DE-AGRARIANISATION AND RURAL EMPLOYMENT NETWORK

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

Coming Full Circle: Agriculture, Non-Farm Activities and the Resurgence of Out-Migration in Njombe 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 programme has sought to dissect the process of change, drawing attention to the new labour patterns and unfolding rural-urban relations now taking place. The programme research theme consists of four sub-themes: economic dynamics, spatial mobility and settlement patterns, social identity adaptations and gender transformations.

The objectives of the DARE programme have been to:

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

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

The following study by Dr. Claude Mung'ong'o is the product of collaboration between the Institute of Resource Assessment in Dar es Salaam and the Afrika-Studiecentrum. The specific objective of the research was to document the changing nature of land and labour allocation between different generations within rural households, with special emphasis on the evolution of non-agricultural labour activities.

The overall findings from the DARE programme are intended to provide insight into the processes of change which are moulding the livelihood prospects of African rural and urban dwellers of the next century. It is hoped that the knowledge gained

may be useful for formulating more effective developmental policies to assist in short-circuiting Sub-Saharan Africa's current economic and political vulnerabilities.

Dr Deborah Fahy Bryceson
DARE Programme Coordinator

Coming Full Circle: Agriculture, Non-Farm Activities and the Resurgence of Out-Migration in Njombe District, Tanzania

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

Two villages were surveyed: Igosi, a high altitude maize, wheat and pyrethrum-growing village, and Mtwango-Lunguya, a maize-growing village situated along a main road. The report is divided into three main sections consisting of background about the study area, village profiles, survey findings regarding the local economy, agricultural and non-agricultural production, migration patterns, associational ties, social relations between generations and prospects for agricultural development, followed by a conclusion which includes an analytical summary of findings and recommendations arising from the research.

Background to Njombe District

Physical Characteristics

Njombe District is one of the five districts of Iringa Region. The others are Makete, Ludewa, Iringa Urban and Iringa Rural districts. The district has three major agro-ecological zones (Jakobsen 1978: 27-29). The north and north-west is a semi-arid grassland situated on an undulating plain between 1,200 and 1,800 metres above sea level. The annual rainfall is between 600 and 800 mm, but varies from year to year. Low and erratic rainfall patterns and generally

high evapo-transpiration lead to a relatively low water balance which can support a limited range of hardy food crops. The northern part of the zone is particularly prone to aridity compared with the north-west which is humid and cooler. The soils are characteristically of low fertility comprising shallow, dark-brown sands, sandy loams and clay loams that are suitable for growing maize, beans, sunflowers and cowpeas. In the drier parts of the zone sorghum and cassava are the predominant crops. Livestock densities are high in this zone. Mtwango-Lunguya is located in the northern part of the zone while Igosi is on its western flank.

The central part of the district is a sub-humid zone which covers the Ubena Plateau surrounding the town of Njombe. It is hillier country situated at an altitude of between 1,500 and 2,400 m above sea level. The plateau is intersected by relatively deep valleys which provide excellent dry season *vinyungu* gardening. Rainfall is also much higher than in the northern zone, ranging between 1,000 and 1,600 mm. The soils are reddish loams and clay of medium fertility which are suitable for growing maize, wheat, beans, potatoes and pyrethrum. The economy of this zone revolves around the urban life of Njombe town and the estates of the 17,000 hectare Tanzania Wattle Company at Kibena.

The eastern part of the district is a border zone which, although it is a continuation of the sub-humid zone, characteristically lies on the slope between the Ubena Plateau and the Kilombero Valley in the east. The slope traps the moisture from the air that flows up the valley and hence receives an annual rainfall ranging between 1,200 and 1,600 mm. The soils are mainly low fertility red, sandy loams, but support intense vegetation where moisture is sufficient. Crops grown are maize, wheat, beans, potatoes and tea.

Demographic Characteristics

The population characteristics of Njombe District are illustrated by Table 1. The table shows that the intercensal population growth rates for Njombe District have generally decreased over time. The negative growth rate in the adult population is probably a result of out-migration by this category of the population from the rural areas; a process which started during the economic difficulties of the late 1970s and took root during the liberalisation policies of the late 1980s. This is very well illustrated, for example, by the 7.2 intercensal growth rate in the urban population between the two census years. Most of this growth was due to rural-urban migration rather than natural growth.

Table 1: Population Growth in Njombe District 1978-1988

Category	1978	1988
Rural population	326,084	263,875
Males	147,474	120,659
Females	178,610	143,216
Urban population	30,155	52,101
Males	15,561	24,806
Females	14,594	27,295
Total	356,239	315,976

Sources: 1978 and 1988 census reports

The 1988 census shows that household sizes in the district ranged between 4.4 for the urban ward of Njombe and 5.9 for the rural ward of Yakobi, with an average of 4.8. Household sizes in villages, however, do vary considerably. Data from a 1988 survey which included Igosi and Mtwango indicate that 38 per cent of the sample households in Njombe District had between 7-9 persons, followed by 33 per cent which had between 4-6 people, followed by 15 per cent which had over 9 people. The remaining 14 per cent had between 1-3 people (Howe and Bryceson 1988).

The Economy

Agriculture has always been the most important economic activity in Njombe District, encompassing the production of crops and the keeping of livestock. More than 90 per cent of the households in the district cultivate. Food crops grown include maize, beans, vegetables and potatoes. Some households grow these crops as cash crops as well. The main cash crops grown in the district have, however, been wheat, tea and, until very recently, pyrethrum. By the 1980s, for example, the district was producing almost one third of all Tanzanian tea, two-thirds of the country's pyrethrum, and a considerable amount of wheat (Howe and Bryceson 1988: 29-35).

The situation was not always like this though. In the late 1950s and 1960s the most popular form of agriculture in much of the district was shifting cultivation whereby traditional maize breeds, finger millet, sorghum, beans and other minor root crops were grown. Farmers practised a cultivation cycle of approximately five years of cultivation followed by another five years of fallow. The low man/land ratio existing by then due to low population growth, out-migration of the able-bodied male population as a result of the district's status as a colonial labour reserve, and the presence of few cattle which precluded the possibility of integration of animal traction in tillage and the use of manure for soil improvement, made shifting cultivation the only viable form of agriculture for a large part of the district.

From 1974 to 1976 the district, like many rural communities elsewhere in Tanzania, underwent major socio-economic changes as a result of the government's villagisation

programme.[1] People whose homesteads were formerly scattered far and wide to accommodate the demands of their shifting food production system were concentrated into dense villages on ridges astride major road networks. The inclusion of Njombe district as an active participant in the National Maize Project (1975-1982) made the district a *bona fide* member of the so called 'Big Four' maize miracle.[2] Encouraged by subsidised farm inputs such as hybrid maize seeds, fertilisers and pesticides, the district produced large surpluses of maize. By 1979, for example, Njombe district was using a total of 1,600 tonnes of TSP/DAP, 3,200 tonnes of CAN/SA, 600 tonnes of H614, 200 tonnes of KCA, and 320 tonnes of ENDOS.[3] Most of the fertilisers were made available by the then Tanzania Rural Development Bank while the seeds were supplied by the subsidised TanSeed Company, often on credit terms (Howe and Bryceson 1988: 35).

These inputs made permanent and intense cultivation possible in an area otherwise endowed with relatively poor soils. Bryceson (1993a: 66) has noted, for instance, that the Southern Highlands regions' maize yields had increased by more than 100 per cent by the time of the National Maize Project's closure. The district also intensified the cultivation of cash crops such as tea, pyrethrum, wheat and, to some extent, coffee, which were similarly sold to the relevant crop boards and/or cooperatives at lucrative prices. The sale of surplus maize and the whole of the pyrethrum crop to the cooperatives and the National Milling Corporation under a pan-territorial pricing system increased the district's market integration. Villages like Igosi became highly developed as a result of mechanised agriculture, profitable transport companies and comparatively good social services. At the household level, maize inputs and credit reached the poorer sections of the population. Above all, more women farmers were integrated in the national economy (Rasmussen 1986: 197-198). The success of these villages and the new openings offered to individual households in the rural economy of Njombe district discouraged the age-old out-migration of able-bodied males and attracted back to the district even those who had left it years ago in search of wage labour on the sisal estates along the coast or arable land elsewhere in the country for smallholder farming.

Things changed, however, with the coming of the era of economic liberalisation between the late 1980s and early 1990s. With the onset of the economic crisis of the early 1980s, maize production began to decline as timely delivery of farm inputs by government parastatals was disrupted and land degradation began to take its toll (Wardell 1991). Tanzania's acceptance of the World Bank and IMF structural adjustment programmes and conditions in the late 1980s meant that agricultural production, distribution and consumption had to be liberalised as well. This new turn of events led to the removal of subsidies and the abandonment of pan-territorial

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[1] See Mung'ong'o, C.G. (1995) *Social Processes and Ecology in the Kondoa Irangi Hills, Central Tanzania.* (Meddelanden series B 93, Department of Human Geography, Stockholm University), pp. 80-84, for a general discussion and examples of these.

[2] The 'Big Four' was an accolade given to the four maize growing regions of Iringa, Mbeya, Rukwa and Ruvuma which had, due to the National Maize Programme, become the virtual granary of the country.

[3] See Turuka, F.M. (1995) 'Price reform and Fertilizer Use in Smallholder Agriculture in Tanzania'. (Unpublished PhD. Dissertation, Justus-Liebig Universitat, Germany) for a general discussion on fertiliser and maize sector policies and their effects on crop production.

pricing of inputs in agriculture, putting the inputs beyond the reach of the majority of farmers in the district. These factors led to what Bernstein (1981) has described as *simple reproduction squeeze.*[4]

Before the advent of these policies farmers used to buy fertiliser in 50 kg bags at Tsh. 7,000 (US$ 10) per bag. This price has now risen to Tsh. 12,000 or more. The farmers' responses to these policy changes have been diverse. Farmers from the rich groups have somehow managed to absorb the price shocks and continued using the fertilisers, despite their increased prices. Farmers from the middle and poor wealth groups have, however, not been so persevering. Apart from buying the fertilisers in smaller quantities (2 kg-3 kg) at a time, most of them have ceased using chemical fertilisers during planting. They now start applying them during weeding (*kukuzia*) and then only once instead of three times as required.

