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HOUSEHOLDS , PRODUCTION AND RESOURCES IN MAFETENG DISTRICT

NATIONAL UNIVERSITY OF LESOTHO

URBAN AND REGIONAL PLANNING PROGRAMME
DEPARTMENT OF GEOGRAPHY
N.U.L. ROMA
LESOTHO AFRICA

(RESEARCH REPORTS, II)

Henk Huisman
Jan J. Sterkenburg

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reface

The data presented here about households and farms in lafeteng District, were collected as part of the Urban and Regional Planning Programme (URPP) established at the Department of Geography, N.U.L., in 1978. The fieldwork was carried out during the winter holidays of 1980 in the context of a wider two-year survey in the Mafeteng District. The purpose of the fieldwork and subsequent writing of the theses is primarily an educational one, i.e. familiarizing under-graduate students with various aspects of data collection and report writing, an ability needed for future tasks and further studies. In spite of the shortcomings inevitably connected with a single visit survey carried out over a relatively short period of time, the close supervision conducted in all stages of the project has resulted in a set of reliable information about households and farms in the Mafeteng District, which in our opinion should be made accessible to interested parties.

Roma, April 1982

H. Huisman
J. J. Sterkenburg

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CHAPTER I INTRODUCTION

I.1. Objective

In the context of earlier URPP-research, an inventory has been made of the rural development efforts of the Lesotho government and other agencies in the country in order to identify the criteria underlying the spatial organization of these efforts. The analysis revealed that a variety of territorial subdivisions exist for the different types of development activities. (Huisman and Sterkenburg, 1981)

In addition, various classifications of homogeneous agro-ecological zones have been made for Lesotho, and these classifications have been compared with land potential data. It appeared that a close relationship exists between the agro-ecological zones and the areas with a rather uniform land potential.

The general/broad subdivision of Lesotho into land potential areas and agro-ecological zones shows the following pattern:

. Land suitable for cultivation	1.1 Semi intensive 1.2 Extensive	1. Lowlands and Orange river
. Land suitable for grazing	2.1 Small stock 2.2 Large stock	2. Higher mountain 3. Lower mountain
. Land suitable for cultivation and grazing	3.1 Poor access 3.2 Good access	4. Lower mountain flats 5. Foothills
. Land unsuitable for cultivation	-	-

Source: Bawden and Carrol, 1968

In view of the recent emphasis on decentralized development planning on the part of the Lesotho Government and of the crucial role envisaged for the administrative unit of the district in the future, it was decided to concentrate further URPP research activities at the district level.

The relevance of the collected data for planning purposes, agricultural production planning in particular, would be greatly enhanced if areas with a rather homogeneous production structure in terms of farm size and cropping pattern could be identified.

Therefore, the research in the Mafeteng District was aimed at:

1. the identification of homogeneous agricultural production areas within the various ecological zones;
2. an analysis of the agricultural production structure of these areas in terms of characteristics of farm households, their resource position and the organisation of farm operations.

I.2. Selection of areas for study

The development policy of the Lesotho government presently places a heavy emphasis on decentralisation of planning activities. The district will form the key level of rural planning activities. The administrative machinery at the district level will be strengthened, and a tenth district, Thaba Tseka, has been established, which led to boundary changes for 5 out of 9 districts. In view of the

importance of tracing processes of change at the district level over longer periods of time, a district was to be selected which did not experience boundary changes as a result of the creation of the Thaba-Tseka district. This would facilitate the analysis of long-term trends on the basis of the 1960 and 1970 censuses of agriculture. In addition, the agro-ecological structure of the district should not be too complex in the first stage of the identification of production areas, in order to reduce the number of variables influencing the district's structure of agricultural production. A third important criterion for selection was of a more pragmatic nature, viz. the accessibility and the degree of complexity in the framework of a NUL BA programme. The Mafeteng District appeared to comply with the criteria for selection.

