"Do all peasant farmers look alike? The socio-economic context for community wildlife management around the Selous Game Reserve."

1. <u>INTRODUCTION</u>

Since the early 1980's the philosophy and practice of conservation has shifted away from protectionist or "fortress" strategies towards more holistic, people-oriented approaches. Community-based conservation (CBC) is briefly defined as conservation - in the sense of sustainable resource use - for and by the people who depend on the natural resources in question (Western and Wright 1994). The approach is based on the principle that people will only seek to manage natural resources when they perceive that the benefits of doing so exceed the costs (Murphree 1991), and that therefore development - in terms of meeting the needs of local people - is a vital component of effective conservation. The rapid proliferation of CBC initiatives over the past decade is a testimony to the intuitive appeal of this ideology.

CBC aims to achieve sustainable patterns of natural resource use by collective action for the common good of resource users (Cousins 1993). The concept of the 'community' as a working social unit is therefore of central importance for the implementation of the approach. However in practice projects which seek community involvement in natural resource management often give little explicit consideration to the definition of the target 'community' (IIED 1994). This paper discusses the problems of defining the 'community' with reference to economic and social structural divisions within villages participating in a community wildlife management programme to the north of the Selous Game Reserve. The data presented in the paper were collected by a questionnaire survey during a fifteen month study on patterns of natural resource use by local people and human-wildlife conflicts in those villages.

The paper is structured in seven parts beginning with descriptions of the study site and methodology in Sections 2 and 3. In Section 4 data from a questionnaire survey are used to outline the ethnic composition of the study villages as influenced by a long period of inmigration. Section 5 presents the main body of quantitative data from the survey; these data are used in describing the economy of the study area and analysing patterns of wealth distribution to show the extent and scale of economic differentiation in the study villages. A qualitative discussion of standards of education and welfare in the study villages - further dimensions of community structure - follows in Section 6 based on data from semi-structured interviews, observations and household visits. Based on this exploration of the

economic, social and cultural characteristics of the study villages the paper suggests that these so-called communities are heterogeneous and highly stratified, comprising groups of people with potentially very different needs and interests. Some of the implications of this finding for the implementation of CBC projects are discussed in the final part of the paper (Section 7).

2.0 THE RESEARCH CONTEXT

2.1 Biophysical characteristics of the area.

The Mgeta River Buffer Zone (MRBZ) covers 1,690 km^2 adjacent to the northern boundary of the Selous Game Reserve in Morogoro (rural) District, eastern Tanzania (Map 1). The area covers three divisions - Bwakira Chini, Mvuha and Ngerengere - which include twenty villages. The lands of almost all of these village have directly shared boundaries with the Selous Game Reserve. The human population of the area is 47,000, most of whom are concentrated in a linear settlement pattern along the District road to Morogoro (via Matombo).

Topographically the MRBZ area consists mainly of low-lying floodplain. The foothills of the Uluguru mountains, which lie to the north, extend into the area creating some upland areas of 120 to 500m. The area falls within the intermediate tropical climate zone, and as such is influenced by two rainfall cycles per year with a long rainy season from March to May and shorter rains around November/ December. Average annual rainfall ranges from 600 to 1200mm, and surface water is plentiful in the area due to the presence of the Ruvu, Mgeta and Dete rivers as major, year-round water courses.

MRBZ borders onto three protected areas: Mikumi National Park to the west, the Selous Game Reserve to the south and south-east, and Mkulazi Forest Reserve to the north-east. Despite the area's moderate human population density (28 persons per km^2), a large proportion of the land area (ca. 60%) still remains under natural vegetation cover (Kisaki-Mvuha Bufferzone Communal Wildlife Management report: Ardhi Institute 1991). The natural vegetation type of the area is generally categorised as deciduous miombo woodland, but incorporates areas of riverine forest, woodland, wooded grasslands, bushland and swamp. A variety of wildlife species are abundant in the area; the Gonabisi floodplain between the Ruvu and Mgeta rivers is particularly rich in this respect.

Of the natural habitat some 40% (710 km^2) was designated as the community Wildlife Management Areas during the village land-use planning exercise. The most widespread land use in MRBZ is for small-scale, rain-fed agriculture under a system of shifting cultivation. Use of the drier upland areas of MRBZ by local farmers is limited; most

cultivation is concentrated on the more fertile, black clay soils of the river valleys, which in some cases can support year-round cropping. Although there is no tradition of livestock husbandry by the original inhabitants of MRBZ, grazing is an increasingly important land use in MRBZ due to the recent inmigration of Maasai in increasing numbers.

2.2 <u>The Selous Conservation Programme community wildlife management initiative.</u>
The community wildlife management component of the Selous Conservation Programme (SCP) has been a pilot initiative for the community based conservation approach in Tanzania. The first SCP community wildlife manangement project began in 1989 for the sixteen villages of Kisaki, Mngazi, Bwakira and Mvuha wards along the northern border of the game reserve (Morogoro district). This area had previously been recognised as a 'hotspot' of poaching (Krischke et al 1994). A further four villages from the adjacent Serembala ward subsequently also became involved and the whole area is now know as the Mgeta River Buffer Zone (see Map 2).

At the village level the SCP community wildlife management programme has involved:
- Preparation of land use plans and demarcation of wildlife management areas (WMAs) on village lands;
- Selection of Village Scouts by each participant village to patrol WMAs;
- Allocation and hunting of yearly wildlife quotas for meat;
- Selection of village natural resource committees responsible for quota meat distribution, management of revenue and organisation of Village Scout patrols; and
- Community projects (e.g. building schools, dispensaries) carried out by the villages in collaboration with the District Administration and SCP.

The village authorities receive support, advice and supervision in these activities from the Community Wildlife Management Officer, a member of Wildlife Division staff. Further details on the development and implementation of this SCP model of community wildlife management can be found in selected earlier papers in this series (SCP Discussion Papers).

3. METHODOLOGY

3.1 The Questionnaire Survey

The target area for the questionnaire survey was the western/ lower half of MRBZ: the division of Bwakira Chini which extends from Duthumi to Kisaki station (see Map 2). Following a period of pilot work the main survey was conducted from August to October 1995 in four of the area's eleven villages (Mbwade, Dakawa, Milengwelengwe and Gomero).

The household, as defined by the 1988 national census on the basis of "arrangements made by persons, individually or in groups, for providing themselves with food and other essentials for living ... a group of persons who live together and share expenses" (URT 1988, p. 133), was used as the sampling unit for the survey. The survey sample was randomly selected from village household lists, which had been compiled with the help of the village executive officers and ten-cell leaders[1] specifically for that purpose. For each village further interviews were carried out with purposively selected representatives of the village government institutions involved in the implementation of the community wildlife management project (CWMP): the village chairman, the village executive secretary and the secretary of the Village Wildlife Committee. In total 202 interviews were carried out, representing a sampling fraction for each community of between 7-15%. In each household one respondent was interviewed; that person being, for as many cases as possible, the main decision-maker or head of the household in question (81% of the sample).

The questionnaires were in Swahili, the Tanzanian national language, and consisted of thirty-five questions in a combination of fixed and open-ended formats (Sudman & Bradburn 1982) in five sections:

Section I	Respondent & Household information
Section II	Attitudes to wildlife and conservation issues
Section III	Knowledge of and support for the CWMP
Section IV	Socio-economic information
Section V	Agriculture and Livestock-keeping.

Data from Sections I, IV and V are used for the analyses presented in this paper.

3.2 Data analysis

Possessions scores were calculated for each of the households sampled as an index of 'wealth' or material well-being; a technique that has been effectively used in socio-economic studies of other rural Tanzanian communities (Sender & Smith 1990). The

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[1]Ten-cell leaders are the people in charge of the registered groupings of 10 to 30 households that were originally established as the subunits of local government under CCM.

items used in the calculation of the possessions score (see Table 1) included manufactured household consumer goods, structural characteristics of the house and the household's livestock holdings. The possessions scores were calculated from points assigned for each item owned by the household in approximate proportion to the items cash value as specified in Table 1. A system of wealth categories was then constructed based on the distribution of the possessions scores.