Households with some livestock are increasingly applying manure on their farms. In fact, in some villages in Njombe District manure is said to have acquired an economic value as a result. A twenty-litre tin of manure costs up to Tsh. 150 (US$ 2).[5] Experimentation with compost is also underway, especially among farmers from the middle wealth group. Crop residues are more and more being buried into the farm during tilling and/or ridging rather than allowing grazing of livestock. For insecticide these farmers now use sand coated with DDT fluid. For Tsh. 4,000 (US$ 6) a farmer can get one half-litre bottle of DDT fluid which coats enough sand to kill pests over one acre.[6]

Generally, these policy decisions have unilaterally led to a drop in productivity and increased food insecurity, especially so among the lower echelons of the middle and poor wealth groups. For example, Airey *et al.* (1993) have reported that the mean agricultural revenue per cultivated hectare in a maize dependent village had declined by 22 per cent between 1979 and 1992. Meanwhile, continuous devaluation of the shilling, the opening-up of crop marketing to private dealers, and rising inflation rates have all led to a fall in maize prices in real terms. For the period 1979 -1992 the policies led to a decline of 71 per cent in the annual mean household income from agriculture.

Moreover, cash crops like pyrethrum have ceased to be important cash earners in Tanzania due to a fall in prices on the world market. As a result some villagers in Njombe District have been taking land out of pyrethrum, hybrid maize varieties and such other input demanding crops. Instead new fast-growing crops such as Irish potatoes have increasingly been adopted, especially by farmers from the rich and upper echelons of the middle wealth groups. Meanwhile, farmers

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[4] Bernstein (1981) defines *simple reproduction squeeze* as a deterioration in the terms of trade between the goods that are purchased by the peasants as commodities for consumption and continued or expanded agricultural production, and the agricultural products sold by the peasants. This leads either to a reduction in consumption on the part of the peasants or an intensification of commodity production. The costs of production by the peasants are raised, leading to exhaustion of land and labour. The exhaustion of land and labour are in tandem as more labour time is required to work poor and distant farms.

[5] Regina Samsalilwa interview, Njombe, 11th February 1997.

[6] Mama Samkongwa interview, Njombe, 9th February 1997. See also the feature: 'Wakulima wanunua mbolea kwa kilo au vibaba' *Nipashe*, March 5th 1997, p. 7.

from the poor groups have been putting more and more of their land under traditional maize varieties and bean production. Cultivation of traditional crops such as sorghum and sunflowers is increasingly also being resorted to. For these farmers food security seems to have once again become the primary preoccupation in the district.

Hence, land is still highly valued. No one sells land to get out of agriculture no matter what. Generally, land has either been acquired from the Village Council during the villagisation programme or it has been parcelled out from one's parents' family farm or *lilungulu.* Due to growing population pressure, land is, however, becoming very scarce in villages with fertile soils. In some villages most families have only about two acres of land to distribute to their children. Hence only one or two sons can remain on the land.[7] The rest are moving back to reclaim the land their parents abandoned during the villagisation programme, and hence effectively reverting to the age-old shifting cultivation system. Others have migrated out to other villages in search of arable land. Such constantly changing agricultural practices are probably also increasing land degradation.

Young households which have had no opportunity of reclaiming land have come to be more and more dependent on non-agricultural economic activities within the villages or to labour migration destined to the tea estates of Mufindi, the tobacco farms of Iringa, and wage labour in Dar es Salaam and other urban centres. The wheel has thus come full circle. It is to the analysis of the dynamics of these processes in the two study villages that we now turn.

Village Profiles

Locations

The village of Igosi is located about 36 km west of Njombe town on the foothills of Livingstone Mountains and Kipengere Range on the main road to Makete. The village is situated on an undulating plateau intersected by deep valleys, and it is bordered by the villages of Ujindile in the north, Mdasi and Makoga in the east, Mwilamba and Utelewe in the south, and Mafinga and Kipengere in the west. Rainfall varies from year to year, but the village generally gets above 1,000 mm of rain annually. Low evapo-transpiration due to low temperatures and frequent cloudiness ensures sufficient rainfall to support a variety of cash and food crops and to give a green appearance all year round.

Mtwango-Lunguya is, on the other hand, located about 32 km north-east of Njombe town on the Makambako-Songea road. The village is situated on the undulating Makambako-Wanging'ombe plateau which is intersected by relatively deep river valleys such as Fukulwa, Nyamadoda and Chalove. These valleys provide excellent dry season *vinyungu* gardening. The village is bordered by Kichiwa village in the east, Wangama, Ibumila and Sakalenga in the west and south-west, Welela in the north, and the villages of Ikelu and Lyalamo in the south and

[7] Inheritance of agricultural lands and *vinyungu* gardens has always been to sons. Daughters are expected to be provided for by the families into which they marry.

south-east. As already mentioned, rainfall varies from year to year as the village is situated in a semi-arid zone. Low and erratic rainfall patterns and generally high evapo-transpiration lead to a relatively low water balance which can support a very limited range of hardy food crops.

Ethnic Composition

The ethnic composition of the two villages is very homogeneous. Both Igosi and Mtwango-Lunguya are almost exclusively Bena. The reason for such homogeneity lies in the fact that, except for the very few government officials such as teachers, medical staff, agricultural extension officers and wives brought in from other ethnic groups, there has been very limited in-migration in the two villages. Instead, for generations, people from Igosi have supplied labour to the sisal plantations on the coast, to the maize and tobacco farms in Iringa, to the tea estates in Mufindi, and to the copper mines in Zambia.

The homogeneity of Mtwango-Lunguya has also been due to the very limited land resources thus attracting little in-migration into the village. By the time of this study, for example, only 27 per cent had been born outside Mtwango-Lunguya. Until the 1970s the village had supplied labour to sisal plantations along the Indian Ocean coast, to the maize and tobacco farms in Iringa and to the tea estates in Mufindi. Field data show in this respect that more than a third (38%) of the respondents in this village had once lived and/or worked outside the village.

Demographic Characteristics

The population characteristics of the two villages are illustrated by Tables 2 and 3. The population growth rates demonstrated in both tables are high. In Igosi this is attributable to natural growth as illustrated by the percentage change in the child population between the observation years (Table 2). This is also evidenced by the growth in the establishment of new households, which grew by 18 per cent from 578 in 1987 to 682 in 1995. The average household size had also increased by 2 per cent. Despite the depression facilitated by the negative growth rates in the adult population, which is probably a result of out-migration by this category of the population, the average annual growth rate of 2.4 per cent is quite high for the available land resources in the village.

Table 2: Population Growth in Igosi Village 1987-1995

Category	1987	1995	% change
Adults			
Male	530	478	-10
Female	708	590	-17
Sub-total	1,238	1,068	-14
Children			
Male	616	902	+46
Female	647	1,003	+55
Sub-total	1,263	1,905	+51
Total	2,501	2,973	+19

Source: Village Office files 1995

In Mtwango-Lunguya the growth rates have also resulted from natural growth rather than in-migration as the 100 per cent change in the child population between the observed years illustrates. This is also evidenced by the small number of in-migrants (27%) and the growth in the establishment of new households, which had grown by 13 per cent from 539 in 1987 to 610 in 1995. The average household size had also increased by 4 per cent. Although the data from which these estimates are derived are tenuous, the average annual growth rate of 6.6 per cent is certainly too high for the available land resources in the village.

Table 3: Population Growth in Mtwango-Lunguya 1987-1995

Category	1987	1995	% change
Adults			
Male	490	517	+6
Female	680	703	+3
Sub-total	1,170	1,220	+4
Children			
Male	510	1,018	+100
Female	625	1,309	+100
Sub-total	1,135	2,327	+100
Total	2,305	3,547	+53

Source: Village Office files and village leaders interviews 1995
Note: No consistent documentation has been kept of population changes in Mtwango-Lunguya for the last ten years. These figures are mere estimates of the changes in the village.

Household and Family Structures

Marriage Patterns, Brideprice and Changing Times

Table 4 illustrates the marriage patterns of the two sample villages. In both villages single wife marriages are predominant. Polygyny is, however, more pronounced in Mtwango-Lunguya (15%) than in Igosi (11%). As polygyny is generally a characteristic of the rich group rather than the other two groups, this would suggest that the former village is wealthier and less influenced by Christianity than the latter. Nevertheless, these figures are on the lower side compared to an earlier study for the whole district which demonstrated that some 33 per cent of the sample households were polygamous (Jakobsen 1978).

Table 4: Marriage Patterns in Igosi and Mtwango-Lunguya Villages 1995 (%)

No. of wives	Igosi	Mtwango-Lunguy
None	11	16
One	78	69
Two	9	11
Three	2	4
Total	100	100

Source: Phase I Survey data 1995
N=446 and 721 households respectively.

Table 5 demonstrates the types of brideprice which have been paid in the two villages over the years. From the in-depth interviews it is obvious that the payment of a combination of cattle+goats+blankets plus other smaller items has traditionally been the common type of brideprice payment among the Bena community.[8] From Table 5, however, this type of brideprice would seem to have lost prominence in Igosi more than in Mtwango-Lunguya, probably due to the fact that the latter village is more prosperous than the former; with more disposable cash and livestock.

Regardless of the inter-village differences demonstrated by Table 5 the payment of brideprice in cash has become more common now than before in both villages (19% and 13% respectively). The reasons given for such change are interesting in that they illustrate a general socio-cultural and economic deterioration in the sample village communities. The reasons are: (a) a decline in cultural appreciation among the younger generation (22% and 26% respectively), (b) economic deterioration leading to unavailability of cattle and/or other liquid assets (19% and 26% respectively), and (c) a decline in marriage stability leading to wife-giving and social groups preferring money to cattle (3% and 23% respectively).[9]

[8] Mzee Mtenzi-Kabelege interview, Mtwango-Lunguya, 18th February 1997.

[9] As Mzee Mtenzi-Kabelege put it: '...it is easier to return cash than cattle in the event of marriage breakdown' (Interview, 17th February 1997).