The first map shows that the Mafeteng District comprises two agro-ecological zones, viz. Lowlands and Foothills. In terms of land potential, five sub-zones may be distinguished, viz. 1) Land suitable for cultivation with semi intensive cultivation

2) Land suitable for cultivation with extensive cultivation

3) Land suitable for grazing

4) Land suitable for cultivation and grazing

5) Land unsuitable for agriculture

(see map 2)

Farm size was expected to be the main determinant in distinguishing homogeneous agricultural production areas. As the level of technology presumably would not show much

variation, at least outside the area-based projects, it was assumed that farm size heavily determined total agricultural output, and degree of commercialisation or proportion of sales of total output. In addition, it was tentatively assumed that in this way farm size would also indirectly determine the necessity to look for income opportunities outside agriculture. This implied that migrants would chiefly originate from those households with a smaller farm size, i.e. labour migration as an alternative to agriculture.

It is commonly stated that Lesotho has a rather equitable distribution of land, and that the size of holdings corresponds closely to family size (e.g. Van der Wiel, 1977, p.85). As a consequence, the areas with higher average population densities would show smaller average farm sizes. Therefore, enumeration areas were selected as spatial units within the agro-ecological zones, on the assumption that enumeration areas with similar average population densities would also show a similar agricultural production structure. Consequently, the following steps have been taken:

1. Identification of enumeration areas completely located within a specific land potential zone.

2. Classification of enumeration areas per zone into high density and low density areas.

3. Selection of village areas in certain enumeration areas.

Analysis of the 1976 population census data for Mafeteng District indicates a strong internal variation in population density. Two extreme types of enumeration areas have been selected; a high and a low density one on the

semi-intensive cultivation zone, and similar ones in the zone with cultivation and grazing, and good access. The extensive cultivation zone contained too low a number of enumeration areas to be included in the survey. The four villages were visited and household lists, also including landless households, have been drawn up in close consultation with the village chief. A sample of households was subsequently visited with a recording schedule and fields were measured with the "compass and chain method". The survey concentrated on an inventory of the household and its means of production. This inventory comprised the following elements:

- household composition
- holding size and cropping pattern
- capital in terms of livestock and implements
- labour supply, both from the household and from outside the household
- tenure conditions and share cropping arrangements
- extension and marketing

I.2. The Mafeteng District

The Mafeteng District is one of Lesotho's ten districts, situated in the southwestern part of the country. The district comprises 2090 km^2 out of the country's 30,350 km^2. This makes the district one of the smallest administrative areas of its kind. Mafeteng District consists of two agro-ecological zones, i.e. the Lowlands and the Foothills. The Lowlands cover slightly more than half of the district's total area. The total population of the district is 154,339 (1976) of which a total of 17,599 males

were absent due to the labour migration phenomenon. For Lesotho, these figures are 1,216,815 and 129,103 respectively. The 1976 population census shows that the proportion of the migrants in relation to the total population displays only minor differences between the districts. For the Mafeteng District 11.4% of the total population consists of migrants, compared to 10.6% for the country as a whole.

Mafeteng Town, situated in the extreme southwestern part of the district, is the district headquarters, and the only settlement officially designated as an urban area. This urban area, with a size of $\pm 20\ km^2$ and an estimated population of 7000 inhabitants, has very good road connections with neighbouring district headquarters and with the Town of Wepener in the Republic of South Africa, some 18 kilometers by tar road. As Wepener has a good connection with the South African Railway network, Mafeteng has good access to the macro-region's transportation system. The rural parts of the district have a road network which is rather well developed by Lesotho standards. This makes these areas, on the whole, easily accessible, although heavy rainfall may make the crossing of rivers a hazardous exercise in a number of areas, especially in the Foothills zone.

Three landuse types have been distinguished for the district (Bawden and Carroll, 1968), i.e. land suitable for cultivation with semi-intensive cultivation; land suitable for cultivation with extensive cultivation; and land suitable for cultivation and grazing with good access.

