traders act as middlemen between peasants and rural and urban consumers. This type of trade interaction is clearly observed at the weekly open market where peasants bring their crops and buyers from within and outside the village purchase the crops for re-sale elsewhere. For such people, trading in agricultural products is a non-farm activity.

Many of the non-farm activities are done by the youth who are involved in non-farm activities which require frequent travelling such as shop businesses, trading in food crops, livestock and livestock products, and selling second-hand (used) clothes at weekly markets in different villages. There is a notable linkage between short-distance and long-distance trading. For example, trade in chickens is famous in Mabuki village. The short-distance traders collect chickens from the villages by bartering with other items such as salt, soap, pans and used clothes. These traders re-sell the chickens to the long-distance traders who cycle to Mwanza or go by bus to reach further destinations like Shinyanga. The sale of chickens in Mwanza is

carried out on a wholesale basis before cycling back to Mabuki ready for the next market day. This business is increasingly engaging many people from various villages.

About a third of the respondents who conducted past non-farm activities in Mwankulwe and a half of those in Mabuki worked within the village and the rest worked in other locations such as district and regional towns, Dar-es-Salaam, and other villages. Few people conducted their non-farm activities in the regional headquarters. With regards to the recent non-farm activities, most are conducted within the village (86 per cent). Over three-quarters of non-farm activities in Mwankulwe and Mabuki now take place within the village. However, no attempt was made to follow those who had left the villages even if they migrated for the purpose of conducting non-farm activities, so there is an undercounting of external non-farm activities of village members. Business, skilled crafts, mining activities and service provision developed during the 1980s and 1990s in Mabuki village. In Mwankulwe, business was the most dominant non-farm activity.

The major problems facing non-farm activities in the rural areas of Kwimba District include insufficient capital, seasonal customers, poor storage facilities, poor transport and poor security. These problems hinder rapid developments in this sector. Despite the differences, several successes are reported by those engaged in non-farm activities. They include building houses, the expansion of businesses, buying assets like bicycles and cattle, buying food and meeting other family expenses.

People Involved in Non-Farm Activities

An assumption of the study was that the young, educated people living in areas with high population pressure would be likely to be attracted to non-farm activities. The findings confirm this to some extent although non-farm activities are by no means restricted to youth.

The survey data indicate that most of the non-farm activities of the past were conducted within the family. Over three-quarters of those engaged in non-farm activities in the past worked with a spouse, siblings, parents and/or children. Only a tenth worked alone. Even among non-farm activities today, over two-fifths work with a spouse. However, two notable developments in recent non-farm activities are clear. First, there is an increase in both villages in the number of people who work alone (22 per cent in Mwankulwe and 16 per cent in Mabuki). The increase may be a function of youth who decided to conduct non-farm activities on their own, thereby disentangling themselves from traditional parental control over resources. Second, there is a notable increase in the involvement of children under 15 years of age in non-farm activities. They sell small commodities in the village streets. Such children are often seen at the weekly markets which rotate from one village to another throughout the week. Their work thus impinges on their school attendance in a way that was not so much the case in the

past when they were assisting their parents with agriculture. Then, work was more easily accommodated to after-school time or school holidays.

Both men and women participate in non-farm activities. However, the traditional gender divisions of labour and responsibilities have largely influenced the type of non-farm activities performed especially by women entrepreneurs. While the majority of male entrepreneurs are involved in both long- and short-distance businesses (shops, seasonal markets and mining), women entrepreneurs are predominantly engaged in food processing and service-related activities. In Mwankulwe village, for example, several women's groups were involved in fuel wood collecting and selling, brewing, pottery, sewing, and selling cooked food. These activities are related in one way or another to their traditional responsibilities in the family.