Table 5: Type of Brideprice Paid by Heads of Households in Igosi and Mtwango-Lunguya 1995 (%)

Type of brideprice	Igosi	Mtwango-Lunguya
Cattle only	29	9
Cattle + Goats	23	23
Cattle + Goats +Blankets	6	47
Cash only	19	13
N/A	23	8

Source: Phase I Survey data 1995
N=31 and 32 households respectively.

Number of Live Children

Table 6 demonstrates the household distribution of live children in the sample villages. These figures are consistent with the marriage patterns observed and show that more than half of the households in both villages tend to have between 1 and 5 children. Less than a quarter of the households have more than 5 children. Households tend to be much bigger in Mtwango-Lunguya than in Igosi probably due to the prevalence of rich households and pronounced polygyny in the former village.[10] The gender ratio of live children within and between the sample villages tends, however, to be 1:1 in the different cohorts, suggesting that child mortality in the area is not gender specific.

Table 6: Household Distribution of Live Children in Igosi and Mtwango-Lunguya Villages 1995 (%)

No. of live children	Igosi	Mtwango-Lunguya
None	15	21
1 - 5	63	56
6 - 10	21	20
11 - 15	1	2
> 16	-	1
Total	100	100

Source: Phase I Survey data 1995
N=446 and 721 households respectively.

[10] A study into the fertility performance of polygynous marriages in Cameroon (Wultoff, B.M. The Fertility Performance of Polygynous Marriage in Cameroon, *African Anthropology*, III(1):45-64; March 1996) has established that the mean number of children born by union type for each decade of marriage depicts slightly higher fertility for polygamous wives than for monogamous ones.

The Local Economy

Agriculture

Agriculture remains the most important economic activity in both villages. This activity can characteristically be divided into two parts, namely the production of crops and the keeping of livestock.

Crop Production

In Igosi almost every household (95%) cultivates. Food crops grown include maize (grown by 94% of the households), beans (62%), vegetables (50%) and potatoes (27%). Some households grow these crops as cash crops as well. More than 17 per cent, for example, stated that they grew maize for sale, while those who grew beans and vegetables grew them both as food and cash crops. The main cash crop grown in the village, however, is wheat which grown by some 20 per cent of the respondent households. A majority of these households belonged to the rich wealth group.

The situation was not always like this. In the late 1950s and 1960s the popular form of agriculture in the village was shifting cultivation whereby traditional maize breeds were grown. From the group discussions it was evident that farmers practiced a cultivation cycle of approximately five years of cultivation followed by another five years of fallow. The low man/land ratio existing by then due to low population growth, out-migration of able-bodied male population, the lack of cattle that precluded the possibility of integration of animal traction in tillage and use of manure for soil improvement made shifting cultivation the only form of agriculture suitable for the village.

From 1974 to 1976 Igosi underwent major socio-economic changes as a result of the villagisation programme. People whose homesteads were formerly scattered far and wide to accommodate their shifting food production system were concentrated into a densely populated village on a ridge astride the Njombe-Makete road. The inclusion of the village in the National Maize Project started in 1974-75 made it an active participant in the 'Big Four' maize miracle already mentioned. Encouraged by subsidised farm inputs such as hybrid maize seeds, inorganic fertilisers and pesticides, this village produced large surpluses of maize. These inputs made permanent and intensive cultivation possible. The village also intensified the growth of pyrethrum as a cash crop. The sale of surplus maize and the whole of the pyrethrum crop increased Igosi's market integration, as the village also became a model village of socialist planning and productivity.

The removal of subsidies and the abandonment of pan-territorial pricing of inputs in agriculture because of Tanzania's acceptance of the World Bank and IMF structural adjustment programmes and conditions have generally put inputs beyond the reach of the majority of farmers in the sample villages. During this study an attempt was made to quantify the costs of cultivating and tending an average acre of maize in the village. Table 7 illustrates the approximate costs of such an endeavour. From an acre of maize a farming household would

expect to get a total of not more than 15 bags of maize, which at the going price of Tsh. 4,000 would fetch the household only Tsh. 60,000 or less, depending on the market situation. Maize is, therefore, no longer a viable cash crop. On the other hand, soil mining is becoming more pronounced in the village, especially so among middle and poor households who have no livestock to integrate in crop production. This may lead to serious land degradation.

Table 7: Approximate Costs of Cultivating One Acre of Maize in Igosi Village 1994

Agricultural activity	Cost (Tsh)
Ploughing	7,000
Harrowing	5,000
Seeds	4,000
DDT	1,500
Fertilisers (DAPs and TSP)	30,000
Planting	3,000
Weeding	8,000
Harvesting & transportation	9,000
Total	67,500

Source: Phase I Survey data 1995
Note: The exchange rate was US$ 1 = Tsh. 550.

With the fall of pyrethrum as an important cash earner in Tanzania, Igosi villagers have been taking land out of maize and pyrethrum cultivation. For the last three years land formerly put under cash crops has been constricted, resulting into a sharp drop in the productivity of these crops. Only wheat production, whose market situation has turned out to be more reliable, has registered an increase. During the 1995 season, however, the spread of wheat rust undermined production and put the crop's future in jeopardy. A brighter side of the story is that experimentation with new crops such as Irish potatoes and vegetables whose market situation turns out to be more reliable in Njombe town is under way in the village.

A visitor to Igosi cannot fail to notice the fact that every household in the village has some stands of fruit trees in its compound. Temperate fruits such as plums, peaches and apples are the most common in the village. Although they did not feature as important income earners in the household interviews, some young traders were observed collecting fruit from farmers for transportation to the urban centres of Njombe and Songea.

Agriculture remains the most important economic activity in Igosi. Hence land is highly cherished in this village. Data from this study, for example, indicate that 69 per cent of the respondents perceived land as their most valued asset. No one was contemplating selling their land to get out of agriculture. Generally, land in Igosi has been inherited from parents, acquired from the Village Council, or it has been rented. Of the land owned in the village 47 per cent was

inherited, 25 per cent was given by the village government and 22 per cent was rented from the Village Government. However, due to growing population pressure land is becoming scarce. Most families (56%) only had between 1 and 10 acres of land to distribute among their large families (Table 6). A majority of the youth and other able-bodied males, therefore, migrate in search of land for rice farming on the Usangu Plains and/or engage in non-agricultural economic activities. Others opt for labour migration and go to the tea estates of Mufindi, Njombe, and Dar es Salaam.

Land in Igosi has always been for growing crops and for settlements. Traditionally, crops like maize and beans provided the surplus to be sold. Now it is only the cultivation of wheat which creates wealth that can be invested in better housing, primary education and health care which are evident in Igosi. Formerly wealth derived from agricultural production was reinvested in agriculture and some in non-agricultural economic activities such as brewing, kiosks, and butcheries. The agricultural decline is considerably restricting the intensification of such inter-sectoral linkages. The dynamics of these processes are discussed below.

The agricultural problems in Mtwango-Lunguya, on the other hand, revolve around land tenure. Unlike in other villages in the post-villagisation era, land has never belonged to the Village Council (VC) in this village. According to key informants, the five families who first settled in Lunguya as government officials were allocated comparatively large tracts of farmland by the sub-chief and continued to own them even after the villagisation programme.[11] In this respect, field data indicate that at least 7 per cent of the respondents acquired their land in this fashion. They all belong to the wealthy group in the village. Indigenous families like the Mwani, the Kaduma and the Mfumbilwa who allowed officials to acquire such land because of the status quo, have come to be dependent on these settler families. Hence, a certain patronage has persisted between the five large landowners and the rest of the villagers. It is also probably due to such patronage that the VC has never had a stable long-serving political leadership in the village.[12]

When the villagisation programme came, the people of Mtwango-Lunguya were not affected for two reasons. First, the headquarters of the Gadau sub-chieftaincy of this village had for many years been concentrated along the Njombe-Makambaku road. It had two well-developed primary schools, a secondary school, a dispensary and a court. The implementors of the programme felt they would not disturb the village. Second, this decision was probably also brought about by the pressure from comparatively rich farmers in the village with connections at district and regional administrative levels. Thus the VC could not acquire the guardian right to land in the village as others did in other villages in the country. So the VC has had no land of its

[11] The settler pioneers mentioned in this respect were Sub-Chief Gadau himself, Mzee Lutengano Mligiliche (a catechist), Mzee Mtenzi-Kabelege (medical orderly), Mzee Halifa Mgeni and Mzee William Lugenge (clerks in the sub-chief's office).

[12] Habibu Kaduma interview, Mtwango-Lunguya, 17th February 1997.

own to distribute, except for 27 acres of marginal land released by one landowner for a village shamba.

Land shortage is thus a serious problem among the new households. At least 29 per cent of new households have had to depend on land rented from land-owning families. A majority of them belong to the poor wealth group. The cost of such land has, however, been continuously escalating. Land rent can be paid in cash or under sharecropping arrangements. Under the sharecropping arrangement, an acre of farmland would cost three to four bags of maize, while in cash this would range between Tsh. 10,000 - 15,000. The former arrangement is mostly preferred by people from the middle and poor wealth groups, while the latter is preferred by the youth from the rich wealth group. On the other hand, the going price for a building plot in Lunguya was said to range between Tsh. 50,000 - 100,000.[13] The 8-acre plot on which a new Roman Catholic mission is built is said to have cost the Benedictine Fathers of the Diocese of Njombe approximately Tsh. 1,200,000 in cash and in kind.[14]

The problem has been accentuated by declining quality in formal education. Table 8 compares the educational levels of the two sample villages. Data from the table demonstrate that although the attainment of some education is comparatively high in both villages (57% and 59% respectively), transition to secondary school is negligible. Secondly, of those who attend primary education a considerable number drop out of school at a very early age. Thirdly, a majority of those who manage to finish primary education are not appropriately equipped for rural life. Some of them reportedly leave school without even knowing how to write their own names![15] Thus although Mtwango-Lunguya has a slightly higher level of secondary school enrolment than Igosi, the generally poor quality of primary education makes occupational mobility almost impossible in both villages.