From table 1 below, it becomes clear that, although the district only covers 6.9% of Lesotho's total land area, the district's potential agricultural situation is relatively favourable. The arable land resources position as expressed

by the average number of hectares per household for Mafeteng exceeds the national average, viz. 2.51 ha against 1.98 ha for Lesotho. In addition the district has a lower number of landless households.

The cropping pattern in the district, expressed in the percentage of households growing maize, sorghum and wheat, differs from the national average. In Mafeteng District wheat is of more importance than in the rest of the country, in addition Lesotho's staple crop, maize, is cultivated by a lower proportion of households.

TABLE 1

Land resource position and cropping pattern in Lesotho compared with Mafeteng District

	LESOTHO			MAFETENG DISTR.			District as percentage of Lesotho
Total land area (ha)	3,035,000			209,000			6.9
Area crop cultivation (ha)	368,191			80,375			22.0
Average ha. of arable land per household	1.98			2.51			
% households without land	12.7			9.7			
Average no. of fields per household	2.20			2.09			
Average size (ha) of field	0.89			1.05			
Cropping Pattern (% of households growing)	Maize	Wheat	Sorghum	Maize	Wheat	Sorghum	
	39.2	32.2	25.0	27.9	53.7	20.6	

Source: Agricultural Census, 1970

The livestock population in Mafeteng District is relatively large, resulting in a high density of cattle and sheep per km^2. Mafeteng, although one of the smallest

districts in the country, ranks fourth for cattle and third for sheep.

TABLE 2

Number of cattle and sheep in Mafeteng District and Lesotho

	Area in km^2	Cattle	Sheep
Lesotho	30350	560327	973996
Mafeteng District	2090	61212	112687
Mafeteng District as % of total	6.9	10.9	11.6

Source: Annual Statistical Bulletin, 1979

Neither the Agricultural Census 1970, nor any other publications known to the authors provide data on the distribution of livestock per ecological zone and/or population density area at the district level. However, the Mafeteng District Rural Survey, 1980, points out the occurrence of substantial differences with regard to livestock distribution within the district (see Chapter 3).

As in all other districts in Lesotho, labour migration is quite common in Mafeteng District. Here 11.4% of the total population fall into the category male migrants, compared to 10.6% at the national level. Further analysis of the 1976 population data indicates only a very limited internal variation within the district. Data on incidence of labour migration per ecological zone and per high/low population density area are presented in table 3 .

Insight into internal variation in the agricultural structure at district level in Lesotho is hard

TABLE 3

Percentage of totel male absentees of working age* as to total population Mafeteng District

All enumeration areas	10.6
All e.a.'s (Foothills)	10.0
All e.a.'s (Lowlands)	10.9
10 e.a.'s in highest population density category ($>$110 per km^2)**	9.6
10 e.a.'s in lowest population density category ($<$40 per km^2)**	10.5

Source: Calculated on basis of 1976 Population Census data.

(* = defined here at 15-59 years of age)

(** = chosen at random)

to obtain, as publications commonly do not provide data below the district level. This report will throw some light on this matter and hopefully contributes to the body of development policy oriented data.

Before starting the discussion of the research results of the survey on households, resources and production, background data on the four sample villages are presented.

I.4. Characteristics of the sample villages

The village Ha Joele is situated in the Lowland zone, some 16 km northwest of Mafeteng Town, 4 km from the tar road which links Mafeteng with Wepener Town in the Republic of South Africa. The enumeration area in which the village is located has an average density of population of 37 per km^2 (1976), and most of the land may be classified as arable, which makes it a low density area, both with regard to land in general and arable land in particular. The village has a dispersed pattern of settlement and most homesteads have been built on relatively flat land. The total number of households is 82.

The village Ha Mokhotu is also situated in the Lowland zone, and has reasonably good access because of its location a few kilometers northwest of the main tar road which links Maseru with the southern parts of the country. Ha Mokhotu lies in a very high population density area. The enumeration area in which the village lies has not less than 166 inhabitants per km^2 (1976): Almost the whole area consists of arable land. The village itself is concentrated on a relatively small hill, around which the village's fields are situated. The total number of households is 31.