*Table 1 Items included in the calculation of the possessions score*

	Item	*Value*	*Points*
House structural features	Metal roof	Major	3
	Non-mud walls	Major	3
	Cement floor	Major	3
Livestock holdings	Cows, > 3 smallstock or > 40 chickens	Major	3
	1 to 3 smallstock, >5 to 40 chickens	Medium	2
	Up to five chickens	Minor	1
Household manufactured	Bicycle	Medium	2
goods	Radio	Medium	2
	Kerosene lamp	Minor	1
	Kerosene or charcoal stove	Minor	1
	Torch	Minor	1
	Watch	Minor	1

A variety of exploratory analyses were carried out to examine patterns of differentiation in terms of the economic and social characteristics of the sample. In a few instances qualitative data collected by less formal methods such as semi-structured interviews are used to provide context and support for the interpretations of the survey data, particularly where statistical analyses were not appropriate due to small sample sizes.

4.0 COMMUNITY COMPOSITION

The original indigenous people for the MRBZ area were the Wakutu, a tribe with close ethnic affinities to the WaLuguru of the adjacent Uluguru mountains. The area itself was known up to and during the British colonial era as Ukutu, meaning 'land of the Kutu'. Today however, the WaKutu constitute a relatively small minority (15.8% of the survey sample) of the MRBZ human population, which overall is very mixed in terms of ethnic composition. The survey data show at least twenty different tribal groups represented in the MRBZ population: the WaKutu and WaLuguru together form roughly 50% of the population, with the remaining significant minorities being the WaZaramo and WaNdengereko from Rufiji District to the east, and the WaNgoni, WaPogoro and WaNgindo from the south (Fig 1).

Figure 1: Ethnic composition of the MRBZ survey sample (N = 202).
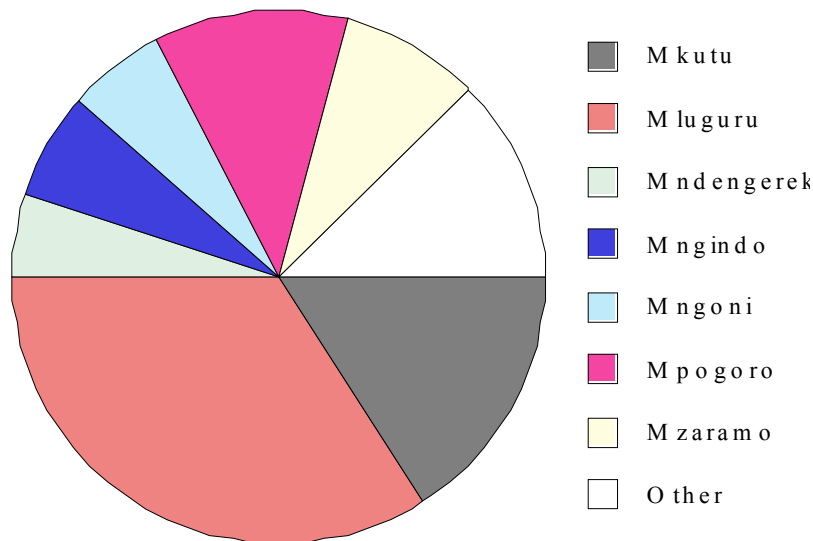
The ethnic heterogeneity of the people of MRBZ reflects a history of inmigration, dating back to the 19th century, when the WaNgoni wars (ca.1840) caused displacements of people from the southern parts of the country, and the central caravan route passed through the area (Kjekhus 1977). In the early part of this century major population shifts affecting the the MRBZ area were the northward movement of the WaPogoro from Ulanga district away from the disturbances of the Maji Maji rebellion and subsequent German reprisals (1905 to 1907); and the movement of the WaNgindo up from the southern province (Lindi and Liwale districts) following the famine and sleeping sickness outbreaks of the 1920s in that region. Several of the survey respondents spoke of their personal experience of these historical events.

Overall the survey data suggest that the rate of in-migration remained relatively low and constant until 1940, but subsequently underwent a considerable increase (Fig. 2).

Figure 2. The rate of inmigration to MRBZ over time (N = 202).
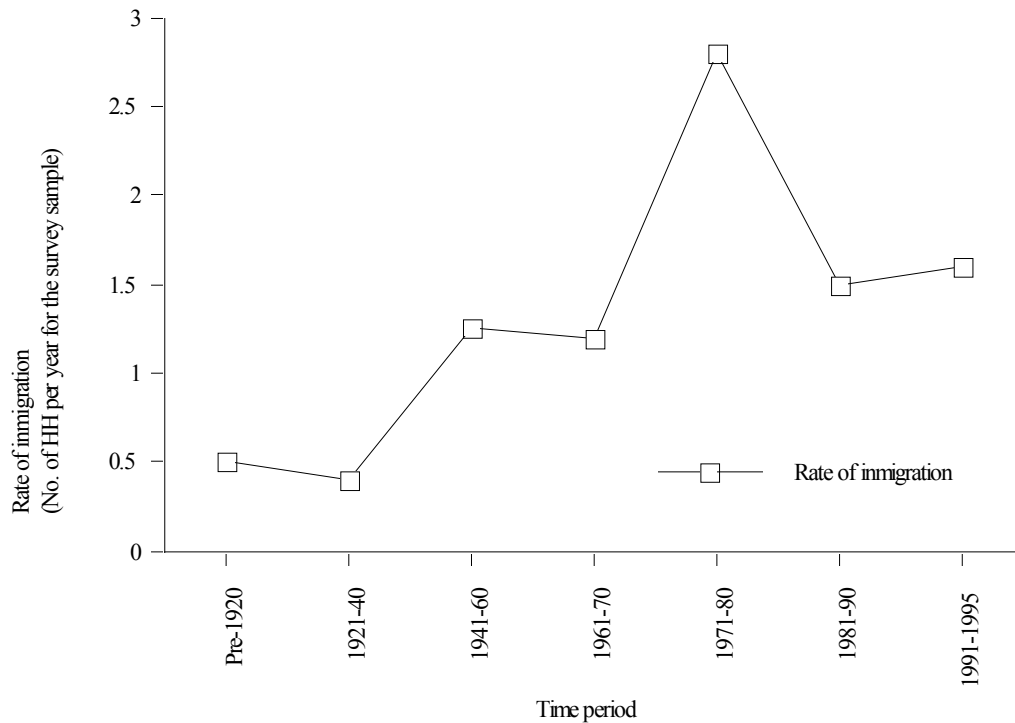
Events and processes which contributed to the marked increase in inmigration shown on the graph for the period 1941 to 1960 were i) the eviction of people from the Madaba and other settlements within the Selous Game Reserve in 1945; and ii) the increased labour demand for the expanding commercial (settler) farming schemes for cotton and other crops in the Mgeta valley. There was no further change in the demography of the area until the collectivisation and villagisation policies of the early 1970s (Ujamaa) which caused the peak rate of inmigration shown on the graph for the decade 1971-80. The enforcement of the Ujamaa policies stopped in the mid-70s, after which inmigration process continued at a greatly reduced rate in the following decade (the 1980s). The last data point on the line graph suggests that in recent years (1991-95) the rate of inmigration may be gradually increasing again - perhaps in response to the introduction of a new potential cash crop. My observations in the field and numerous casual conversations with villagers, in which they reported that people had moved to the area in 1994/95 to farm sesame, support this interpretation.