Interdependence between Non-Farm Activities and Agriculture

Given the fact that farming is considered to be people's main occupational identity in Kwimba District, there is a strong interdependence between agriculture and non-farm activities. About 90 per cent of the entrepreneurs in the case villages are also involved in farming and use enterprise profit to finance agricultural activities. This situation was much evident in Mwankulwe where all the entrepreneurs interviewed are involved in farming. In Mabuki, about 80 per cent of entrepreneurs were involved in farming. On the one hand, agriculture provides the capital to start non-farm activities. In turn, many of the non-farm activities in Mwankulwe such as retail shops, brewing and tea rooms are a result of agricultural success. Evidence from the study villages shows that over 40 per cent of the entrepreneurs obtained their initial capital from the sale of agricultural products. On the other hand, non-farm activities provide finance for agricultural development in the form of hired labour, the use of tractors or ox-ploughs and the purchase of agricultural inputs. Examples of the agriculture/non-farm linkages are demonstrated in the following selection of interviews.¹⁶

Case 1: Radio Repairman (Mwankulwe)

I started doing non-farm activities as a watchman between 1989 and 1990. However, I stopped this work because my parents were alone at home, they needed my assistance. Between 1990 and 1991, I was engaged in tailoring. I stopped doing this work because I gained radio repair skills ... from my brother who lives in Malampaka. ... I started the repair work in 1995 on a part-time basis. I do the repairs during the dry season, 6 days per week. We are two of us from the same family assisting each other. What attracted me to this work is that I was impressed by how my brother was doing the job and making money. Then I decided to learn. We have only a few working tools. We go to Mwanza to buy whatever radio parts that we need for a particular job. Our customers come from Mwankulwe and other villages. Most of them are men The capital for starting this business was very small, about Tsh.10,000, which I got from selling cotton. That's when I managed to buy the few working tools we are now using. ... I also do farming. I have a

¹⁶ These case interviews were transcribed and translated from taped interviews done in the field in August 1996.

farm where I plant paddy and cotton. I often use the money from agricultural sales to buy spare parts for the radio repair works. On the other hand, I use the profits from the enterprise to hire oxen-ploughs and to hire labourers for weeding. The annual income from the enterprise is roughly Tsh.50,000. The main problem in this enterprise is a lack of tools. ... There are successes in this enterprise. It enables me to hire labourers to work on the farm. My future plan is to build a house and to buy more equipment and spares so that I can reduce the cost of going to Mwanza every time. I don't know how long I will continue with this enterprise, but I think I will continue as long as it is paying.

Case 2: Woman Produce Trader (Mabuki)

I was born in 1974. I completed class 7 even before my husband completed that level of education. I was married in 1990. Now I have 2 children, both daughters. My bride price has not been paid, but the normal bride price is 8 cattle. The reason for not paying the bride price is the difficult economic situation - no money. ... We just have half an acre of land. We rented it from a villager here. When we got married we had nothing, not one single asset. However, our standard of living started to improve after marriage. We managed to get 6 cattle and 5 goats. We are also doing business - that's how we managed to buy the livestock. We started with farming. After selling the crops we got money to start our business. ... I started selling maize in 1991-92. But I stopped because I had no capital. Also I had a kiosk which also failed because of insufficient capital. I started doing business again in 1994, buying rice and maize and selling to wholesale businessmen. ... It is now 2 years since I started. I do this solely during the dry season. ... It is impossible for a person to live in the village without being a farmer. ... In my case, farming was not necessary in the past because I was doing business. But when it failed, I realised that farming is the only way out. Similarly, my kiosk business was very necessary to me in the past, enabling me to survive. But it failed and now, I don't think of it because I couldn't raise sufficient capital to start it up again.

Case 3: Male Retail Shop Owner (Mwankulwe)