The village Ha Thamae is located in the zone classified as "Foothills". Access is reasonably good because of its position a few kilometers from an all weather gravel road which opens up the foothills of the Mafeteng District. Ha Thamae has some degree of concentration, whereby most homesteads are surrounded by often sizeable vegetable gardens.

The density of population of the enumeration area in which Ha Thamae is situated is 105 persons per km^2 (1976). The whole area consists of arable land. The total number of households is 85.

The village Ha Sekake is also located in the Foothills zone. Because of its location south of the Makhaleng River, at the boundary with the Mohale's Hoek District and some 8 kilometers off the foothills-serving gravel road, accessibility may be classified as poor to reasonable, depending mainly on rainfall. The village has a semi-dispersed layout and occupies the extreme part of an escarpment overlooking the Makhaleng gorge. The major part of the village area consists of arable land on rolling plains. The enumeration area's density is only 26 inhabitants per km^2 (1976). The total number of households amounts to 145.

Table 4 below summarizes some of the above mentioned characteristics.

TABLE 4

Characteristics of sampled villages and village areas, Mafeteng District Rural Survey 1980

llage	no.	zone	eq.density per km^2	no.h.h.	no.h.h. interviewed	accessibility
oele	1	Lowlands	37	82	42	good
okhothu	2	Lowlands	166	31	28	good
hamae	3	Foothills	105	85	44	reasonable
ekake	4	Foothills	26	145	41	poor to reasonable

CHAPTER II The Household Characteristics

The fact that the household is a complex concept in almost all parts of Sub-Saharan Africa because of its multifarious forms and diverse composition, particularly applies to Lesotho, in view of the high intensity of labour migration to the Republic of South Africa. The household basically is a co-residential unit in which the members share contributions to the household budget, and expenditure for food and other consumer items from this budget. In Lesotho, the specific form of the labour migration phenomenon often causes long periods of absence of household members, while these absent members remain connected with the residential unit through, (i) remittances which usually form a substantial proportion of the household budget, and, (ii) through regular visits during which farming activities are sometimes carried out and during which decisions are made on important household issues such as crops to be grown and durable consumer goods to be purchased. In view of this complex situation, the Lesotho population census and most other publications distinguish between the de facto population as those present in Lesotho at the time of the survey, and the de jure population as those formally belonging to the household. Murray refers to the terminology used by the Basotho; the present members as "those we live with" and the absent members as "those who make us live" (Murray, 1981).

In the Mafeteng Survey a similar distinction was made. All household members present were considered as the de facto population, but those members who had been at home at least once during the last twelve months and had remitted money

and/or contributed labour to the farming activities of the household were also considered as members of the household. The twelve months period is shorter than the two years period used as the criterion by Murray. But the shorter period seems justified because of the more frequent visits to the home area during recent years. The combination of the twelve months period and the contribution to the upkeep of the household did not provide any difficulty in identifying the migrants at the time of the survey.

The main characteristics of the households to be dealt with here are the household size, the dependency ratio, the proportion of households with female heads; and the typology of households in terms of the age category of the heads of the household; the composition as shown by the occurrence of migrants in the household and the relationship of the members to the head of the household. These data were considered relevant as background for the understanding of farm structure and farm operations.

The Mafeteng survey comprised a total of 155 households with a strong variation in the number of members. The average size of 4.9 members per household conceals this strong variation, (see tables 5 and 6). However, more than two-thirds of all households consist of five members and less and the average is, therefore, heavily determined by a proportionally small number of large households with sometimes ten or more members. These large households usually have a considerable number of dependents (defined as "all persons below 15 years of age"), often children of the head but also comprising grandchildren and other relatives. In a number of cases these dependents are non-relatives who work