This pattern of inmigration has clearly been a strong influence on the composition of the MRBZ population. One hundred and fourteen survey respondents (56.4% of the total

sample) said that their family were not original inhabitants of the area (i.e. had moved in since their grandparents' generation), and of these households, fifty-one (48% of inmigrants) had moved in since 1971. Thus it would appear that in-migrants, many of whom have a relatively short history of living in the area, form the bulk of the ethnically heterogeneous MRBZ population. The possible implications of this population composition for local natural resource management strategies are considered in the discussion at the end of this paper.

5.0 THE MRBZ ECONOMIC CONTEXT

5.1 <u>Livelihood strategies and Sources of Income</u>

With the exception of the recently-arrived WaMaasai, the people of MRBZ are predominantly agriculturalists, and all of the households surveyed reported farming at least one plot. The agricultural production system in MRBZ is based on shifting cultivation using mainly traditional, and thus labour-intensive, methods and technology. Few inputs are used in the process, as only a minority of the wealthier farmers can afford the costs of tractor hire; similarly chemical pesticides or fertilisers are both expensive and difficult to obtain.

The cropping cycle follows the rainfall pattern for the area with the main growing season for both upland and lowland crops covering the period from late February/early March to July/August. This is followed by a second planting of upland maize in October timed to coincide with the short rains of November/ December (Swahili: *vuli*) which is then harvested in late January. In recent years the increasing variability in the timing and amount of the short rains for the area has caused reduced *vuli* crop yields and a concomitant extension and intensification of the December/January hungry season.

The principle food crops grown in the area are rice (24.3 % of all crops), maize (26.7 %) and sorghum (10.0 %), although these days the latter crop is used mainly for the brewing of local beer rather than as food *per se*. There are a few farmers who trade in rice, maize and sorghum staple crops on a commercial scale for the Morogoro market, but the majority of the MRBZ inhabitants sell any surpluses of these food crops locally in the villages. A variety of other vegetable and tree crops are also grown for mixed purposes of subsistence and trade. Tree crops such as coconuts and bananas are particularly valued on account of their potential as perennial sources of supplementary income benefits.

Cotton used to be the cash crop for the area, but this ended with the failure of the state-run cotton growers cooperative in 1989 with debts outstanding to many local farmers. From 1994 onwards farmers in MRBZ started growing sesame as a potential cash crop. However the farmers are dependent on selling what sesame they produce to outside private buyers who come to the villages, and so at times have been adversely effected by fluctuations in the prices offered. There is, as yet, no cash crop to replace cotton as a reliable source of income in MRBZ.

Few alternatives to farming as a livelihood strategy are open to the people of MRBZ. The area has no tradition of livestock-keeping (Oral History data this study; Young & Fosbrooke 1960) and even today very few of the households sampled (3.5%) reported keeping any livestock other than chickens. The proportion of respondents involved in off-farm salaried

employment was also negligeable (3.5%) and was essentially limited to those people employed as teachers, health workers or under the local government administration. While many villagers are involved in other economic activities as artisans (building or carpentry), petty traders and casual labourers, these are usually pursued as secondary occupations. The numbers of households engaged in the different economic activities and the relative importance of these activities in terms of income produced as assessed by a ranking process are shown in Figure 3.

Figure 3. Sources of household income and their relative economic importance (Sample N = 202 households).
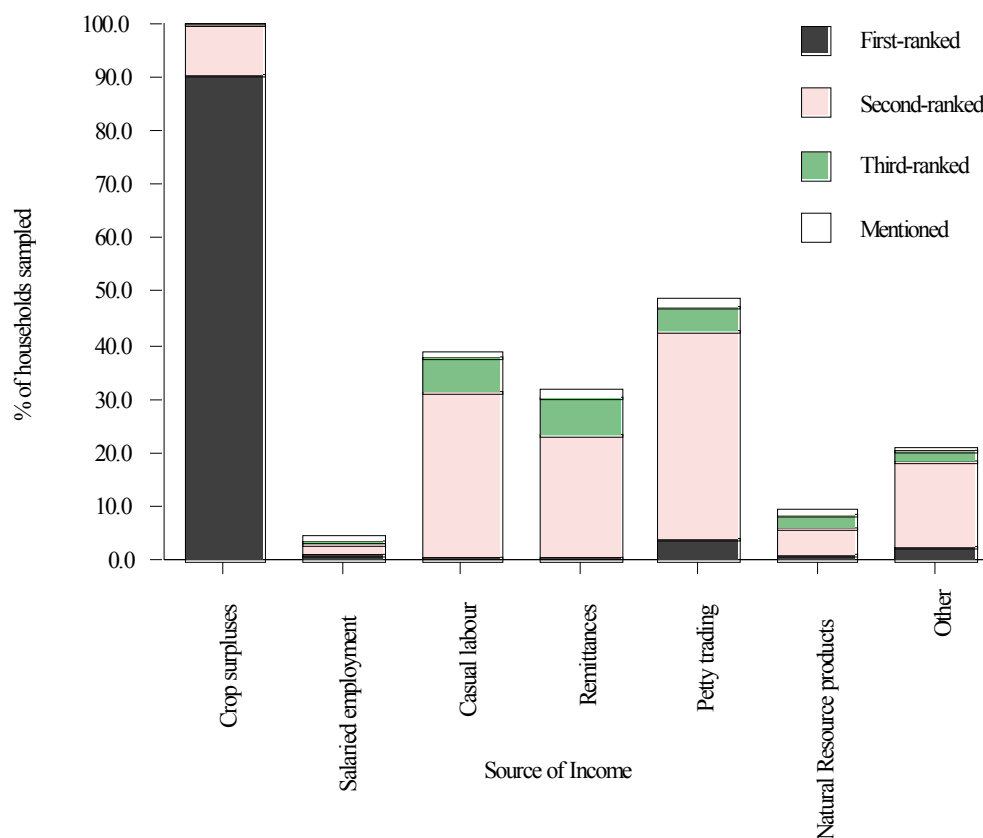
Overall the data show that the MRBZ communities are homogeneous in terms of livelihood strategies, consisting almost exclusively of small-scale farmers, who are dependent on agricultural production for both their daily subsistence and as a source of cash income.

5.2 Differentiation in the distribution of wealth in MRBZ.

The distribution of the possessions score index for households in the MRBZ sample is shown in Figure 4. The majority of households (102; 51% of the sample) scored 0 to 4 points, and 24 households (12%) did not own any of the possessions score component items at all. At the opposite end of the continuum, where the maximum score observed for the sample was 27,

only nine households (3%) scored 20 points or higher. Clearly for many households standards of material well-being are low, and overall the distribution of wealth in MRBZ is very uneven, with a strong skew towards the lower, i.e. poorer, scores.

Figure 4. Percentage frequency distribution for MRBZ households by possessions score (Sample N = 199).
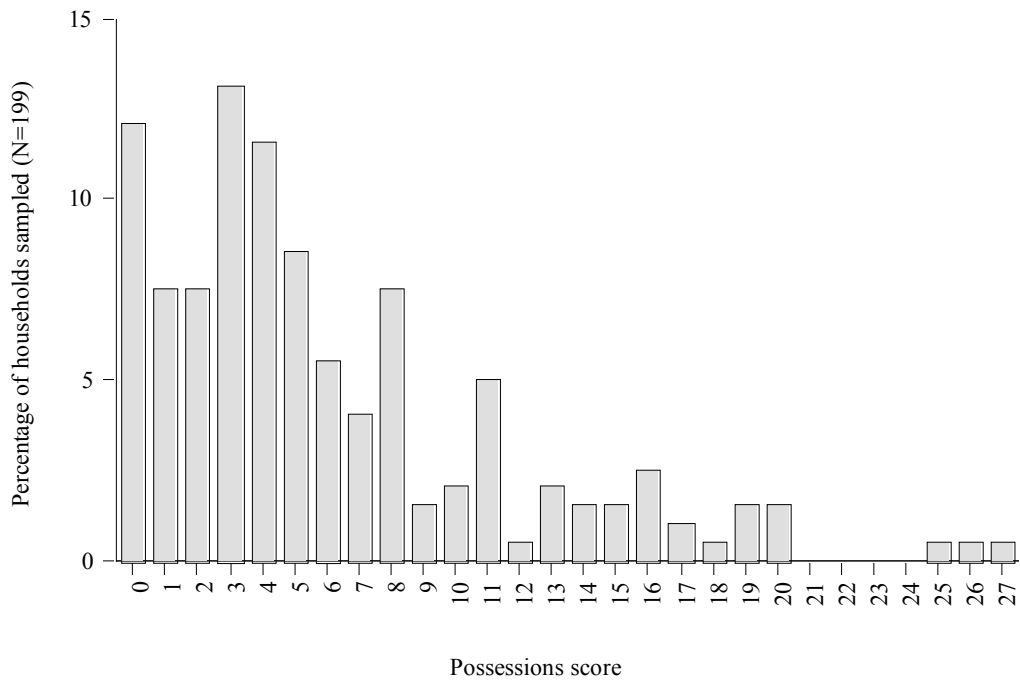