Table 8: Educational Levels of the Population in Igosi and Mtwango-Lunguya 1995 (%)

Category	Igosi	Mtwango-Lunguya
None	27	28
Primary education	57	55
Secondary education	-	4
Adult education	16	13
Total	100	100

Source: Phase I Survey Data 1995
N=446 and 721 households respectively.

[13] Linus Lwehela interview, Mtwango-Lunguya, 7th October 1995.
[14] Erasto Mtenzi interview, Njombe, 24th October 1995.
[15] Mwalimu Emmanuel Mtega interview, Igosi Primary School, 4th October 1995.

Almost every household (96%) in Mtwango-Lunguya cultivates. Food crops grown include groundnuts (grown by 100% of the households), maize (93%), potatoes (45%), vegetables (34%) and beans (29%). Most households sell the surplus of these crops for cash. More than 12 per cent of the sample households stated that they sold maize for cash, while 71 per cent of those who grew beans and 66 per cent of those who grew vegetables sold the surplus of these crops for cash. Unlike Igosi, however, Mtwango-Lunguya has no genuine cash crop.

Livestock Keeping

Apart from crop production a few villagers in both Igosi and Mtwango-Lunguya (8% and 20% respectively) also keep some livestock as is illustrated by Tables 9 and 10.

Table 9: Household Livestock Distribution in Igosi Village 1995 (%)

Number	Cattle	Sheep	Goats
None	93	96	87
1 - 5	6	4	10
6 - 10	1	-	3
11-15	1	-	-

Source: Phase I Survey Data 1995
N=446 households.

The herds are characteristically small with the majority (6% and 15% respectively) owning less than 5 herds of cattle and some small stock. Livestock is mainly kept as a means of accumulating wealth and as an insurance for bad times. There is very little integration of livestock keeping and crop production in both villages. It is mostly confined to the use of oxen for ploughing. The use of farmyard manure is minimal. Fertilisation of farmlands in both villages has hitherto been dependent on subsidised inorganic fertilisers. It is only now that subsidies on farm inputs have been cut off that farmers from the middle wealth group have started experimenting with manure and, to some extent, compost. Livestock keeping is, nevertheless, generally more prominent in Mtwango-Lunguya than in Igosi.

Table 10: Household Livestock Distribution in Mtwango-Lunguya Village 1995

Number	Cattle	Sheep	Goats
None	81	95	98
1 - 5	15	4	2
6 - 10	4	1	-
>11	1	-	-

Source: Phase I Survey Data 1995
N=721 households.

Non-Agricultural Economic Activities

The most common non-agricultural economic activities in the two villages are brewing and selling beer, trading, running kiosks and restaurants, butchery, carpentry and masonry. Traditionally these activities were engaged in as part-time activities during the slack period in the agricultural season. Today they have become livelihood diversification activities for all economic groups in both villages.[16] Except for activities engaged in by households from the wealthy groups, capital invested in these activities is very small; usually acquired from local agricultural proceeds. The wealthy groups' capital is normally acquired through profits made from other inter-village non-agricultural activities, e.g. trade, and/or migrant agriculture and especially from rice farming on the Usangu Plains in Mtwango-Lunguya and Igosi villages respectively. Brewing has turned out to be an important means of adding value to maize which has a fluctuating market in both villages.

Specifically, field data indicate that the number of Igosi households that were involved in non-agricultural economic activities had risen from 27 per cent in 1980 to 35 per cent in 1995. Although food kiosks and restaurants are valuable investment niches for enterprising youths who make profits from trade or the cultivation of wheat within the village or rice in the Usangu Plains, this activity featured insignificantly in this sample. This is probably due to the small size of the wealthy group's representation in the village. Brewing and selling local beer pursued mainly by women from the middle and upper echelons of the poor wealth group has, however, increased from 9 per cent in 1980 to 12 per cent in 1995.

The brewing and sale of local beer is usually a women's occupation. However, data from Igosi indicate that although women featured significantly in this activity between 1980 and 1995 (8% and 11% respectively), a significant percentage of the male population had joined in the activity by 1995. The majority of these came mostly from the lower echelons of the middle wealth group and less from the poor. Their involvement has, however, been restricted to beer distribution rather than actual brewing, suggesting that the traditional income-earning activities for men have been more depressed by the changing economic fortunes in the area than those of women. As a result there has been a redefinition of social roles in the village as more and more men have shifted their occupational preference towards income-earning activities formerly considered the preserve of women, i.e. of low status.

On the other hand, the situation has not only increased competition for fewer economic niches between the sexes in the local resource base and markets, it is also probable that as a result of these developments more and more households in the district are drifting into food insecurity as resources, especially food resources, are increasingly being commoditised and brought under the control of men. During the fieldwork, for example, this researcher visited one home and found the family in a serious conflict. Someone had taken an egg from the store where

[16] Ellis (1997:4-5) distinguishes between income and livelihood diversification. He interprets the latter as an active social process whereby households engage in increasingly intricate portfolios of activities over time.

the eggs had been collected to be taken to the market for sale. The income which would accrue to the household would now be reduced by the missing egg. The mother was furious, not so much for the lost income but for the scolding she would get from her husband. Later investigations into the reason for the seriousness of this incidence indicated that with the coming of priests, primary school teachers, medical assistants, party cadres, extension workers and other such village officials, eggs had acquired a high market value in Igosi. As they became commodities, eggs were taken off the poorer households' menu thus seriously reducing children's most important source of protein.

These developments would seem to be adding more burden on women from the middle and poor wealth groups as they now have to work harder and under stiffer competition to earn the same amount of income for household subsistence as they used to earn previously when there was a clear division of labour between the sexes. At another level, some husbands from the poor wealth group have felt the adoption of such female occupations as socially degrading. But failing to secure any other viable occupations within the villages or failing to out-migrate in search of wage labour for whatever reason, these men have turned to drink, leaving the burden of breadwinning to their wives and/or female relatives. Others have deserted their families altogether and have, as a result, increased the number of female-headed households in the two villages.[17]

Involvement in handicrafts such as knitting of cloth and weaving of mats and ornaments has increased tenfold from 2 per cent in 1980 to 12 per cent in 1995. The increase resulted mainly from an increased involvement of women from the middle and part of the poor wealth groups in the activity. This had risen from a negligible percentage in 1980 to 6 per cent in 1995. Another activity which showed a marked increase due to the involvement of women in the two wealth groups was pottery. This had also increased from a negligible percentage in 1980 to 2 per cent in 1995.

Carpentry and masonry absorb the skills of youths who graduate annually from the Catholic mission trade school situated in the village. These skills are important in the building of local houses and furniture-making in Igosi. Involvement in carpentry has, however, remained the preserve of people from the middle wealth group. Its development in the village remained stagnant at 2 per cent, probably suggesting a stagnation in the demand for new furniture in the village. Involvement in masonry has increased among the middle wealth group; rising from 2 per cent in 1980 to 3 per cent in 1995. The increase is possibly due to more building activity in the village. Both activities are exclusively male preoccupations.

On the other hand, field data from Mtwango-Lunguya show that about 30 per cent of the respondents have been continuously engaged in some form of non-agricultural economic activity in the village. Although the involvement in brewing and selling of local beer using locally grown maize shows a decrease from 10 per cent of the sub-sample in 1980 to 8 per cent in 1995,

[17] Erasto Mtenzi interview, Njombe, 25th March 1997.

it has remained the most popular activity involving almost every woman from the middle and part of the poor wealth groups in the village.

Unlike the situation in Igosi village, no male involvement in this activity has been noted in Mtwango-Lunguya. A definite increase in involvement in non-agricultural activities was observed in the related activities of operating restaurants and food kiosks, locally known as *Mama N'tilie.* Although this name suggests the activity is for women, the involvement of men from the middle wealth group is significant. These have more than doubled from only a negligible percentage in the past to 2 per cent in 1995, confirming that (a) indeed, Mtwango-Lunguya is more urbanised than Igosi and more people have continued eating outside the homestead than in the latter village, and that (b) probably more households are now drifting into food insecurity as food resources in both villages are being turned into commodities.

Mtwango-Lunguya's involvement in handicrafts has also increased from 3 per cent in the past to 4 per cent in 1995. Pottery, the selling of builder's sand, firewood and/or charcoal production have increased considerably among the middle and poor wealth groups, indicating that impoverishment in rural areas may be having an adverse impact on the environment and also on the sustainability of the natural resource base. It is, however, an issue which this study was not equipped to investigate. Furthermore, many female-led households were observed to be involved in the selling of builder's sand and wood fuel, especially charcoal. These activities have for a long time been the preserve of men.

Surprisingly, involvement in trading had remained stable at 5 per cent from 1980 to 1995, indicating that there has probably been little social mobility between wealth groups due to the depressed creation of both financial and social capital.[18] At first sight the decrease in creation of social capital would seem strange for a rural community like Mtwango-Lunguya whose social intercourse is supposed to be more often than not characterised by organic social relations. However, closer analysis of the social relations data from the village demonstrates that people are increasingly becoming more individualistic in their attitudes to relations of production as the importance of social and kinship networks declines. This is especially so among the rich wealth group. For example, during the Phase I fieldwork in the village, two milling machines belonging to the village community were stolen presumably by some of the youths in the village. It was obvious from the discussions with individual villagers that some of the villagers knew the culprits by name but would not dare expose them to the authorities. It seemed it was none of their business because social property was apparently conceived as no one's property; a free good to be exploited and expropriated by any individual who dared to do so. Judging from the in-depth interviews with elderly villagers and informants from the rich wealth group it is clear that there has been a considerable decline in investments in social networks and hence also in

[18] Social capital means the bundle of socio-cultural, political or economic portfolios/opportunities an individual household or person can access from social and kinship networks.

the use of social capital by the young generation as a means of mobilising extra agricultural labour and/or financial resources.

Brick laying and masonry have also remained steady at 2 per cent through the 1980-1995 period in Mtwango-Lunguya. Meanwhile, carpentry has increased from less than one per cent in 1980 to 1 per cent in 1995, indicating an increase in the demand for new furniture in this relatively more urbanised village and its surrounding environs. Like the situation in Igosi, people engaged in these activities were mainly from the middle and poor wealth groups.