TABLE 5

Household Characteristics, Mafeteng District

	I	II	III	IV	TOTAL
. of Households	42	28	44	41	155
tal No. of H.H. members	171	155	202	224	752
erage Household Size	7.1	5.5	4.6	5.5	4.1
. of Dependents	68	61	86	84	299
. of H.H. without Dependents	11	7	13	9	40
. No. of Dependents/H.H.*	2.2	2.9	2.8	2.6	2.6
tio. Adults/Dependents	1.5	1.5	1.4	1.7	1.5

urce: Mafeteng District Rural Survey, 1980

xcluding households without dependents)

as herd boys. On the other hand, herd boys are often children or grandchildren of the head. In other words, not all dependents are non-working schoolchildren although this category forms the majority among them. A considerable number earn their upkeep by contributing labour to the household activities in the form of looking after the household's livestock. In contrast to this, one also finds household members older than 15 years who are still schooling and who, therefore, only irregularly contribute to the household farming activities.

About one-quarter of all households consists of adults only; the remaining three-quarters have a varying number of persons below 15 years, with an average of 2.6 per household. The ratio of adults to dependents is on average 1.5 for the population of the villages as a whole. But this ratio is lower, of course, if restricted to those households

TABLE 6

Household Size Distribution, Mafeteng District (%)

of Persons/H.H.	Lowlands	Foothills	Total
1	5.7	3.5	4.5
2	17.1	14.1	15.5
3	15.8	8.2	11.6
4	14.3	16.5	15.5
5	17.1	21.2	19.4
6	12.9	17.1	13.5
7+	17.1	22.4	20.0
TOTAL	100.0	100.0	100.0
=	70	85	155

Source: Mafeteng District Rural Survey, 1980

to which these dependents belong.

As stated earlier, households in Lesotho are characterised by the high incidence of absent members. In almost all cases these members are absent because of labour migration to the Republic of South Africa. In the Mafeteng Survey, two out of three households had such a labour migrant. In most cases this referred to the nuclear households, generally with children below 15 years. Usually, the husband was absent while the wife remained behind in the local community. During the survey, a few husbands were found at home after their return from a spell in the Republic of South Africa, while they waited to register again at one of the recruiting offices. In these cases, these husbands

were nevertheless classified as migrant labourers, in view of the occupation stated and their intended departures. In addition to these nuclear households with the husband as a migrant labourer, there were households of which one or more sons and sometimes even grandsons participated in migration . The vast majority of these migrant labourers were employed as miners in one of the gold or coal mines in the Republic of South Africa.

The strong incidence of labour migration explains the high proportion of female heads of households. The percentage observed in Mafeteng (68% for the whole sample but substantially higher in two of the four villages) considerably exceeds that found in other surveys in Lesotho. Murrey mentions figures between 27% in the mountain zone of the Senqu River Project to 44% in his own survey (Murray, 1981, p.54). The Basp survey in Mafeteng and Mohale's Hoek recorded 23% of female household heads but if assuming that male heads who are away for more than six months continuously without visits to the home area, leave a female member in charge of all farm activities, the percentage goes up to 49. (Reichart & Winch, 1981, p. 17). The higher percentage observed in Mafeteng in the URPP survey, is related to the definition of the head of household. In all cases where the man/husband was a migrant labourer, the wife was considered the head of the household in view of the decisions she had to take about day to day matters. Other criteria used for identifying the head of household mentioned by Murray, are the relative weights attached to Sesotho customary identification, the titles to arable land and the prominence in household decision making, (Murray, 1981, p.54). These

TABLE 7

Household Migration Characteristics, Mafeteng District

Migration Characteristic	I	II	III	IV	TOTAL
No. of Households with migrants	19	22	33	28	102
% of H.H. with migrants	45%	79%	75%	68%	66%
Av. No. of migrants per H.H.*	1.0	1.2	1.2	1.3	1.2
% of H.H. with female heads	52%	64%	82%	71%	68%

Source: Mafeteng District Rural Survey, 1980.

*Excl. households without migrants.

criteria are rather vague and not easy to operationalize, however, and to some extent they suggest a rather regular presence of the male senior members of the household. The percentage observed in Mafeteng tallies with Judith Gay's survey results among 296 households in a village in the south-western part of Lesotho. She found that almost one-third of the female heads were without husbands, whereas another 40% were married to male migrant workers, whom she called household managers. In all ,72% of the households had no regular male head (Gay, 1980, p. 30).