Possessions score

Table 2 on the following page summarises the possessions scores into four wealth categories based on the 25, 25 to 75, 75 and 95 percentiles of the distribution.

Table 2. Distribution of households by wealth category (i.e.possessions score groups).

P-score	Wealth category	Percentile	No. of households
0, 1, 2	1	< 25	54
3-8	2	25-74	100
9-18	3	75-95	36
19-27	4	> 95	9
Total			199

5.3 The foundations of differentiation: Land and labour.

Given that the economy of MRBZ is largely based on agricultural production, access to land, the means of production, was expected to be an important factor determining household wealth. Data on the number, size and cropping pattern of all plots cultivated by

members of the household were used to calculate the total area farmed per household. Household possession score was positively related to the mean area under cultivation (Spearman's r_s=0.484, N=195, p < .001). Differences between the wealth categories in terms of the mean area cultivated per household are summarised in Table 3.

Table 3 . Wealth categories and the mean area farmed per household.

P-score	Wealth category	Mean area (hectares)	Standard Deviation	No. of households
0, 1, 2	1	1.45	0.96	52
3-8	2	2.22	1.26	99
9-18	3	3.12	1.60	34
19-27	4	4.60	2.18	10

What are the factors underlying this distribution of landholdings? In MRBZ there has been little development of a market for land as farme plots are allocated to the inhabitants of the area by the village government and land availability is not limiting. However as most people do not have access to the technological inputs for cultivation, or the capital required to hire such inputs, the availability of labour is probably a key factor determining the area cultivated per household. Analysis of the pattern of labour relations observed for the sample (see Table 4 below) provides some evidence to support this hypothesis.

Table 4 Wealth categories and the hire and sale of labour for cultivation.

P-score	Wealth category	No. of households	N. households *hiring* labour*	N. households *selling* labour
0, 1, 2	1	52	7 (13.5%)	9 (16.7%)
3-8	2	99	24 (24.0%)	30 (30.3%)
9-18	3	34	21 (60.0%)	6 (17.1%)
19-27	4	10	9 (90.0%)	1 (10.0%)

* Percentage figures are expressed as proportion of households in that wealth category.

Wealthier households are more likely to use hired labour on their farms; all but five households out of 28 with possession scores of 12 and higher reported hiring labour (82%), in contrast with only seven out of 54 households with possession scores of 0 to 2 (13%). The differences between wealth categories in the proportions using hired labour are statistically significant ($\chi^2 = 39.83$, 3 df, p < 0.001; see Table 4 summary). There is also some evidence that the converse relationship with poorer households being more likely to sell labour may also apply. For example, of the 46 households surveyed that reported selling their labour for cash income only three had possessions scores of 12 or

higher. Overall however this pattern was not statistically significant, due to the influence of factors other than wealth, such as the demographic characteristics of the household, in determining a household's capacity to sell labour.

Studies in Tanzania and other rural African contexts have frequently found that differences between socio-economic groups in terms of internal household structures, which relate to patterns of land and resource use (Evers 1994, Sender & Smith 1991, Dewees 1995). Similarly, in the present study comparisons between wealth categories found significant differences in overall household size and the number of adults living in the household. There is a positive relationship between the number of adults in the household and the possession score (Spearmans $r_s = 0.252$, p < .001), as well as between the number of adults and the total acreage operated (Spearmans $r_s = 0.418$, N = 197, p < .001). Households in categories 3 and 4, the wealthier 25% of the sample, tend to be larger overall (χ^2 19.04 for 199 cases, p < .0001); and also tend to have more resident adults ($\chi^2 = 11.93$ for 199 cases, p = .008).

It remains to briefly consider the causality or underlying mechanism for these relationships and the inequalities they represent. From the ideas associated with Chayanov one possible explanationis that the size/age structure of households determines patterns of land distribution (Chayanov as cited in Sender and Smith 1990). The basis of the Chayanovian theory is that a household containing more workers (adults) would be able and willing to cultivate a larger area than a household with fewer. From this it follows that while the total area cultivated per household will vary, the area cultivated per worker or per household member should remain roughly constant.

Household landholdings for the MRBZ sample ranged in size from 0.15 ha to 8.80 ha, with a maximum of ten adults or workers for a single household. On the following page Figure 5 shows the mean area cultivated per adult (per worker) and per household member (per consumer) for the four wealth categories. Wealthier households cultivate significantly more land per adult (χ^2 20.05 for 195 cases, p < .001). For example, in wealth category one (possession scores 0, 1 and 2) the average land area operated per adult is 0.67 ha, whereas the wealthiest households (category 4, possession scores 19 to 27) operate 1.47 ha per adult - over twice as much land. However there is little variation between wealth categories with regard to the areas cultivated per consumer (χ^2 7.49 for 195 cases, NS).

Overall therefore the results of this study support the Chayanovian interpretation, in that bigger households cultivate more land with a constant area under cultivation per

household member. The observed differences between wealth categories in the area cultivated <u>per adult worker</u> are due to the increased use of hired labour in wealthier households and so do not contradict the Chayanovian argument.

Figure 5. Differences by wealth category in the mean acreage cultivated per adult / worker and per household member /consumer)(N households = 195).
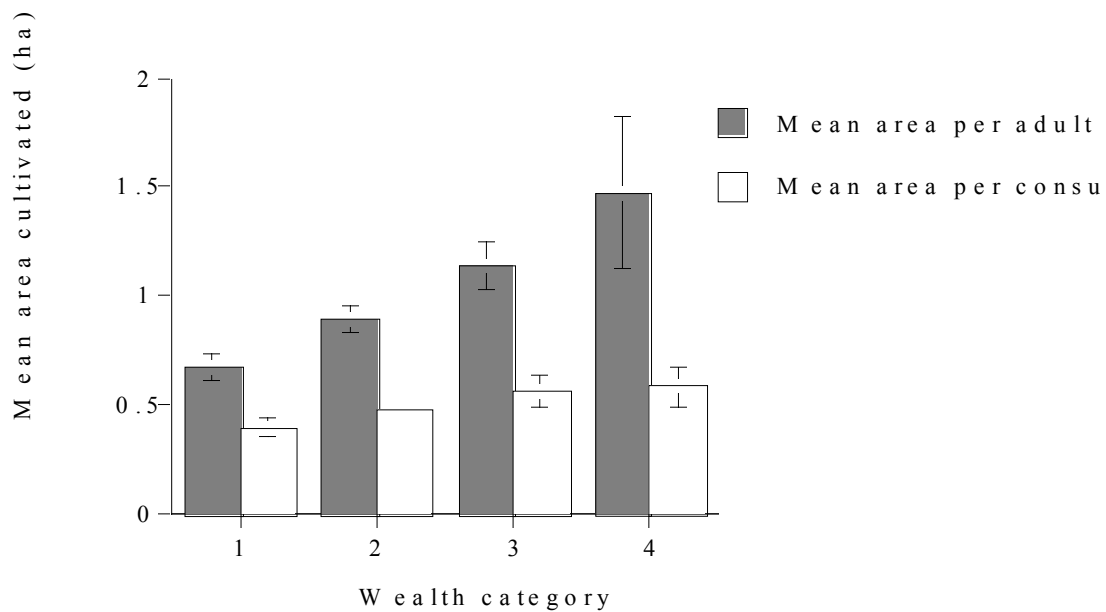
5.4 <u>Production for subsistence: the Hungry season</u>