I am 25 years old. I completed standard 7 in 1979. After school I engaged in farming. ... I started this enterprise in 1995 and I am still continuing. It is my enterprise and ... other members of the family are assisting me. My family has 5 members (my wife and I and our 3 children). ... I got the capital for this enterprise from farming. I cultivated rice. I sold the rice and got Tsh.4,000. Then, I decided to start a business which would multiply my money. I started by buying and selling soap till I had raised a large amount of capital. Sometimes, I bought fish and exchanged it for rice, maize or groundnuts. Then I sold the crops to wholesale traders and bought soap and other commodities again. ... During the dry season, this business is full-time. I do it seven days a week. But during the wet season I spend most of my time farming. I often use the money from this business to expand my agricultural activities, especially by hiring an ox-plough for ploughing and labourers for weeding. I cultivate rice, groundnuts, maize, cassava and sugarcane. Similarly, I use the money from agriculture to buy commodities during the dry season. ... I am involved in this enterprise because it helps me to obtain agricultural inputs. In other words I aim to make a profit before the farming season starts which I can then invest in agriculture. ... There are many successes since I started this enterprise. I have used my profit to buy cattle. Now I have 8 cows. I exchanged 4 bags of rice for a cow and fish for money. I use the money to buy commodities for the shop. I think, if things go as well in the next five years as they do now, I will have made very good progress. ... When I harvest rice, I sell it so that I can increase my capital. All wealth will come out of agriculture.

These three case studies demonstrate clearly the strong interdependence between non-farm activities and agriculture in Kwimba District. Participation in non-farm activities does not necessarily detach an individual from agriculture. These activities are complementary and dependent on each other. The link between agriculture and non-farm activities is also reflected by the seasonality of the non-farm activities themselves. To avoid labour competition between agriculture and non-farm activities, farming is mostly done during the wet season or in the morning, and non-farm activities are carried out in the dry season or in the evenings. In some cases, family labour which is engaged in non-farm activities is replaced by hired labour. Current non-farm activities have facilitated the use of improved farming methods like ox-ploughs and tractors.

General Observations about Non-Farm Activities

Several generalisations can be made with regard to the development of non-farm activities in Kwimba District. First, many of the non-farm activities are performed by youths. Youths are involved more in activities which require frequent travelling such as shops, kiosks, weekly markets and livestock business. Second, non-farm activities are developed more in villages which are accessible and connected to major road networks, as exemplified by Mabuki. The presence of services like schools, churches, seasonal markets, health facilities and reliable transport stimulates the development of non-farm activities by providing the much-needed capital and markets. Third, the traditional gender division of labour and responsibilities influences the type of non-farm activities performed. Women are often engaged in activities which are related to their traditional family roles such as food processing and cooking, firewood collection, and fetching water. Fourth, mining is to a large extent carried out by migrants. Although the land/plot might be owned by a villager or by an absent owner, the actual digging is done by labourers, most of whom are migrants. Generally, mining is a temporary job and people continue only until they are successful.

Intergenerational Resource Transfers

Family formation starts at marriage. In traditional Sukuma culture, a newly married couple was required to remain with the parents for at least one year (or one farming season) before being allowed to start their own home. They were supposed to work together with the parents. This period was considered to be a transition period from youth to adult life. Often, newly married couples were allowed to start independent households after the first harvest. They were given all the necessary items to start a home including food and utensils. Although such permission was given at that stage, some form of parental control remained in place. The traditional extended family structures maintained parental control for years over their married sons and

their wives. It was not uncommon to find married sons living in the same compound with parents and farming, working and eating together for several years. This parental control was largely strengthened through ownership of family assets such as land and cattle which were under the control of the father and only passed to the younger generation through inheritance at the time of his death.

Traditionally, bride price was paid in terms of cattle by the parents of the bridegroom. This is still the case for the majority (70 per cent) of the people in Kwimba. In the past, the average bride price was 11-15 head of cattle. Access to cattle for bride price was one of the major sources of parental control in the past. However, recent changes indicate an increase in the use of money for paying bride price (Madulu 1996). About 20 per cent of the respondents in Kwimba District used money to pay bride price. Bride prices paid in monetary forms range from between Tsh.20,000 to Tsh.200,000 or are made up of a combination of cattle and cash. The use of money is increasing rapidly especially in Mabuki where about a fifth (22 per cent) of the respondents used money to pay bride price, as opposed to 19 per cent in Mwankulwe. This situation is clearly narrated by one of the respondents in Mwankulwe village who married in 1959:

During my marriage, a bride price of 6 cows was paid by the father-in-law. This was a normal bride price although some people were taking even 5 cows. Currently, the normal bride price is 8-10 cows or Tsh.200,000. The major change in bride price is the shift to monetary bride price instead of cows. The change is caused by food insecurity, people are selling cattle to buy food.