Labour migration is chiefly an activity for men in the age categories 20 - 45 years. It is obvious, therefore, that a classification of households in an area where the migration phenomenon has such a strong impact on all aspects of daily life, takes account of the age of the head, the occurrence of migrants, and the composition of the household in terms of additional persons either or not related in kin to the head of the household. This complexity in composition

of households is related, of course, to the socio-economic conditions under which households in Lesotho have to operate in order to supply its members with the basic securities of life. Absent members have to be replaced in order to take care of the household's resources, i.e. the land and particularly the livestock. The older men and women especially need such assistance. Moreover, labour migration has adverse effects on marriage stability and the younger children whose parents are absent or have divorced, usually stay with their grandparents or other relatives. One of the parents may have died and in that case also the one remaining behind may be incorporated in the household of a relative.

The predominant type of household in the sampled villages was the nuclear family, either with or without children, with the husband involved in labour migration. Most of these migrant labourers were below 50 years of age. The households usually contained a number of young children, often schooling and sometimes classified as herd boys since they spent most of their time looking after the household's livestock. These households were slightly above the average in size (5.2 persons).

A substantial number of the heads of households were older persons, i.e. persons of 50 years or more, either male or female. These older persons headed three different types of households. A small proportion of them lived without dependents; sometimes they were single, sometimes they lived with a grown up son or daughter, and sometimes they were just older couples. These households were, of course, generally smaller in size. Numerically more important were the households where an older person or couple lived together with adult children, grandchildren and other relatives below the

age of fifteen. These households have been sub-divided into two types again, those with one or more migrant labourers, and those without. The households with migrants were on average bigger than most other households. Among the households with younger male head, migration was not an ubiquitous phenomenon, because a small proportion of the households was characterised by male heads below 50 years of age, without any migrant and with farming in the community of reference as the main activity. These households were slightly below the average size.

The households with a wide variation in type of persons were labelled complex households. Here, heads were either male or female, while usually children, grandchildren and other relatives were found among the members. Sometimes, the older male was away because of labour migration, sometimes an adult son. It is clear that these were among the largest households in the sample.

Finally, a number of so-called incomplete households were found. These concerned households with a head, usually female, below 50 years of age, sometimes consisting of single persons, sometimes with the addition of relatives and non-relatives either or not below 15 years of age. These households were below the average size found in the sample.
The table below gives the classification of households according to type as observed in the survey villages.

These characteristics of households in the rural parts of Mafeteng District vary between the individual villages and to some extent also between the two agro-ecological zones.

Differences between agro-ecolocial zones are mainly found in terms of the household size. Although the average number of household members hardly differs between the Lowlands and the Foothill villages (4.7 against 5.0) , the

TABLE 8

Types of Households, Mafeteng District

Type of Household	no.of h.h.	% of total no. h.h.	average no. of persons per h.h.
1. Nuclear with/without children with husband as migrant labourer	66	43	5.2
2. Older person(s) with adult child(ren) as migrant labourer(s) either or not with grandchildren	21	13	6.0
3. Older person(s) with children/grand-children either/or not with other dependents/no migrant labourers	19	12	4.2
4. Older person(s) without dependents	6	4	1.5
5. Complex households	11	7	8.0
6. Nuclear with/without children and farming in reference community	12	8	4.3
7. Other (e.g. incomplete) households	20	13	2.7
TOTAL	155	100%	4.9

Source: Mafeteng District Rural Survey, 1980.

population of larger households (more than 4 persons) is considerably higher in the Foothills (see table 6). This constrasts with the observations of the BASP survey for the Mafeteng and Mohale's Hoek Districts, where the larger size households were found in the Lowlands. (Reichart and Winch, 1981, 15-16). This larger household size is not related to a higher number of dependents in the Foothills, since the proportion of households without dependents and the average number of dependents per household hardly differs between the two zones. It is chiefly related to the higher incidence of migration in the Foothills which is apparent

from the bigger proportion of migrant households, the higher percentage of migrants in relation to the total population over 15 years of age, and the higher percentage of female heads. Data about differences between agro-ecological zones are given below (table 9).