Differences between households in terms of land acreage and labour supply are often reflected in differences in land use and productivity/ levels of production (see for example Dewees 1995, Sender and Smith 1991). The questionnaire did not attempt to quantify differences between households in terms of subsistence production. However, numerous respondents reported that seasonal food shortage is an important problem of agricultural production in MRBZ. The hungry season is an accepted phenomenon for the inhabitants of the area; this was also evident from the results of seasonality diagramming exercises, and from follow-up discussions on health and development issues for a sub-sample of households covered in the survey. This period of stress, known locally by the Swahili word for hunger *'njaa'*, occurs as the food stored from the previous harvest begins to run low before the crops planted during the short rains are ready for harvest - the months from November onwards to March.

Although climatic factors play a role in determining the duration and intensity of the hungry season, there is much variation in the extent to which it is felt at the level of the household economy. For some of the poorer households the hungry season is literally that, a time of

critically short food supplies. In village wealth ranking exercises one of the main criteria for distinguishing poor households was that they are the ones who do not have food security. The usual coping strategy for households under those conditions is to look for casual labour in exchange for either food or cash to buy food. Such labour is readily available as the most intense period of hunder coincides with the peak labour demands for the preparation and planting of the fields before the long rains. For wealthier households the hungry season can be merely a time of limited income and careful budgeting. Evidence from informal discussions in a sub-sample of households, while unsuitable for statistical analyses due to the small sample size, supports this interpretation of the variable impacts of the hungry season. All the households that reported having suffered a shortfall of food during the hungry season were from the lowest wealth categories.

An important outcome of the problem of seasonal hunger, aside from the direct hardships of hunger and illness that it entails for individual households, is that it reinforces the unequal wealth distribution of the MRBZ communities. Poorer households that rely on off-farm labour for their subsistence during the hungry season, are then often late in the preparation and planting of their own fields, and accordingly get lower yields. By the time of the next hungry season the household food supplies are again critically low, and the cycle is perpetuated.

5.5 <u>Production and crop surplus income</u>.
With regard to agricultural production as a source of cash income the survey data do not show any differences in cropping pattern between the wealth categories; the proportion of the household acreage used for cash and food crops remains broadly constant. The direct, positive correlation between the area under cash crop and the overall size of the landholding (Spearman's r_s= 0.348, $p < .001$), shows that MRBZ farmers increase the acreage under cash crops in proportion to the total size of their cultivated acreage. This finding can be explained as an after-effect of the failure of the cotton cooperative in 1989: from that time until the 1994 season when sesame buyers started coming to the area, the MRBZ farmers had no incentive for any large-scale cultivation of a cash crop. Under those conditions the optimal strategy for larger farmers, in terms of maximal income with minimal risk, was to concentrate on producing food crop surpluses for which both local and distant markets are guaranteed.

Since wealthy households have overall larger acreages, they are more frequently able to produce agricultural surpluses for sale. Survey data on the sale of crops from the 1994 harvest shows that only one of the forty-five households with possession scores of eight points and higher did not sell any agricultural products. Analysis of the sale of crops by

wealth category shows that in 1994 almost all the richer households (Categories 3 and 4) sold crops, while only 57% of the poorest households in Category 1 were able to produce a surplus for sale (Figure 6, $\chi^2 = 20.7$ for 3 df, p < .001).

Cash incomes from the sale of agricultural surpluses reflect these differences between households in the levels of production for the market. The crop surplus income distribution for the sample resembles the strongly skewed distributions of landholdings and possession scores: the majority of households fall within the lower income groups but the minority of wealthy households form a long tail that spreads in the higher income groups. Household crop surplus incomes are positively correlated with possession scores (Spearman's $r_s = .528$ for N = 193, p < .001), and there are clear differences between the wealth categories (Table 5; $\chi^2 = 45.48$, N = 193, p < .001).

Table 5. Mean household income from the sale of crop surpluses by wealth category (i.e.possessions score groups).

P-score	Wealth category (No. of households)	Mean crop surplus income (units = 1000 T.Sh)	Proportion of total income earnt by category
0, 1, 2	1 (n = 53)	19.20	9.7%
3-8	2 (n = 98)	37.43	34.9%
9-18	3 (n = 32)	125.10	38.1%
19-27	4 (n = 10)	178.86	17.0%

Figure 6. Numbers and percentages of households selling crops in 1994 by wealth category.
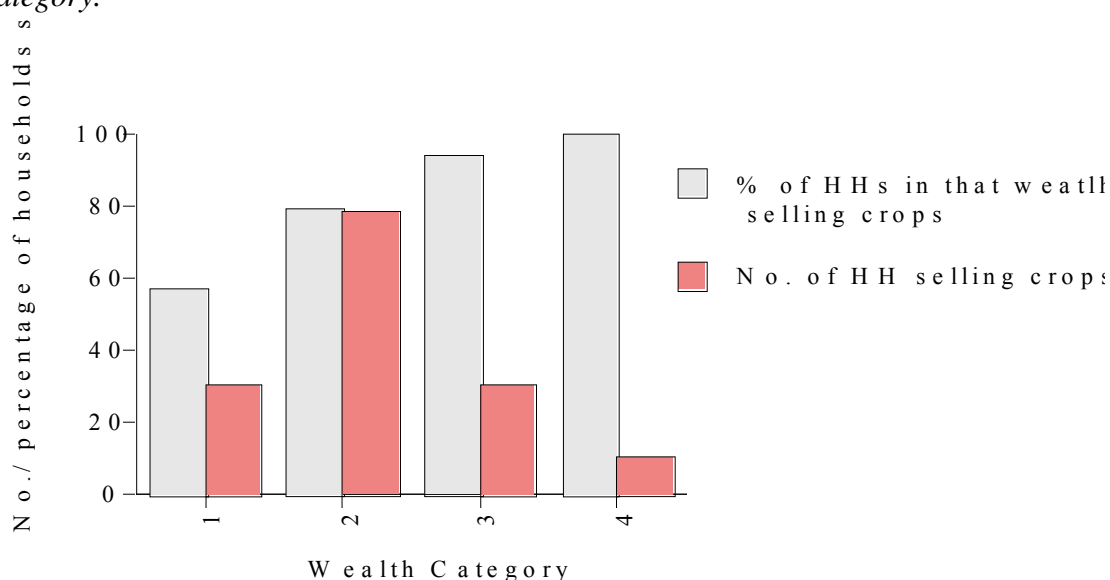
6.0 INSTITUTIONAL AND WELFARE ASPECTS OF DIFFERENTIATION

Differences in social status and access to welfare services can play an important role in reinforcing economic stratification. In the following section study findings which suggest patterns of differentiation in the MRBZ study villages with respect to political status and access to education and health care services are presented.