Most non-agricultural economic activities in Igosi are carried out within the village (34%) predominantly using personal labour (31%), the labour of one's children (2%), and the labour of relatives (1%). Beer brewing and handicrafts are the more prominent of these activities (12% and 10% respectively); involving mostly women from the middle and poor wealth groups. While the use of personal labour in Igosi has increased from 23 per cent in the past to 31 per cent in 1995 among the rich wealth group, the use of the labour of relatives in non-agricultural economic activities had decreased by 1995. This suggests that this specific group of villagers in Igosi was also increasingly becoming more individualistic in their economic pursuits. This is also evidenced by an increase in the exploitation of the labour of one's children in the village among this wealth group which had risen from 1 per cent in the past to 2 per cent in 1995.

Wealth differentiation in these activities in Mtwango-Lunguya is less delineated than in Igosi. Generally, however, these activities have also predominantly been performed within the village (28%). Although comparatively fewer households are using personal labour (20%) in the village, more respondents in the village use the labour of relatives (6%) and one's children (3%). While the use of personal labour has decreased slightly during the two periods, using one's children for labour has increased by 18 per cent. The use of the labour of relatives has, however, remained steady, being used by 6 per cent of the respondents in both periods. However, minimal capitalisation and a lack of diversity are the most important constraints facing the viability of these activities in the study villages.[19] Nevertheless, one characteristic shows stark differentiation between the wealth groups, namely the use of hired labour in both agricultural and non-agricultural economic activities. This has increased fivefold among the rich wealth group in the period under review, indicating that the potential for rural job creation through these activities may be substantial in the village.

Migration Patterns

Temporary migration has been the other option taken up by households with a shortage of land. Young people from all wealth groups have moved out of the two villages in search of land in other rural areas. Others have migrated out in search of wage labour in urban centres. In Igosi, extra sources of finance are found through temporary migration by men to the Usangu Plains to

[19] Richard Mwinuka (the tile 'factory' owner) interview, 7th October 1995.

cultivate rice, to Mufindi and Morogoro to work as migrant labourers on tea and sisal estates, and by girls moving to Dar es Salaam and other urban centres to work as housegirls or barmaids.

The Story of Aisha Simon, a Barmaid

In Dar es Salaam they call me Aisha.... Aisha Simon. It is a nickname I adopted when I first arrived here. It sounded more civilised than my original name, Anna Kaduma. My home village is Mtwango, in Makambako ward, Njombe District. I am 20 years old. I arrived here the first time in 1994, coming from Iringa. I had lived in Iringa for three years working as a housemaid for a Nyakyusa family.

I did not go to Iringa to be a housemaid. I had gone to visit a cousin of mine who was then living in the town. I had just finished primary education. Having nothing to do after failing to get a chance to continue with secondary education I decided to visit my cousin in Iringa. After a while a little misunderstanding occurred between us. You know how it is. It is very difficult for two unmarried girls to stay together for long. Jealousy, suspicion and accusations were daily recipes.... I could not tolerate it... I decided to look for a job. I became a housemaid.

The mother of the Nyakyusa family was a very kind and gentle lady. She treated me like her own daughter. But her husband was a rogue. He tried to seduce me several times but I always rejected him. I could not break the trust of the Nyakyusa mother. He set many traps like all you men do, but I could not allow him to succeed in his designs; until one day.... That day he surprised me by coming home earlier than usual. The mother was still at work and the children had not come home from school. I couldn't defend myself.... He raped me.... The next day I bought a ticket for Dar es Salaam. I could not continue living under that roof with such a secret in my heart.

In Dar I first stayed in Ubungo at the home of a friend I had known in Iringa. Soon I got a job in a nearby bar. It was a rather remotely situated bar. We did not get so many customers. Our salaries were as a result very meagre. Sometimes we were not paid at all. We had to depend on men who seduced us to sleep with them for money....

Indeed, brother.... It is a very dangerous way of life. A man seduces you and takes you to some guest house. You tell him to wear a condom. He says he is not used to doing it with a condom. He says it reduces his pleasure. After all he is paying you some money, why should he wear a condom? What can you do? You have agreed to give it to him, and you need the money.... Well, you let him do it unprotected, hoping that your God will be merciful.... Many barmaids get the AIDS virus this way....

My parents are God-fearing. They know I am in Dar but they do not know that I am working in a bar. I dare not tell them this. My mother would die of a heart attack if she knew I worked in this place. To them it is a shameful occupation. I tell them I work in an industrial complex.... Here at Check Point Bar things are much better, but we still have to sleep around with men. Life is very difficult. I have to pay a year's rent for my room at Manzese. I need to eat, I need nice clothes, I need some cosmetics, I need to send something home from time to time.... The salary from this place alone cannot suffice....

Source: Translation of an exclusive interview held in Dar es Salaam, 23rd April 1997.

Field data for Igosi village show, for example, that more than half of the respondents (54%) have once lived and/or worked outside the village. Of these, 7 per cent have lived in another village within the district, 31 per cent in another district within the region, and 16 per cent in other regions in the country. Most of these population movements have been circular rural-rural migrations. Only an insignificant percentage have worked as migrant mine workers in the copperfields of the then Northern Rhodesia (now Zambia). From a gendered point of view the data demonstrate that women accounted for 11 per cent of the respondents who had lived in another village, 38 per cent who had lived in other districts in the region, and 9 per cent of those who had lived in other regions.

Male out-migrations have, however, not been viewed by some of the women we talked to in the village as a useful solution to the problems of the deteriorating agricultural economy. Apparently remittances that have eventually reached the families left at home have been minimal. One study, for example, demonstrates that only between 10 per cent and 21 per cent of the households in the sample received any income from remittances. The amounts involved were abnormally small, often less than Tsh. 500 (<US$ 1) (Howe and Bryceson 1988: 97). Recently, such remittances have decreased considerably because of the economic recession in the country. Meanwhile, the social costs of losing husbands to other women and dangerous diseases such as AIDS are high. A recent workshop on the spread of AIDS in Tanzania noted that Makete District in Iringa Region was leading the country in incidences of the disease.[20] Most of the cases recorded were among migrant labourers and itinerant business operators. Igosi village borders this district.

The most effective solution to the existing agricultural problems, according to the women, lies in fertilisers and other important inputs being subsidised. It also lies in the strengthening of the marketing institutions (e.g. cooperatives) dealing with inelastic food crops such as maize and wheat. Contrary to the perceptions of planners in Dar es Salaam and in international financial institutions, the state is still viewed in Igosi village as the prime mover of the rural economy.

Rural-rural out-migration from Mtwango-Lunguya is less pronounced than in Igosi. Field data show that only 38 per cent of the respondents in Mtwango-Lunguya had lived and/or worked outside the village. Of these, 7 per cent had lived in other villages in the district, 10 per cent in other districts, and 22 per cent in other regions, especially in the sisal and tea-growing regions of Tanzania. Unlike the situation in Igosi, most of the population movements originating from this village during the 1980s and 1990s have been rural-urban. Meanwhile, the Kibena Wattle Company in Njombe and various tea estates in Mufindi District within Iringa Region have together absorbed 16 per cent of the young people from this village for tea picking and other wage labour.

As far as gender is concerned the data illustrate that 68 per cent of the respondents who have at one time or other lived in other villages in the district, 58 per cent of those who had lived in other districts, and 53 per cent of those who had worked outside Iringa Region are female. Such strong female representation in this case may be a result of the female-skewed gender bias in our methodology. However, the existence of patrilocal marriages in the area which demand that a woman follows her husband to his village and/or work place can partly explain this phenomenon.

Associational Ties and Attitudes to Cooperation

Traditionally, most non-agricultural economic activities in the rural areas of Njombe District were done within the village using personal labour and the labour of relatives, including

[20] 'Makete yaongoza kwa ugonjwa wa Ukimwi Mkoa wa Iringa - Warsha', *Majira,* 14 Mei 1997, p. 9.

children. The fact that the homestead production system was basically labour dependent meant that the more people a homestead had the better it was placed to produce a substantial surplus for exchange. Under such arrangements the men cooperated in agricultural work, especially in such activities as field preparation, weeding, chasing away or hunting destructive animals, the transportation of crops from far-off fields, and finally marketing the surpluses. Livestock rearing was also mainly a man's responsibility.

Women, on the other hand, cooperated in their share of agricultural work, especially in the hoeing of fields, planting, weeding, scaring away birds, harvesting, transporting crops to the home, processing and storing crops. Women were also involved in such livestock keeping tasks as milking and looking after small stock. These tasks were fulfilled over and above the general housekeeping, preparation of food and other functions of reproduction in the homestead.

When work demanded more labour than one homestead could afford, inter-homestead cooperative arrangements were often resorted to. Such arrangements could either use the obligatory help of close relatives within a village or elsewhere, or it could be general work parties involving a cross-section of the community. The reward was reciprocity plus some food and beer.

Recent evidence indicates, however, that this is no longer the case. Table 11 shows that there were considerable changes in the use of various labour sources between 1980 and 1995 in the two villages. While the use of personal labour in non-agricultural economic activities increased in Igosi, the use of relatives decreased considerably in both villages, suggesting that people in these villages are increasingly becoming individualistic in their attitudes to economic production. This has resulted in a perceptible increase in the exploitation of labour of one's own children in both villages and a tangible increase in the use of hired labour in Mtwango-Lunguya. This trend is especially conspicuous among households belonging to the wealthy group. For many of them the days when organic social relations were the basis of economic performance in their households (e.g. by reliance on the labour of relatives and work parties as the normal means of mobilising extra agricultural labour) are over.