TABLE 9

Household Characteristics Agro-Ecological Zones, Mafeteng District

Household Characteristics	Lowlands	Foothills
No. of Households	70	85
No. of H.H. members	326	426
Average Household Size	4.7	5.0
Av. no. of dependents/H.H.	2.5	2.7
% of migrant households	58.6%	71.8%
% of female heads of H.H.	57.1%	76.5%
Av. no. of migrants/H.H.	1.1	1.2
% migrants/adult population	23.4%	28.9%

Source: Mafeteng District Rural Survey, 1980

There is also some difference between the two zones as to the relative importance of the various types of households. In the Foothills the nuclear migrant labourer households constitute no less than 47%, whereas in the Lowlands the older person(s) household with children and grandchildren, but without migrant labourers, are strongly represented (21.4% against 4.7% in the Foothills). The higher incidence and greater importance of labour migration apparently has effects for the organisation of activities in the rural community as reflected in the basic unit of social organisation, the household.

The differences between individual villages are more difficult to identify because of the limited number of cases in the sample. This easily leads to a low number of observations per cell if classifications with a high number of cells are needed, e.g. types of households. The main differences in household characteristics between the four villages are: - A smaller household size in one of the Lowland villages, coinciding with a lower average number of dependents per household.

- A low percentage of migrants, in the same village, both in terms of the number of households with migrants and the average number of migrants per household (not more than 1 per household), which coincided with a substantially lower percentage of female heads.

- The smaller household size and the lower incidence of migration in this Lowlands village also correspond with a high proportion of households headed by older persons (45% against 30% for the whole sample).

- A relatively high percentage of older person(s) households was also observed in one of the Foothills villages, but in contrast to the Lowlands village these were mainly older person(s) households <u>with</u> a migrant.

These differences in household characteristics,both for the whole sample and for the disaggregated levels of agro-ecological zones and villages,have to be related to the farming conditions in order to trace various aspects of the relationship between the basic units in which the village communities are organised, and the activities undertaken for the upkeep of their members.

CHAPTER III

The Resource Position of Households: Land, Livestock and Implements

Households in the rural parts of Mafeteng District are to a large extent agricultural households in the sense that almost all of them have access to land, a large proportion own livestock and agricultural implements, and most of them carry out agricultural activities. In the context of Lesotho this does not mean, of course, that these households are, therefore, chiefly dependent on agriculture for their income. Recent publications on Lesotho pay ample attention to the role of agriculture in the national economy, and the relationship between agricultural activities and labour migration. Before dealing with that relationship for the Mafeteng survey area, a general picture should be presented about the resource position for the households in Mafeteng.

The discrepancy between the formal customary regulation that all Basotho married males are entitled to land, and the actual situation that the available land of deteriorating quality has to be sub-divided over increasing numbers of persons qualifying for land, has been recognised for some time. The discrepancy leads to an increase in the number of landless households, and to a decrease in the farm size in terms of the average acreage and the number of fields. In the Mafeteng villages, the proportion of landless households varied between none at all and one in every five, with a total average of ten percent of the households. The average farm size for those households owning land lies in the order of 2.3 ha with a slight variation in average between the villages. The average is not a very meaningful figure,

however, in view of the wide differences in farm size between individual households. The frequency distribution of farm size shows that one-quarter of the households have less than one ha. at their disposal, and more than sixty percent less than two ha.

The survey data further reveal that in Mafeteng District the land resources are unequally divided over the households. Data on distribution of households according to farm size per capita show that, even if the number of household members is taken into account, inequality with regard to access to land is considerable.