The implication of this change is the erosion of traditional customs and parental control over the marriage institution. It is now possible for sons to cultivate cotton or rice and manage to pay their own bride price. The change may also have a significant effect on the traditional system of transferring resources from one generation to another. Currently, it is possible for youths to pay their own bride price even without the assistance or approval of parents because there are many alternative ways of obtaining money such as petty trading and mining. Under such conditions, sons have no obligation to wait for parental approval to get married. In many cases, the current bride price is less than in the past. About a quarter of the respondents paid less bride price than would have been considered normal in the past.

Changes occurring in bride price are related to changes in herd size due to frequent droughts and also due to changes in the market value of cattle. Over half of those who paid less bride price gave having fewer cattle as the reason. The observed changes in bride price demonstrate a changing lifestyle and erosion of the traditional extended family culture. A significant number of couples reported having to start marriage without paying any bride price because of the difficult economic situation in general.

These changes have a notable impact on the intergenerational resource transfer and impinge on traditional family norms where the father had control of family resources including land and labour. Old people in Mabuki cite these changes as the cause of labour shortage, blaming the young generation for not listening to their parents and attempting to work on their own outside the extended family structure. Such changes are inevitable if the disintegration of cultural norms are left to take control. Youths are now able to purchase land or obtain it through village allocations and they can generate money to buy cattle on their own. At least a third of the villagers (33 per cent) obtained land through means other than traditional inheritance and use rights from their parents. Land can now be bought and rented and new clearings can be made. In other words, there are now more options for accessing resources outside the family.

Summary of Findings

This study's findings demonstrate that agriculture is still the main economic undertaking and occupational identity of villagers in Kwimba District. A minority of people are engaged in non-farm activities. Unlike in many other areas of Tanzania where there is rapid movement out of agriculture to non-farm economies, these sectors are complementary in Kwimba. Farming, ownership of property or assets such as cattle, land, a house or shop are the main indicators of success. Cattle are considered to be an economic investment, an indicator of wealth and a source of social respect. Whilst the agricultural sector faces many problems including land scarcity, lack of capital, labour shortages, lack of agricultural inputs, vermin, and climatic change, over four-fifths of the villagers expect promising prospects in agriculture. Nonetheless, old age, lack of capital and labour shortages hinder the agricultural development of the rural population.

While agriculture remains the central axis of people's working lives, a number of non-farm activities are gaining in importance. Diamond mining in Mabuki has contributed significantly to the increase in other non-farm activities in the business and service sectors.

This study has indicated an unfolding propensity for non-agricultural activities in Kwimba District. Although some activities were carried out in the past, their survival was short lived. The increasing land shortage and youth exposure to the outside world through education and travel have contributed to the development and diversity of non-farm activities. The study confirms the presence of labour competition between non-farm activities and farming. The fact that labour is an important constraint to agricultural development in an environment of large families is enough to reflect the presence of labour competition between farming, livestock keeping, trading, education and mining. Moreover, transport and accessibility are additional preconditions for the development of non-farm activities. The differences observed between

Mwankulwe and Mabuki are, to a larger extent, a function of locational differences in relation to the road network and their accessibility at different times of the year.

Participation in non-farm activities has a long history. Local people have always been involved in non-farm activities but some of these activities were aimed at performing specific social roles. These include brewing, blacksmithy, house building, trade in salts, seasonal or weekly markets etc. People involved in these activities were not detached from the agricultural community but they were part and parcel of it and were fully involved in farming. Some activities which are considered to be non-farm such as fishing and livestock trading have been performed for years. These activities continue even if there are problems of capital, labour and markets.