6.1 Political status: membership of the village council.

The two governing bodies at the village level are the Village Assembly, which consists of all residents of the village over the age of 18, and the Village Council which consists of between 15 to 25 elected members (Sandi 1994). The Village Council is divided into several standing committees with different areas of responsibility such as finance and planning, health and education, self-help projects, security and defence (Source: Village Executive secretary interview, Mbwade village). Although the Village Assembly is the supreme authority on general policy-making, it is the Village Council that carries out decision-making and implementation of the day-to-day affairs and business of a village, and so plays a key role in shaping productivity and development progress. Under circumstances where the village council is not a representative and accountable body, local political processes can reinforce inequalities (e.g. Sender & Smith 1991). Thus consideration of the distribution of political status - as measured by membership of the village council - must be included in a study aiming to understand of village structure and functioning.

In the MRBZ villages the distribution of political status reflects inequalities based on gender and poverty: the members of the village councils are predominantly from wealthier households (χ^2=13.09 for 3 d.f., p = .004; see Table 6 for summary data), and disproportionately more men than women hold such positions of authority (χ^2=9.57 for 3 d.f., p = .002).

Table 6. Possession score groups and political positions held.

P-score	*Wealth category*	*No. of households*	*Households with person holding political position*	*% Households with person holding political position*
0, 1, 2	1	54	5	9.3
3-8	2	100	19	19.0
9-18	3	36	12	34.2
19-27	4	9	5	50.0

6.2 Education

Educational facilities in MRBZ at present are limited. There is a primary school for every area of concentrated settlement, which means that the conglomerate or 'twinned' villages of

Mbwade-Bonye and Mngazi-Vigolegole share one school for both communities. In total, there are nine primary schools for Bwakira Chini division. However in many of these schools the conditions of the buildings are poor, there is a lack of basic equipment such as desks and benches, and the number of teachers and quality of teaching are inadequate. It is usual for maintenance and repairs of the school facilities to be carried out by pupils and parents by a system of compulsory contributions, due to the lack of District funding for such purposes. Overall standards of academic performance for the area are low with few pupils reaching the required standard for secondary school.

Even for those pupils who do pass the examination, a further problem is that at present there is no local secondary school for them to attend; the nearest is in Matombo village, fifty kilometers away towards Morogoro. In 1990, with the start of the CWMP in MRBZ, this lack of secondary education prompted the launch of a project to build a secondary school for the division at Milengwelengwe village. The project is being jointly funded and implemented by the District, Selous Conservation Programme and the villages, with each village contributing a set quotient of labour and locally available materials (such as burnt bricks and roofing timbers), SCP providing the materials not available locally such as cement, nails, and the District providing transport and supervision. As yet the school is not open although several classrooms and a laboratory have been built.

In this context of limited educational opportunities and facilities the findings of the survey with regard to standards of education in MRBZ are not surprising. Overall the data show that standards of education for the respondents asked were poor: 38% of the sample were illiterate and a further 21%, consisting of those people who had attended adult education or had not completed a primary school education, were considered to be semi-literate; only 42% were literate (i.e. had completed primary school). Standards of education were markedly lower for women than for men ($\chi_2 = 26.6$ for 4 d.f., $p < .001$) as shown in Figure 8. Several of the women who declined to give interviews did so on the grounds that they had not received any formal education and so would not be able to answer the questions.

Comparison of standards of education between the age-groups surveyed revealed another interesting pattern. Overall standards of education have improved from the older generations to the present (Figure 9). For example, whereas 72% of respondents in the >65 yrs age-group were illiterate and only 6% were literate, for the 26-35 yrs age-group the level of illiteracy was 16% and 78% were literate. However there is a marked reversal of this trend for the youngest age-group of the sample (18-25yrs), for whom the level of illiteracy had risen to 38% and the literacy rate had accordingly dropped to 63%.

Figure 7. Standards of education by gender for the MRBZ sample (N=128 Men; 74 Women).
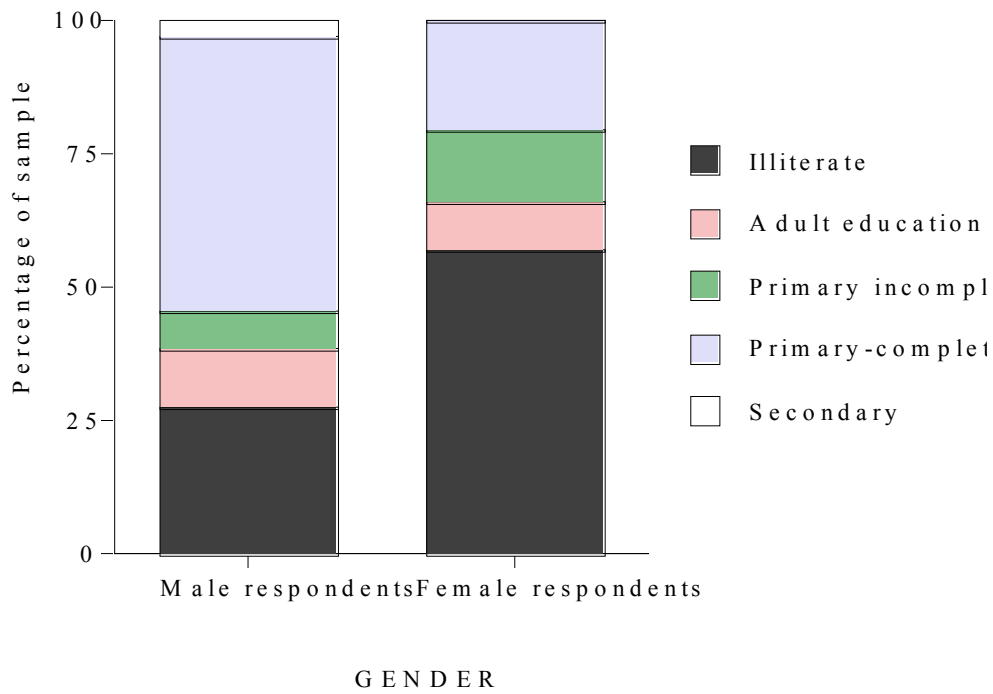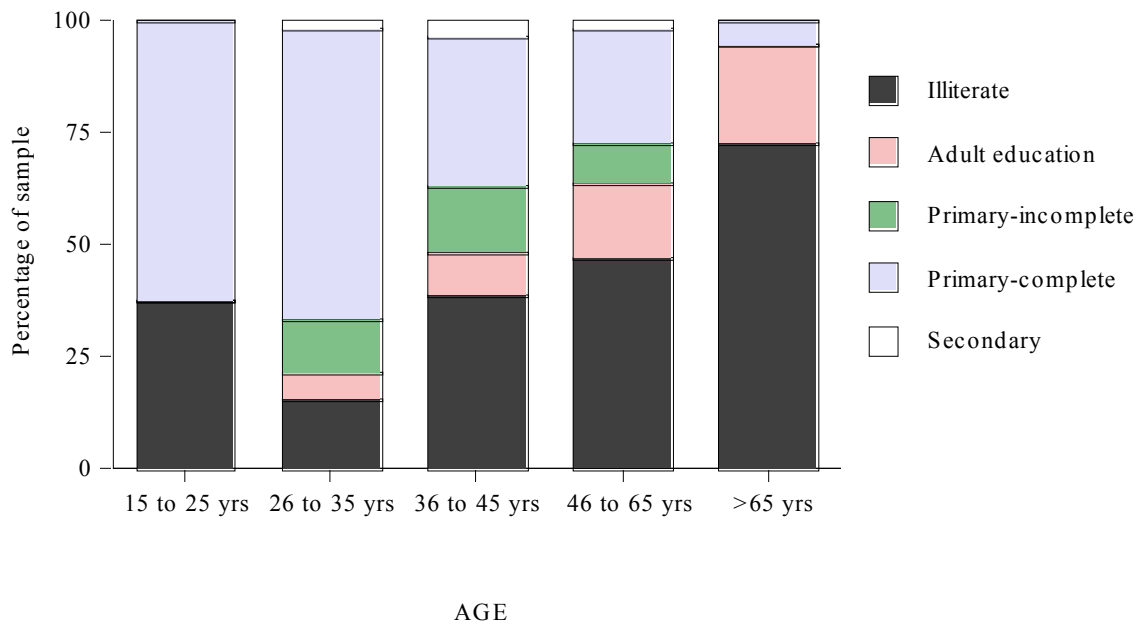

Figure 8. Standards of education by age category for the MRBZ respondents (N = 202).