Table 11: Changing Patterns in Labour Use for Non-Agricultural Economic Activities in Igosi and Mtwango-Lunguya 1980-1995 (%)

	Igosi		Mtwango-Lunguya	
Category	1980	1995	1980	1995
Relatives	1.1	0.9	5.5	0.3
Children	1.1	1.6	2.8	5.7
Parents	0.2	0.7	1.1	3.2
Hired	2.0	0.4	0.3	1.1
Alone	22.9	31.4	20.0	18.4
N/A	72.6	65.0	70.3	69.6

Total	100.0	100.0	100.0	100.0

Source: Phase I Survey data 1995

Occupational Preference and Notions of Success

The most commonly preferred non-agricultural economic activities in the two study villages are remarkably similar. They differ only in magnitude. Data from Igosi, for example, indicate that handicrafts (cloth knitting and weaving of carpets and baskets), trading, brewing, carpentry, masonry and lumbering are the most preferred non-agricultural activities, in that order. Field data from Mtwango-Lunguya, on the other hand, show that handicrafts, trading, brewing, carpentry and masonry are the most preferred activities. An analysis of preferences according to gender demonstrates that beer brewing (87%/82%), trading (65%/64%), and handicrafts (55%/100%) are more preferred by women than men in both villages. Similarly, carpentry (100%/80%), masonry (100%/70%) and lumbering (100%) are predominantly male preferences in both villages.

According to the in-depth discussions with key informants, these activities have traditionally been preferred as part-time hobbies carried out during the slack period in the agricultural season. However, a process of commoditisation of items produced from these activities seems to be taking place commensurate with the general commercialisation of rural life in both sample villages. These activities are now reportedly engaged in with the aim of producing an economic surplus to reduce the cost of living and satisfy family needs not covered by agriculture. Nevertheless, their capital outlays are small; normally acquired through profits made from agriculture. A failure in agriculture would, therefore, mean a failure in these activities as well. The only activities which can stand on their own in this respect are activities whose investment is solely in the form of labour.

Data from Igosi show that most of the children considered as successful by their parents had gone to school up to at least Standard 7 or 8 (17%). Many of them (13%) came from first marriages. A majority of them had been successful through farming (10%). Others had succeeded through trading (1%) and tailoring (1%). A majority of these young people (10%) were considered successful because they had helped to maintain the families of origin. Some 4 per cent were said to have improved their agricultural enterprises and 2 per cent had built modern houses in the village. An insignificant percentage were considered successful because they had finished their educational courses and were now working or waiting to be employed in urban centres.

Social Relations between Generations

Traditionally, the relationship between generations was one of mutual dependence. The youth depended on the elders for economic sustenance, information and knowledge to help them in their growing years. As the elders aged. the roles changed and the elders progressively came to

depend upon the youth to take care of them. Social roles and the positioning of children in the family were ascribed according to birth rank and the position of the mother in the case of a polygynous marriage.

Today all this has changed. Generally, the relationship between generations seems to have become more economistic now than before. For example, although the notions of success are very subjective in many villages, interview data and in-depth discussions with key informants show that most of the children considered successful by their parents today have been the main source of help in maintaining the families of origin. With the economic recession which is facing the study villages very few young people manage to qualify for the success accolade. A feeling of generational discontinuity is, therefore, gripping the elders of the two sample villages, but especially so in Mtwango-Lunguya. The changing economic fortunes in the villages have incapacitated the elders, so much so that they have little to offer their youth in terms of wealth, censure or support. Hence they cannot in turn impose many expectations or compulsions on their off-spring.

Moreover, there appears to be a gulf between the generations in occupational terms. While many of the elders feel there is a future in agriculture provided the state plays its role, many of the youth are less attracted to it. Their hopes are often in non-agricultural preoccupations; but these are not developed well enough to sustain a growing army of rural youth. Thus many of the youths have to move out of the villages in search of wealth as independent individuals elsewhere or opt for drinking and the easy life. Meanwhile, the elders remain distraught, looking on disapprovingly but feeling powerless to influence the situation.

Changing Perceptions: The Story of Mzee Mtenzi-Kabelege

I was born into an ordinary family in Lupembe in 1899. I never went to school; there were no schools then. When Christianity came to Lupembe the missionaries came to know and like me for my diligence. They employed me as a medical aid at their dispensary. They taught me to read and to write. When they established a new mission here at Lunguya they transferred me to this place. By then I had already married my first wife. She is deceased now. When I arrived here I was sent for medical training at Milo Mission in Upangwa. I stayed there for two years; after which I was sent to Mdandu to be a medical assistant. That was in 1933. I left my wife and children here. I stayed in Mdandu for seven years before being transferred to Ukinga. I stayed in Ukinga for ten years. In 1950 I was transferred to Malangali, where I worked up to my retirement in 1962.

In total I had three wives. I married the first one in Lupembe, the second one in Mdandu and the third one in Malangali. The brideprice I paid for all three was similar. For the first wife I paid 5 heads of cattle, 4 goats, and 2 blankets.... Yes, blankets. These were very important due to the cold weather of this place.... I did not personally pay the brideprice for the first wife. My parents did it with the help of our relatives. I paid the brideprice of the second and third wives. That was the tradition. Your family had the duty to give you a wife. They were, however, not responsible for your subsequent wives. Those were luxuries you had to pay for yourself.... I paid 4 heads of cattle, 4 goats, and 2 blankets, and 3 heads of cattle, 2 goats and 2 blankets for the second and third wives respectively....

Today the brideprice paid differs from one community to another. Some still demand cattle as in our days. Others accept cattle plus cash; or cash only. The latter is especially popular among younger generations.... There is, however, a general decline in the importance of brideprice. Young people do no longer feel the obligation to pay brideprice. Both cattle and money have become so scarce, and the marriages themselves have become so unstable that wife-giving parents feel insecure. Suppose you receive some people's cattle as brideprice for your daughter

and the marriage fails. Where do you get cattle to replace the ones which have died or which you have distributed to your relatives? It is easy with money....
My wives gave me a total of 17 children; 11 males and 6 females. All of them are grown up now. All are successful. The most successful of them all, however, is my son Japhet. He is currently the chairman of NJOLUMA.
Traditionally, the relationship between generations was one of mutual dependence. The youth depended on the elders for knowledge and wisdom. They also depended on the elders for their daily upkeep. As the elders grew older, roles and responsibilities began to change. Gradually, the elders came to depend on the youth for their day-to-day upkeep. The elders continued to control all major economic sectors, while the youth took over the managerial roles. Youths created wealth. They cultivated, went to Tanga and elsewhere to work for money and brought home the proceeds to buy cattle.... A successful son was one who was able to create wealth enough to take care of his clan....
That is how it was during our times. Today things have changed tremendously. The youth of today are not the youth of our time. They no longer respect our traditions. They copy the European ways. They move to the city without consultations with their elders. They live as if they had not been born here. Those who remain here are even worse. They do nothing for their own and their families' development. They are for the easy life. They get their money any way they can and use it in luxurious living, beer and women.... Some even manage to turn against their elders and rob them of their wealth. They say it's their inheritance. What inheritance? You inherit before I'm even gone? Ha, ha, ha!

Source: Translation from an interview held in Mtwango-Lunguya, 17th February 1997.

Prospects for Agricultural Development

Despite the economic difficulties that face rural households, many people tend to be optimistic that life can still be better for them in rural areas. There is, however, a differentiation in the reactions of the two villages. Field data from Igosi village, for example, demonstrate that 93 per cent of all respondent households indicated that they saw some positive prospects for development in agriculture. Of these villagers, 88 per cent were determined to stay in agriculture and use their resources to improve their farming systems. Difficulties in accumulating enough capital to allow a move into full-time non-agricultural economic activities was the main motivating factor for the young generation to remain in agriculture and improve their performance in farming. Other problems facing the agricultural enterprise in the village by both generations and wealth groups included difficulties in getting enough inputs (61%), scarcity of land to distribute to young families and immigrants (58%), a lack of oxen to ease labour requirements during the agricultural season left by grown-up children, children going to school and old age (14%). The lack of a reliable market for their crops was also mentioned as a serious problem by all economic groups.

Lines between the two generations in this respect were better drawn in the more urbanised Mtwango-Lunguya. In this village a majority of the youth indicated no hope at all of remaining in agriculture. Shortage of land, unaffordable inputs and fluctuating markets for crops such as maize were given as the major reasons for a lack of motivation to remain in agriculture. In fact 94 per cent of the older respondents in the sub-sample thought it was possible that in the near future many of the young people would live in the village without being farmers. Of these 42 per cent were certain that their children and/or grandchildren would live in the village but not farm. Shortage of land would force these people into wage employment or into non-

agricultural activities such as business. This would, nevertheless, depend on whether they had enough education or financial capital. The future of young people without these resources would, according to the elders, be gloomy indeed.

Conclusion

Summary

The objectives of this study were to examine and document the evolution of non-agricultural economic activities within rural households, to investigate the changing features of household control over land, labour, and capital, and to research the changing patterns of land and labour allocation between different generations within the rural households. The main findings can be summarised as follows:

Agriculture

- The removal of subsidies and the abandonment of pan-territorial pricing of inputs have put inputs beyond the reach of the majority of the farmers in the sample villages. Together with the fall of pyrethrum as an important cash earner for villages like Igosi, liberal policies in agriculture have led to a constriction of the land formerly put under cash crops, resulting in a vertical drop in the productivity of these crops.
- The opening up of crop marketing to private dealers has led to instabilities in the market and a fall in prices in real terms of principle crops such as maize and beans.
- Experimentation with new crops such as wheat, Irish potatoes and vegetables whose market situation turns out to be more reliable is under way in both villages.
- Soil mining is becoming more pronounced in both villages, especially so among medium and poor households which have no livestock to integrate in crop production. This may be leading to serious land degradation.
- Although land shortage is turning into a major problem, especially among the new households in both villages, many people still perceive agriculture as the main rural economic activity and are optimistic that life can still get better for them.
- Subsidisation of fertilisers and other important agricultural inputs and the strengthening of marketing institutions dealing with food crops such as maize, beans and wheat are perceived as a solution to the problem of agricultural deterioration in the sample villages.

Non-Agricultural Economic Activities

- The most common and preferred non-agricultural economic activities in the two villages are handicrafts, trading, brewing of beer, carpentry, masonry, lumbering and circular migration.