The development of non-farm activities in Kwimba District is largely associated with the rate of population growth, deteriorating agricultural production, land scarcity, climatic change, and the need to provide specialised services to the community. Before villagisation, land was traditionally owned and distributed between family members. Family members who were not satisfied with the amount of land available moved to other areas within or outside the village. Although the Villagisation Act put the role of distributing land into the hands of the village council, the traditional land ownership and distribution system continued to prevail. The post-villagisation period has experienced the return of people to their traditional villages because of their need to stay near their farms, and due to their intentions to return to their custody the land which was confiscated during the villagisation exercise. These two forces, however, are manifestations of the effects of population pressure on the land. Among the most obvious effects of villagisation are the increase in population density in specific locations and the increase in the distance to farms. The impact of these effects on people's dependence on agriculture is reflected in the increasing scarcity of land resources leading to increased migration and land use conflicts.

At the family level, population growth has influenced land fragmentation and the diversification of activities. The demand for basic needs within the family also encouraged development of non-farm activities. This was reflected in the responses of entrepreneurs as to why they decided to engage in non-farm activities. The failure of cooperatives to buy and/or pay peasants for their crops influenced people's decisions to start non-farm activities to a certain extent.

The introduction of open market and private crop buyers has not yet solved the peasants' immediate problems of low prices, delayed payments and lack of credit. The villagers' experiences seem to suggest that private buyers are as weak as cooperatives were. The inefficient crop purchasing systems encourage people to sell off most of their food harvests, such as rice, in order to finance other family needs. It can be argued, therefore, that the people's

involvement in non-farm activities is sometimes taken as a survival strategy initiated by the failure or inefficient functioning of service institutions in the agricultural sector.

There are various activities which are common in most villages including beer brewing, service provision (e.g. milling machines, retail shops, canteens, firewood sales, selling second-hand clothes, fish and vegetables, sometimes water), trade in livestock and livestock products (meat, milk, hides and skins, chickens, eggs, etc.) and diamond mining which is peculiar to Mabuki village. In some cases, trade in foodstuffs (maize, rice, cassava, millet, groundnuts) is performed as a non-farm activity. This is very common especially at weekly markets which rotate from one village to another. Traders act as middlemen between peasants and rural and urban consumers.

Most of the people who participate in the non-farm activities are young people (youth) especially primary and secondary school leavers and those who have travelled widely to other areas, especially urban areas. Youths are involved in non-farm activities which require frequent travelling such as shops, trading in weekly markets, trading in livestock and livestock products etc. Another group of participants in non-farm activities are women. They are often engaged in those activities which are related to their traditional family roles such as cooking, firewood collection, and fetching water. The non-farm activities related to these traditional roles are brewing, firewood selling, pottery, sewing, canteens and food service provision. Mining is done mostly by migrants. Although the land is often owned by villagers or by absent owners who bought mining plots, the actual digging is done by labourers. One condition, that of sharing the sales from the minerals, is often given. People continue to do mining until they are successful and as long as there is land which is considered appropriate for mining. Since most of the miners are migrants, once they succeed in finding diamonds they often go back home and sometimes come back after spending all their money.

As a general rule, most non-farm activities are done at a family level and almost all family members participate. Similarly, non-farm activities are more developed in villages which are near or have access to the major roads and service centres such as schools, health facilities, churches and markets. These facilities stimulate the development of non-farm activities by providing the much-needed capital and markets.

The survival of non-farm activities depends largely on the availability of labour, capital and markets. Generally, there is a close relationship between non-farm activities and agriculture in the villages. Non-farm activities are sometimes considered to be a source of finance to agricultural expansion through the provision of capital for the purchase of agricultural tools and inputs (e.g. hand hoes, machetes, ox-ploughs, pesticides, fertilisers) and sometimes hired labour or tractors/ox-ploughs. Since most of the non-farm activities are intended to supplement the family's income, they depend on capital from agriculture. Thus, the failure of agriculture to

generate enough income for agricultural reinvestment is a major limitation to the development of non-farm activities in many villages.