This pattern must be understood in the broader macro-economic context of education in Tanzania. Progress in raising standards of education was made in the 1970s following the declaration of Universal Primary Education. However during the economic crises of the

1980s gross primary school enrollment fell dramatically, while the gross secondary school enrollment rate remained constant at 4%, well below the average for Africa (Muir 1994). The Tanzanian educational system is now recognised as being underfunded and generally in "a terrible state" (Tadreg 1993 cited in Muir 1994). In short the present conditions in MRBZ can be seen to be a reflection of the limitations of the educational system at the national level.

As government funding for education decreases parents are now being asked to contribute more towards the costs of educating children. Ranking exercises on categories of common household expenditures were carried out for a sub-sample of 24 of the households visited during the questionnaire survey. In thirteen (59%) of the households visited for this purpose the costs of educating children were considered to be an important component of household expenditures. The question is whether these costs limit the access to education by the poorer households of MRBZ, as was suggested by some of the village teachers during semi-structured interviews.

The survey data showed significant differences between wealth categories in terms of the standard of education for the head of the household ($\chi_2 = 25.75$ for 4 df, $p < .001$). In this study the number of children per household attending primary school at the time of the survey, calculated as a proportion of the children in the household of primary school-going age (7 to 14 years), was used as an indicator of the extent of household involvement in the educational system. On the basis of this measure of educational achievement there was no evidence for an association between wealth and educational standards. However, given that this general level of analysis ignores potentially important differences between households with regard to school attendance records and whether each child in fact completes primary school, the hypothesis that household wealth has an effect on access to educational opportunities cannot be conclusively discounted.

6.3 Health and Welfare.
The emphasis on the provision of universal primary health care in the Arusha Declaration of 1967 led to the rapid expansion of the Government health system from 1968 onwards. By the mid to late 1970s 72% of the population were within 5km of a health facility (Muir 1994). A significant deterioration of the quality of the health services followed during the economic crisis of the late 1970's and early 1980's due to marked reductions in the real per capita expenditure on health. Today the Tanzanian health sector is still considered to suffer from chronic underfunding (Muir 1994), and the actual impacts of this macro-economic context are evident from the quality of health services available in MRBZ.

The health facilities for the division of Bwakira chini consist of a government health centre and a privately-owned pharmacy in Duthumi, a government dispensary in Mngazi-Vigolegole and a government dispensary and a privately-owned pharmacy in Gomero. Another dispensary is under construction in Bwakira chini as one of the CWMP village development projects. The nearest government hospital for the division is over 100km away in Morogoro and there is no means of providing transport for patients who are referred there. There are MCH clinics attached to all dispensaries, which are attended by midwives helped in some cases by traditional midwives in the villages. The availability of medicines and other materials is problematic at all of these facilities, as the government-funded supply is limited to one consignment per month which usually lasts only a few days. As a result in the majority of cases the local people are forced either to buy what medicines they need from the private pharmacies in Duthumi or Gomero or to go without.

In semi-structured interviews on health and development issues numerous respondents complained of the inadequacy of the health service, in particular the shortage of medicines for common illnesses. Another frequent complaint was that staff at the government clinics, which supposedly provide a free service, often demand some form of payment before treatment. Data from ranking exercises carried out for 23 households showed that these days health-related expenditures (medicines, transport and treatment) are seen to constitute a significant proportion of household budgets. In all but three of these households (i.e. 86%) informants included the costs of health care in their selection of important household expenditures. A weighted rank index was calculated to assess the perceived magnitude of health care costs relative to other household expenditures. This measure suggested that for the inhabitants of MRBZ the proportion of household income spent on health care is greater than most other expenditures, such as household goods, salt and other minor items, taxes, school fees and ngomas). Only the uses of household income to buy clothing and staple foods were perceived to be higher.

That the costs of health care are perceived by many people as a considerable burden is not surprising, given the widespread and frequent occurrence of malaria, worms, diarrhoea and skin problems such as scabies in the area. These were the most common health problems reported by households visited for the livelihood analyses, but longer term illnesses such as hernias, ulcers and TB are also prevalent. Eleven of the twenty-three households visited (48%) reported that someone in the household was sick at the time of the visit. For six of these households the complaints reported were of minor, short-lived illnesses (a definition which includes the 'normal' form of malaria!), while for the remaining households the sick people were suffering from more serious, longterm medical conditions such as hernias. It is worth noting that these data were collected by household visits made just after the main

harvest, which represents the least stressful time of the year in terms of the household economy due to readily available food and cash income from agricultural surpluses.

Clearly these data, based on the very small sample of the household profiles, cannot be used as the basis for making conclusive statements on the broader health situation in MRBZ in comparison with other rural areas. The description does however give some indication of the scale, frequency and importance of health issues as they affect the daily lives of people in MRBZ. The implication is that health is a further dimension of socio-economic differentiation in MRBZ; for households falling within the very low income brackets, the costs of health care are potentially prohibitive. My direct observations and experience of individual case histories during eighteen months of fieldwork support this proposition.

7.0 DISCUSSION

Only seven years have elapsed since Operation Uhai, the 1989 anti-poaching initiative by the army that was at the time hailed as a turning point in the history of wildlife conservation in Tanzania. Since then there have been marked ideological and practical moves towards the use of community-based conservation on both local and national scales. Results of this change are evident at the grassroots level in terms of projects and project implementation, in the structural changes for the government bodies concerned with wildlife conservation in Tanzania and in the form of the Draft Policy on Wildlife Utilisation and Conservation (URT 1994). My study of natural resource use by rural communities involved in one such community wildlife management project was carried out against this background of changing conservation policy and practices. The broad objective of the research was to generate a set of baseline data that would contribute to the understanding and analysis of the effectiveness of CBC in Tanzania.

The common theme underlying the results and analyses presented in this paper is that of heterogeneity within the 'community' - a concept sometimes ignored in the usage of that term in the CBC context. Target communities for CBC initiatives are often defined in spatial terms as groupings of people who live in the same place and use the same resource base. Projects are then implemented on the basis of assumptions that such communities are homogeneous in terms of their economic, social and cultural characteristics. This is not the case for the MRBZ villages which exhibit a high degree of cultural, economic and social/institutional diversity and differentiation.

There is a large body of research in which peasant farming communities are characterised as closed (culturally homogenous) societies with clearly defined membership and shared customs and norms which regulate social and economic relations (Wolf in Cancian...). While some such community structures and traditions still exist for the WaLuguru in their isolated, mountain villages of the Ulugurus, the situation in the MRBZ lowland villages is very different. There the villages have a history of disturbance and change which is reflected in their composition and working. The variety of ethnic groups present in the lowland population means that MRBZ villagers do not share a common cultural background; furthermore as many are relatively recent inmigrants to the area they lack the ties to ancestral lands that can be important factors structuring social relations (Lan 1982).

That there is a lack of social cohesion or 'community spirit' at the level of the village was a theme that was frequently identified and enlarged upon by the villagers themselves. They explained the situation in terms of inmigration, saying that the lowland villages were more like cities than the mountain villages owing to their mixed composition. The mixture of

inhabitants means that people have fewer of the clan and kinship links within the community, which are usually important mechanisms for the enforcement of social norms and customs. The lack of social cohesion hinders the development and persistence of a strong, unifying set of social norms determining behaviour at the 'community' or village level. As a result there is is little exclusivity applied to community membership, inmigration continues and so the cultural diversity is self-reinforcing.