- Traditionally these activities have been preferred as part-time hobbies carried out during the slack period in the agricultural season. Recently a process of commoditisation of items produced from these activities has been taking place commensurate with the general commercialisation of rural life in both sample villages. These activities are engaged in to produce an income to cover living costs and to satisfy those family needs not satisfied by agriculture alone. Their capital outlays are small and normally acquired from agriculture.
- The involvement of households in these activities has been on the increase in both villages. It has largely manifested itself in the related activities of beer brewing and operating restaurants and food kiosks, suggesting that more and more households may be drifting into food insecurity as food resources are being turned into commodities under the control of men. Involvement has also been predominant in handicrafts such as pottery and weaving, and in the selling of building sand, firewood and/or charcoal, indicating that household economies in rural areas are probably becoming more stressful for the environment.

Labour Migration

- More than half of the respondent heads of households in Igosi once lived and worked outside the village. Almost half of these had lived and/or worked in rural areas in other districts and regions in the country. Comparatively fewer people had generally migrated from Mtwango-Lunguya. Most of those who migrated during the colonial period and just after independence had spent some time as labour migrants in the sisal and tea-growing districts in Tanzania. However, most of those who migrated during the 1980s and 1990s went to urban centres.
- Rural-rural migration is less pronounced in Mtwango-Lunguya than in Igosi. The opposite is true for rural-urban migration. This is probably due to contrasting fortunes between the two villages. Mtwango-Lunguya is situated on a major road between two booming urban centres making the village more urbanised. Only those who have the resources or relatives in town can migrate from a village.
- These observations notwithstanding, education has not been a determining factor in the migration process in the sample villages. Although many of the respondents who had at one time or other lived and worked outside the district had some education, a sizeable percentage had little or no education at all, suggesting that the level of education in both villages is too rudimentary to be an important factor in the economy of households in these villages.
- The out-migration process has not been gender specific in the sample villages. The percentage of female respondents who had at one time or other lived and worked outside the village is quite high in both villages. The existence of patrilocal marriages in the area which demand that a woman follows her husband to his

village and/or place of work can partly explain this phenomenon. Labour migration is not viewed favourably by some groups of women in the sample villages due to the social costs involved.

Changes in the Socio-Cultural Environment

- Traditional income-earning activities for men have been more depressed by the changing economic fortunes in the area than those of women. As a result there has been a redefinition of social roles in the household as more and more men have shifted their occupational engagement towards income-earning activities formerly considered the preserve of women. The situation has not only increased competition for fewer economic niches between the sexes in the local resource base and markets, it is also probable that more and more households in the district are drifting into food insecurity as resources, especially food, are being commoditised.
- These developments have placed increased burdens on women as they now have to work harder and under stiffer competition to earn the same amount of income for household sustenance as they used to earn when there was a clear division of labour between the sexes. Some husbands have felt the adoption of such female occupations as socially degrading; but failing to secure some other viable occupations within the villages or to migrate in search of wage labour these men have turned to drinking, leaving the burden of breadwinning to their wives and female relatives. Others have deserted their families thus increasing the number of female-headed households in the two villages.
- Rural people are becoming more individualistic in their attitudes to social relations and relations of production. Organic relations which emphasise the importance of social and kinship networks are in decline. Specifically, there has been a considerable decline in investments in social networks and hence also in the use of social capital by the young generation as a means of mobilising extra agricultural labour and/or financial capital. Public property is now generally perceived as no one's property; a free good to be exploited and expropriated by any individual.
- The elders' notion of a socially successful child is, therefore, of one who is willing and can afford to maintain his own family and the families of origin. Social roles and the positioning of children in the family as ascribed by birth rank and the rank of the mother in a polygynous marriage are no longer relevant criteria.
- There is a general feeling of generational discontinuity. Changing economic fortunes have incapacitated the elders in both villages. They have little to offer their youth in terms of wealth, censure or support and cannot impose many expectations or rules on their children. There is a gulf between the generations in occupational terms. While the elders believe there is a future in agriculture, the

youth have their hopes in non-agricultural preoccupations which are not sufficiently developed to sustain the growing number of rural youth. Many of them thus move out of the villages in search of wealth as independent individuals elsewhere or opt for drinking and the easy life. The elders look on disapprovingly but feeling powerless.

Policy Implications

A furious debate has been raging in the rural development literature about the relationship between agriculture and non-agricultural economic activities. The issue has mainly been over which of the two economic sectors is the stimulant or motive force behind the growth of the other. According to Ellis (1997: 22-27) the Rural Growth Linkages Model sees rising farm productivity as the source of growth of non-agricultural economic activities and income-earning opportunities in rural areas. This is thought to occur in multiplier effects resulting from expenditure linkages, backward linkages, and forward linkages as agricultural productivity increases.

The opposite view is one which sees the growth of non-agricultural economic activities as a result of stagnation in agriculture whereby surplus farm labour is shed and invested in non-agricultural economic activities. Profits from these activities are then expected to be ploughed back into the development of the agricultural sector. Hopefully, non-agricultural incomes such as remittances will relieve capital constraints and enable farming households to invest in the risky agricultural sector.

The problem with this debate is that the decision to allocate land, labour or capital is perceived as a purely economic decision taken at the production level. It is not taken as a process which is socially constructed and subjected to individual or group preferences. The group of women in Igosi village who, despite their current economic difficulties, were not ready to allow their men to migrate in search of wage labour because of very understandable social fears should serve to illustrate the short-sightedness of this debate.

From this case study it is clear that under normal circumstances the two rural economic sectors, i.e. agriculture and non-agricultural economic activities, have always complemented each other. Surplus capital from agriculture is often invested in the development of non-agricultural activities and vice versa. Yet, agriculture is always been perceived as the primary economic activity. It is only when agriculture is in crisis, as is the case at the moment, that non-agricultural economic activities have taken the upper hand. It is from this premise that this report sees the development of non-agricultural economic activities in Njombe District as invariably intertwined with the development of the agricultural sector.

From such a position of interdependence, policy interventions would follow three logical steps: (a) improving the agricultural sector so as to provide a base for the development of non-agricultural economic activities, (b) improving human capital in rural areas to allow the excess labour from communities like Igosi and Mtwango-Lunguya to access other profitable

economic sectors in the country, and (c) an improvement in the existing and other potential non-agricultural economic activities so as to expand income-earning portfolios in rural areas. These steps will now be further expounded.

Improvements in the Agricultural Sector

It has been observed in this study that the removal of subsidies and the abandonment of pan-territorial pricing of inputs have: (a) put the inputs beyond the reach of the majority of farmers in the sample villages, (b) led to a drop in productivity as livestock is mainly kept as a means of accumulating wealth and insurance for bad times rather than for integration into crop production, (c) possibly also led to land degradation as crop cultivation has turned into soil mining of farmlands. Moreover, the opening-up of crop marketing to private dealers has (d) led to instabilities in the market and a fall in prices in real terms of all crops in the sample villages.

Improvement of agriculture in these villages would in this case entail the removal of all these constraints, all of which have apparently been caused by the liberalisation policies of the 1980s rather than by the state capitalism policies of the 1970s as perceived by neo-liberal economics. The neo-liberal economic view, that the decline in agricultural production as witnessed in the sample villages is a residual effect of state capitalism which supposedly muzzled economic diversity and individual initiative (Ellis 1997: 30-31), is not supported by data from this study. Instead the data clearly demonstrate that the liberalisation policies of the 1980s have in fact provided a hostile environment for profitable grain production for every farmer, large or small, in Tanzania. Market sources observe in this respect that it is currently cheaper to order maize and/or wheat from Zimbabwe than to buy grain produced in Tanzania. Production costs make it too expensive.[21]

To rectify this situation entails the state taking positive policy actions in several related areas. Firstly, it is strongly recommended that some appropriate form and level of subsidy programme on farm inputs be formulated and implemented for the agricultural sector. How this subsidy can be administered and by whom is a moot point, but this study underlines the need for subsidy as an indisputable fact. Neo-liberal economists have a tendency to argue that subsidies distort market behaviour. But where in the world has agriculture ever managed to stand on its own feet as a profitable capitalist enterprise? France, the Netherlands, the United States of America, Sweden, to name just a few; are all subsidising their farmers in one form or another. Why can't Tanzania do the same?

Secondly, infrastructure such as rural roads, rural water supplies, schools, research institutions, and extension services are important in reducing production costs and increasing productivity in agriculture. Good roads facilitate the efficient spatial distribution of factors of

[21] Fredric Mahenge, a large-scale maize and wheat farmer from Iringa, recently told this researcher that he was bankrupt because he kept on growing grain he could not market in Tanzania or abroad.

production and the commodities produced. Education, research and extension services improve production techniques and enhance farm productivity. Infrastructural improvements are, however, notoriously costly investments whose profitability is too marginal to be attractive to private-sector capital investment. The state has a duty to provide for such investments both for enhancing not only the development of agriculture but also that of non-agricultural economic activities.

Thirdly, a system of microcredit financing for smallholders has to be developed. The hopes of neo-liberal economists that the structural adjustment programmes would create an enabling environment for private investment in rural banking, crop insurance, and microcredit financing have been completely dashed (World Bank 1994). More effective credit financing institutions need to be developed and supported. Policy reforms in land tenure, the legal system, local governance and freedom of association for cooperatives and farmers' groups are already largely in place. What is needed is an assurance to private investors that agriculture in Tanzania is a viable economic venture. The state is expected to offer such an assurance by clearly defining a viable National Agricultural Policy and being seen to commit itself to its implementation, especially by sufficient budgeting for improvements in infrastructure, education, research, extension services, input supply and marketing.

Lastly, microcredit finance development should be joined to the development of democratic farmers' cooperatives so farmers can organise the sale of their crops and generally receive their agricultural requirements in time and at a reasonable cost. The existing cooperatives in Tanzania are still suffering from the hangover of one-party socio-political centralisation. They are as such ill-suited to spearhead the emancipatory agricultural evolution demanded by the current situation in Tanzania.

Non-Agricultural Economic Activities

The commoditisation of items produced from non-agricultural economic activities seems to be taking place commensurate with the general commercialisation of rural life in both sample villages. It has been noted that presently these activities are engaged in specifically to produce an income to cover living costs and satisfy family needs not satisfied by agriculture alone. The reductionist school of thought would argue that this is a welcome development, as the process has not only a net beneficial impact on agriculture at the household level, but also provides venues for occupational diversification and specialisation.