The link between agriculture and non-farm activities is also reflected in the seasonality of the non-farm activities themselves. To avoid labour competition between agriculture and non-farm activities, most people engage in farming during the wet season and in non-farm activities during the dry season. In some cases, the family labour engaged in non-farm activities is supplemented by hired labour. However, most activities are started without any prior survey of the market or sources of capital. As a result of poor planning, they end in failure.

Kwimba is an area of in- and out-migration. Migration theories have identified economic reasons to be the main cause of population movement (Lee 1969). This situation has been clearly demonstrated in Kwimba District where more migrants are found in Mabuki due to diamond mining activities. The study also observed that male migrants dominate in long-distance migrations and female migrants prefer short-distance movements. Migration of women is mainly caused by marriage and young people are more likely to migrate than older ones.

Conclusion

Although the earlier assumption was that regions with high demographic pressures and population densities may develop alternative employment opportunities to absorb the increasing landless population, the findings of this study suggest that population pressure is not the only factor influencing the development of non-farm activities. Evidence from the case villages indicate that people react to population pressure in different ways. Some people may move to other areas where there is enough land. Other factors like economic dissatisfaction among the population, availability of capital, education, and reliable transport may stimulate ideas for other economic possibilities outside agriculture.

Preliminary observations from this study indicate that non-farm activities are more developed in villages which are accessible throughout the year. Reliable transport provides the possibility for an exchange and diffusion of ideas and information. The case of Mabuki clearly demonstrates this. Moreover, mining opportunities in Mabuki have created a conducive environment for the provision of service activities in the village. Activities managed by women in this service sector are flourishing. There is a strong link between on-farm activities on the one hand, and non-farm activities on the other. People involved in non-farm activities are in many cases also performing well in farming. This is because investment in agricultural inputs and technology enables them to expand their farms and thus produce and earn more. Since most non-farm activities aim at supplementing the family's agricultural income, they largely depend on capital from agriculture. This situation was reflected in conversations with different entrepreneurs conducting varied non-farm activities. Generally, the survival of non-farm

activities depends on the availability of labour, capital and markets. However, even with the development of non-farm activities in the rural areas of Kwimba District, agriculture is still considered the occupational identity of rural people. People are strongly tied to the land through socialisation and inheritance. Although new opportunities for income generation and access to land are opening up, the extended family traditions and culture, which are very strong among the Sukuma, will prevail for many years to come. This means that agriculture will remain the social and occupational identity of the rural people for a long time too.

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Appendix

Research Methods

The study was conducted in two phases. Phase I was carried out in August 1995 and Phase II in August/September 1996.

Phase I involved a broad coverage of 1598 households distributed equally between the two case study villages (799 in each village). The selection of the case study villages and sample households involved several steps. The villages were selected during a pilot survey after extensive consultations with relevant district officials. Mwankulwe and Mabuki villages were selected for the study. These villages provide a contrast between tradition and modernity, and between agrarian and non-agrarian forms of livelihood. The villages were also chosen on the basis of their location in relation to the remotely-located district headquarters at Ngudu, their accessibility, and their population size. At the village level, lists of sub-villages and names of heads of household were compiled to form a sampling frame. Information on the changing nature of agricultural activities and the emergence of non-agricultural activities were collected from both the village leadership and the villagers themselves. Similarly, informal discussions with specific groups in the population (i.e. men, women, boys, girls, and class seven pupils) were held to capture the gender and age variations in relation to inheritance procedures, ownership of property, development of non-farm activities, sources and distribution of labour, and access to land. Equal numbers of male and female respondent were interviewed. Phase II of the study was basically an in-depth study and respondents were chosen from among the Phase I respondents on the basis of age and the year of their first marriage. A lifeline questionnaire was prepared and used to collect the information.

Justification for the Selection of Kwimba District

Kwimba District was selected for this study because of its notable climatic, environmental and economic variations. It forms a large part of Sukumaland and is considered to be the cradle of the Sukuma tribe. Moreover, Kwimba is a district which has strong cultural ties in terms of family relationships and resource use. It is the most typical Sukuma district to have been settled for a long time and it reflects the typical Sukuma culture (von Rotenhan 1968). In addition, there was already a large collection of baseline data outlining trends in history. These reserves of information form an important base for the analysis of change in agricultural practices in general and in the development of non-farm activities in particular.