With regard to the economic aspects of community structure, the overall picture for MRBZ to emerge from the survey data analyses is one of widespread, extreme poverty. This is partly due to the isolation of the area in terms of both physical location and its limited integration to the outside market economy. Households at the lower end of the economic continuum consistently fail to produce enough for their own subsistence, have negligeable cash incomes, and may also suffer restricted access to health and education services. The inevitable outcome of these conditions is that the majority of the local people in MRBZ are subsisting on the basis of very short time frames and high discount rates; they are mainly concerned about where their next meal is coming from, and so have little time, energy or motivation left for more abstract longterm planning ventures.

At the opposite end of the MRBZ economic spectrum there is a small minority of households which, by village standards, are very wealthy. This inequitable distribution of wealth also contributes to the lack of social cohesion in the MRBZ villages. The gulf between the haves and the have-nots is a source of mistrust and suspicion for both parties: while the wealthy minority fear that everyone else is trying to rob and cheat them, the poor majority are convinced that wealth can only achieved as ill-gotten gains. These divisions further restrict the development of the 'social capital' necessary for collective community-based action.

The final major aspect of differentiation within the MRBZ villages is seen in the divisions that exist in relation to the distribution of political power, reflecting and to some extent also reinforcing the distribution of economic power. Women and poorer households are largely excluded from any role in village public life and decision-making, while wealthier households are disproportionately represented on the village government and associated committees. Despite the advent of multi-party politics in local government in Tanzania in 1992, the distribution of power within the village continues to be largely shaped by patronage relationships rather than differences of education, opportunity or ability between potential political candidates.

As a result the majority of local people do not perceive the village institutions to be representative of their interests, nor do they believe that the village leadership works for the collective benefit of the 'community'. Their sense of disempowerment is expressed as apathy and unwillingness to participate in community-based actions and village public life, on the grounds that the benefits of such initiatives will always be 'eaten' by the leadership. Consequently there is no public pressure on the village institutions to provide accountability and transparency for their actions on behalf of the village, and so all too often the Cassandra scenarios of the villagers become self-fulfilling prophecies. Misuse of authority on the part of the village leadership, usually in the form of misuse of village funds, is both common and widespread; unsurprisingly this restricts the potential for change and development by the communities.

Clearly these cultural, economic and political aspects of heterogeneity within the MRBZ villages are interlinked and to a certain extent mutually reinforcing. The overall outcome of this widespread and multi-faceted differentiation is that MRBZ society tends towards atomization rather than towards integrated social networks. This tendency is seen both at the household level, for example in the decline of cooperative labour exchanges, and at the more general level of the village in terms of unaccountable institutions and the lack of popular participation in village public life. In short the villages lack the 'social capital' which is necessary for successful collective community-based action, as illustrated by the widespread failure of previous self-help development projects in MRBZ. Such failures contribute to the *status quo* of widespread poverty and inequity in a system that is at best static, at worst degenerating.

The scenario presentedd for the MRBZ villages demonstrates the relevance of understanding the socio-economic structure of target communities for CBC initiatives, which aim to achieve regulated and sustainable resource use by collective community-based action. Exploring the heterogeneity and inequalities within assumed 'communities' helps us to identify where the potential pitfalls of the approach lie. In the MRBZ context of extreme poverty combined with a high degree of socio-economic differentiation, there is a risk of the community wildlife management project being coopted to serve the interests of the village leadership. If this problem is to be prevented the benefits of the project must be accessible and of value to the 'ordinary' or poorer community members, so that as many people as possible have a positive incentive for being actively involved in CWMP activities. Participation by a sufficient proportion, a so-called critical mass, of the target population could in turn promote the development of transparent, accountable and effective institutions. For this latter process, additional support (awareness-raising) and capacity-building (technical training for committee members in relevant skills such as book-keeping)

will also often be necessary, particularly in isolated and marginal villages such as those of MRBZ.

The facts that rural communities are not necessarily homogenous units, that not all peasant farmers do look alike, are increasingly recognised by the practitioners and researchers of rural development. The evolving CBC approach now needs to incorporate this lesson in designing and implementing projects. Failure to do so will mean that CBC projects, far from promoting better standards of living for local people in rural areas, may lead to increasingly inequitable distributions of social, economic and political assets. In the longterm this will also mean failure to empower local people to benefit collectively from the sustainable use of natural resources.

BIBLIOGRAPHY

ARDHI, S. (1991). Village Development Planning for 16 Villages bordering the Selous Game Reserve in Morogoro South District (Land use planning document No. Ardhi Institute, Selous Conservation Programme.

Baldus, R., Kaggi, D.T. (1989). Village Participation in Wildlife Management: Introducing Communal Wildlife Management in the Mgeta River Buffer Zone north of the Selous Game Reserve. (SCP Discussion Paper No. 4). Selous Conservation Programme.

Baldus, R. D. (1991). Community Wildlife Management around the Selous Game Reserve (Discussion Paper No. 12). Selous Conservation Programme.

Cancian, F. (1992). The Decline of Community in Zinacantan. Stanford: Stanford University Press.

Cousins, B. (1993, July 1993). A Political Economy Model of Common Property Regimes and the Case of Grazing Management in Zimbabwe. Pastoral Development Network, p.

Dewees, P. A. (195). Trees, Land and Labor (World Bank Environment Paper No. 4). Washington D.C.: World Bank.

Evers, Y. (1994) Subsistence Strategies and Wild Resource Utilisation: Pugu Forest Reserve, Tanzania. unpublished M.Sc. thesis, University College London.

IIED (1994). <u>Whose Eden? An Overview of Community Approaches to Wildlife Management.</u> London: Overseas Development Agency.

Kjekshus, H. (1977). <u>Ecology control and economic development in East African history - the case of Tanganyika 1850-1950</u>. London: Heinemann.

Krischke, H., Lyamuya, V., Ndunguru, I.F. (1994). The Development of Community Conservation around the Selous Game Reserve. In <u>Tanzania Community Conservation Workshop,</u> (pp. 12). Selous Conservation Programme.

Muir, A. (1994). A Situational Analysis of Pastoralism in Simanjiro District, Tanzania. VETAID Baseline Study Report, pp76.

Murphree, M. W. (1991). Communities as Institutions for Resource Management. In <u>National Conference on Environment and Development</u>, (pp. 21). Maputo, Mocambique.

Sandi, J. S. C. (1994). The Process of Villagisation and the Organisational Structure of Villages. In N. Leader-Williams (Ed.), <u>Tanzanian Community-based conservation workshop.</u>, . Dar es Salaam: Tanzania.

Sender, J., Smith, S. (1990). <u>Poverty, Class and Gender in Rural Africa - A Tanzanian Case Study</u>. London: Routledge.

Sudman, S., Bradburn, N.M. (1982). <u>Asking Questions - a practical guide to questionnaire design</u>. San Francisco: Jossey-Bass Publishers.

United Republic of Tanzania (1994). <u>Policy for Wildlife Conservation and Utilisation</u> Dept. of Wildlife, Ministry of Tourism, Natural Resources and Environment, Dar es Salaam, Tanzania.

United Republic of Tanzania (1988). <u>Population Census: Regional Profile, Morogoro Region.</u> No. Bureau of Statistics, Planning Commission, Dar es Salaam, Tanzania.

Western, D., Wright, R.M. (1994). The Background to Community-based Conservation. In D. Western Wright, R.M. (Eds.), <u>Natural Connections: Perspectives in Community-based Conservation.</u> (pp. 581). Washington D.C.: Island Press.

Wolf, E. R. (1957). Closed Corporate Peasant Communities in Mesoamerica and Central Java. <u>Southwestern Journal of Anthropology</u>, <u>13</u>, 1-18.

Young, R., Fosbrooke, H. (1960). <u>Land and Politics among the Luguru of Tanganyika</u>. London: Routledge.