Evidence from this study does not, however, support these assumptions. This case study shows that the profits made from the present non-agricultural economic activities are too small to alleviate to any degree the capital constraints facing rural enterprises. From the Igosi data it is obvious that, despite an increased commoditisation of items produced from non-agricultural economic activities, these activities continue to depend mostly on profits made from rice cultivation on the Usangu Plains. Only labour migration tends to be independent of agriculture. But even then remittances from migrant labour are small due to the migrants' low educational levels.

It is clear, therefore, that the development of microcredit financing and the establishment of sectoral policies which concentrate more on the provision of infrastructural services to agriculture rather than on regulating non-agricultural economic activities in the rural areas are imperative if these activities are expected to become agents of positive change and general rural development. Furthermore, there is a need for sound and sustainable social development policies which positively affect rural people's ability to develop human capital. There is need in this respect for more spending on basic education and non-formal education, with a special emphasis on women. There is also need to promote and strengthen non-government institutions that provide educational development in rural areas.

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Appendix

Field Methodology

The fieldwork for this report was carried out in two phases in two villages in Njombe District, Iringa Region. Phase I fieldwork was done between September and October 1995 when approximately two weeks each were spent interviewing in the villages of Igosi and Mtwango-Lunguya respectively. Five research assistants with a good local knowledge of the study area were employed for the interviewing. Two were seasoned teachers, one was a long-time librarian from the local library, and two were first-year university students on leave. The enumerators were given a two-day training seminar on the aims of the study, the structure of the questionnaire and the mode of interviewing.

The fieldwork for Phase II was done between February and March 1997. The interviewing in the each of the two villages took one and a half weeks and, because of the in-depth nature of this phase of the study, much of the interviewing was done by the chief researcher with the help of two university student assistants.

Methodology

Sampling Procedure

The sampling of households to be interviewed in Phase I of this study was stratified by the *vitongoji* (sub-villages) of each village. The households were selected by using the ten-cell roster of each chairperson of a *kitongoji* (sub-village) as the sampling frame.[22] Neither village government had a prepared ten-cell roster so new lists had to be constructed before the sampling procedure could begin. Every second ten-cell in the roster was then randomly selected for interview visits. Where the list was too small to allow for random sampling all the listed ten-cells were earmarked to be visited. After sampling, all the selected ten-cells were then visited and the households interviewed.

In Igosi 12 ten-cells of the *vitongoji* of Ikufwa, Mlimani, Ndulamo and Ng'ange were visited and the present members of households interviewed. A total number of 446 interviews were held in the village, 22 per cent of them coming from Ikufwa, 30 per cent from Mlimani, 22 per cent from Ndulamo and 26 per cent coming from Ng'ange. In Mtwango-Lunguya an average of 10 ten-cells in the 6 *vitongoji* of Lunguya, Magangasenga, Matanana, Mtoninganga, Sokoni and Sovi were visited and members of each household interviewed. A total number of 721 interviews were conducted in this village. Of these, 23 per cent came from Lunguya, 5 per cent from Magangasenga, 7 per cent from Matanana, 16 per cent from Mtoninganga, 24 per cent from Sokoni and 24 per cent from Sovi.

[22] The ten-cell is the smallest administrative unit in rural areas in Tanzania. It usually comprises about 10 households. Many village governments keep lists or rosters of the names of heads of these cells. They are in this respect useful sampling frames for rural research.

In Phase II a total of 32 male and 32 female individuals were selected from the Phase I sample for interviewing in the two villages. The selection was based on four age groups as determined by years of marriage, i.e. those married between 1930-35, 1950-59, 1970-79, and 1990-95. At the end of the day, however, 63 people could be interviewed as follows: 8 in the 1930-39 group, 24 in the 1950-59 group, 16 in the 1970-79 group, and another 16 in the 1990-95 group. Sadly. one selected male interviewee from Mtwango-Lunguya in the 1950-59 group broke down mentally soon after we interviewed him in Phase I, and was not available for interviewing during Phase II.

Interviews

In Phase I, a questionnaire with 69 questions was administered to members of the selected households. Of the members interviewed in Igosi during that phase, 36 per cent were males while 64 per cent were females distributed as follows: 51 per cent were heads of households, 34 per cent were wives of heads of households, and 12 per cent were grown-up sons or daughters living in the selected households. The remaining 3 per cent were people such as grandfather/mothers, siblings etc., resident in the households interviewed. In Mtwango-Lunguya 34 per cent were men while 66 per cent were women. Here the interviewees were distributed as follows: 49 per cent were heads of households, 38 per cent were wives of heads of households, and 8 per cent were grown-up children living in the households. The remaining 5 per cent were relatives living in the respondent households.

The respondents were further distributed in age groups as illustrated in Table 1. The questions asked dealt with, among other things, migration patterns, types of food and cash crops grown, livestock owned, non-agricultural economic activities carried out in the past and those being currently carried out. Other variables included marriage patterns, the number of live children born, their educational standards, and their past and present economic activities.

Percentage Distribution of Age Groups Interviewed in Igosi and Mtwango-Lunguya Villages

Age Group	Igosi	Mtwango-Lunguya
16 - 25	18	28
26 - 35	33	29
36 - 45	22	19
46 - 55	13	12
56 - 65	10	8
>66	4	4
Total	100	100

Source: Phase I survey data

Household interviews took place every day except for Sundays. Other field activities included structured interviews administered by the chief researcher to local entrepreneurs and Standard 6 students from the local schools in each village. Data from the entrepreneur interviews were expected to give a picture of the nature of these enterprises and the changing patterns of involvement by the local population into non-agricultural economic activities as a result of social change. Data from the Standard 6 students are intended to show the changing patterns of preferred economic activities of the youth. Unstructured and often impromptu interviews and discussions were also carried out among women, men and youth groups.

In Phase II a questionnaire with 33 questions was administered to the selected members of each age group detailing changing patterns of brideprice, land tenure, and basic needs. The changing patterns were at the same time recorded on an accompanying graph to illustrate the changing trends in living standards. Furthermore, the individual respondents were asked to explain the reason(s) and/or cause(s) for the change, and how they had reacted to the change. Other questions were asked on the agriculture/non-agriculture split and occupational identity. Again unstructured and often impromptu interviews and/or discussions were carried out with selected key informants and recorded on tape.

Data Analysis

Data from Phase I fieldwork were analysed into frequency and cross-tabulations using the *Observer 2.50* statistical programme. Data from Phase II fieldwork were analysed manually and compared with the results of Phase I. Further, households in the sample villages were sorted into three different wealth groups. The ranking criteria in both villages were comparable and based on ownership and control of labour, land and livestock. Ideally a rich, middle, or poor household would have been defined by the villagers themselves. However since the design of this study did not include questions related to this. Ranking was done from estimates provided by the key informants and through Phase I data grouping.

A rich household was in this respect defined as one which owned and had intra-village and extra-village entitlements or a combination of these and other assets. This wealth group is small in both villages, comprising about 10 and 12 per cent of all households in Igosi and Mtwango-Lunguya respectively. The majority are better-off farmers with considerable entitlements to labour (through extended families, polygyny or hiring), land and livestock. Below them are the less successful farmers. They have medium-sized households, medium-sized farm plots and modest numbers of livestock. These belong to a middle group which comprises about 50 and 45 per cent of all households in Igosi and Mtwango-Lunguya respectively. Below these two groups is a third, less endowed group which comprises 40 and 43 per cent of the households in the study villages respectively. These have very small amounts of land, the smallest household sizes, and no livestock.

Methodological Limitations and Data Quality

The problems encountered during Phase I fieldwork were more logistic than methodological. Logistically, for example, expectations of interviewing every inhabitant in a household visited were not always realised. Experiences from earlier studies in the study villages seemed to have been the reason behind this problem. The earlier studies appear to have restricted their interviews only to heads of households. Despite insisting that we wanted to talk to every member of the household aged 16 years and above in a selected ten-cell, more often than not only heads of households or their representatives and one or two other persons (often elderly females) were present. The rest had gone about their normal routine. This problem was especially acute in Igosi where it affected the aggregate number of interviews made. Only 446 interviews could be made against the expected 800. The problem also generally biased the sample towards heads of households and senior female members.

Moreover, hopes of interviewing at least one ten-cell each single day were dashed several times during the fieldwork. Political campaigning for presidential and parliamentary elections that were taking place simultaneously, incidences of illness and sometimes death interfered quite frequently with the fieldwork plans. In Igosi, for example, politicking prevented interviewing for a whole day, while in Mtwango-Lunguya two days of interviewing were lost due to politicking and a death. This problem also affected the final number of interviews that could be made and hence also the representative nature of the data.

The quality of data was further affected by the responses to questions about livestock. Household data on livestock were more often than not understated or not stated at all. This was especially the case among households who had loaned their animals to other people to keep under the *mafisa* system.[23] The enumerators had to spend extra time and effort trying to divulge such information, for example by counter-checking with other people or the accompanying ten-cell leaders. In Igosi a seminar on an animal inoculation programme had just been completed. At the end of the seminar, livestock owners were told that a census of all livestock would be conducted to ascertain the actual needs for the programme in terms of medicine and other requirements. The local people mistook the census proposal to be a government ruse to institute some control and taxation on livestock keepers. The situation in Mtwango-Lunguya was affected by a long history of bad relations with the state. Despite the efforts at triangulation, therefore, livestock data from the two villages must be interpreted with caution.

The problems in Phase II mainly resulted from the complexity of the questionnaire. A lot of time was needed to accustom the respondents to the questionnaire. As this phase of the study took place during the weeding time in the agricultural season some respondents did not have time to spare and found the exercise tedious. In the end, however, many respondents found the

[23] This is a system whereby livestock-owning households tend to distribute their animals far and wide to relatives and friends to spread the risk of drought and disease and/or build wider relations of cooperation.

graphs very enlightening indeed, as they 'charted out one's socio-economic performance through life'.