Administration of Questionnaires

Phase One Survey

During Phase One, three different questionnaires were administered. The first was the individual questionnaire which was administered to all members of selected households aged 16 years and over. Second, a village questionnaire was administered to the village leaders including members of the village government, the village executive officers (VEO), the village chairman (VC) and other key informants and elders. This questionnaire was vital in understanding the general picture of the sample villages. Third, an informal discussion questionnaire was administered separately to groups of men, women, boys and girls. Its purpose was to elicit opinions from different groups and individuals concerning inheritance issues, ownership of property and access to land.

Several basic problems were encountered during the fieldwork:

- i) The questionnaire was too long and included many unnecessary questions.
- ii) The size of the sample which was predetermined to be 800 interviews per village was unnecessarily large. The impact of this was reflected in the cost of data processing which was comparatively high.
- iii) The distance between households was too great. In Mwanza region, most of the concentrated villages created after the villagisation policy of 1974 have disintegrated at least in their geographical structure. New sub-villages have been created by villagers moving back to where they lived before villagisation. Some of the sub-villages are a long way from the village centre and the households are sparsely located to the extent that more time was spent in walking than in interviewing.
- iv) The respondents found it hard to understand the purpose of the survey and a lot of time was required to convince the respondents that their participation was important to the completion of the work. The relevance of the research itself to their daily activities needed to be stressed repeatedly.
- v) The fact that the study coincided with political campaigns for the 1995 multi-party general election was also an obstacle to the respondents' willingness to be interviewed.
- vi) There was a problem of availability of the respondents in the homes. Since many people were engaged in harvesting of rice and cotton, it was common to find locked houses. This factor contributed to the non-availability of many of the household members for the interview. In some of the households, only one or two persons were available for interview. The incidence of single interviews in a household was less marked in Mabuki than in Mwankulwe village.
- vii) The administration of the village questionnaire was affected by lack of poor documentation at the village level. Most of the information was narrated without any

data support from the village files. Apart from the names of individuals, very little information was kept in the village records.

viii) Due to cultural limitations, it was difficult to discuss or get information from girls. To avoid these barriers, an attempt was made to use women teachers to interview the girls. Even with this approach the number of interviews was not impressive. No problems were encountered in discussions with men and women. However, boys were very cautious in answering questions and some demanded to be paid before they were prepared to do so.

Phase Two Survey

During Phase II, three types of questionnaire interviews were administered. First, the individual lifeline questionnaire was administered to 64 respondents (32 from each village), selected on the basis of age, sex and the year of their first marriage (i.e. those who married in 1990-94, 1970-74, 1950-54 and 1930-34). In each of these periods, 4 men and 4 women were selected for in-depth interviews.

Second, the family history questionnaire was administered to members of three families in each of the study villages, selected on the basis of their economic status in the village (i.e. differentiated by wealth ranking: one poor, one medium and one wealthy family). The selection of these households was based on the local wealth ranking criteria in which wealth classification is largely determined by assets owned by a family. Two main factors, namely land and cattle, emerged to be the most common and important measures of wealth ranking. Other factors included family size and socio-economic influence in the village. The purpose of this questionnaire was to get a full intergenerational understanding of the processes of resource transfer and labour allocations between groups of different sexes and ages. Within the selected households, people of different generations were interviewed (i.e. grandparents, parents, sons/daughters and grandchildren over 18 years of age). In each category, one man and one woman were interviewed using the lifeline questionnaire. A total number of 36 family history interviews were conducted.

Third was the village entrepreneur and workplace questionnaire which was administered to selected individuals engaged in non-farm activities at the village level. The entrepreneurs to be interviewed were selected after making a full inventory of all non-farm activities in the villages. The sampling was based on the need to obtain a wide cross-section of different enterprises in terms of occupation, organisational structure and enterprise size. In total, 20 entrepreneurs were interviewed, 10 from each village.

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