The scarcity of land is shown by the percentage of landless households and by the high proportion of households with less than 1 ha of land and less than the traditional three fields per household. In spite of this, quite a proportion of the land is fallow, varying from 16% in general to even 31% in one of the Lowland villages. The occurrence of fallow land may be related to two phenomena. On the one hand, it may purposely have been left fallow in order to allow for the regeneration of the soil. On the other, labour available in the household may be insufficient to crop all arable land at the household's disposal. In view of the cropping practices in Lesotho, the second reason is the most obvious explanation for the high percentage of fallow land. This is supported by the fact that the village with the high percentage of fallow land also shows a high proportion of older heads of households, and in particular it are those households with older persons and dependents that leave part of their land fallow.

Farm size differs according to type of household. The nuclear migrant household shows the smallest average size;

TABLE 10

Land Characteristics of Households, Mafeteng District

LAND CHARACTERISTICS	I	II	III	IV	TOTAL
% of landless households	0	21	14	15	12
Av. farmsize landholding H.H. (HA)	2.34	2.38	2.57	1.91	2.30
% H.H. with farm ≤ 1 HA	26	27	13	40	27
" " " " 1.1 - 2.0 HA	31	41	39	29	34
" " " " 2.1 - 4.0 HA	24	14	32	20	23
" " " " > 4 HA	19	18	16	11	16
Av. farm size per member of landholding H.H. (HA)	0.70	0.46	0.79	0.37	0.47
% H.H. farm size per capita ≤ 0.25 HA	26	37	29	40	32
" " " " " " 0.26-≤0.50 HA	26	27	29	34	29
" " " " " " 0.51-≤0.75 HA	15	9	10.5	14	12
" " " " " " 0.76-≤1.00 HA	7	9	10.5	0	7
" " " " " " > 1.01 HA	26	18	21	12	20
% of H.H. with 3 fields (as to landowning H.H.)	36	59	47	29	41
% of H.H. with 3 fields (as to all H.H.)	36	46	41	24	36
% fields fallow	31	13	15	3	16

Source: Mafeteng District Rural Survey, 1980.

those households with older persons (i.e. over 50 years) as head, generally, have larger farms - and often larger households. But those households with an older head which include a labour migrant to the Republic of South Africa show a substantially smaller average farm size. All these farm size data include fallow fields and, therefore, refer to access to land and not to the intensity of use of the resource in relation to the labour potential of the

TABLE 11

Farmsize in Relation to Type of Household, Mafeteng District

TYPE OF HOUSEHOLD	Land-less H.H.	<1HA	1.1-2HA	>2HA	% <2HA (incl. landless)	Av.Farm Size ha.	Total no.of H.H.
Nuclear with/without children husband as migrant labourer	14	16	25	11	90	1.31	66
Older person(s) with adult ld(ren) as migrant labourer(s) her or not with grandchildren	2	2	9	8	62	2.16	21
Older person(s) with child(ren)/ ndchild(ren) either or not with er dependents - no migrant gurers	0	1	4	14	26	3.15	19
Older person(s) without endents	0	0	1	5	17	3.61	6
Complex Households	1	0	7	3	73	2.61	11
Nuclear with/without children farming in reference community	0	2	3	7	42	2.68	12
Other (e.g. incomplete) seholds	1	7	4	8	66	2.17	20
TOTAL/AVERAGE	18	28	53	56	64	2.30	155

rce: Mafeteng District Rural Survey, 1980.

household. It should be mentioned, however, that the relationship between the smaller farm size and the types of households containing a migrant, is not necessarily a causal one, i.e. it does not mean that adult males migrate because the farm is too small to provide for the upkeep of the household.

The livestock resources of the household are important for a number of reasons. Oxen and bulls are used as draught animals for ploughing, harrowing and planting, and are,

therefore, needed to perform a number of agricultural operations more effectively. In addition, livestock is used as a form of investment which is relatively secure and which is considered to provide a higher return to capital than, for example, a savings account in the bank. In Lesotho, the accuracy of this opinion has not yet been confirmed by a thorough economic analysis. Livestock also functions as a cement between the various segments of Basotho society, since it forms the main element of the lobola, and plays a role in other ceremonies during the life-cycle of the Basotho. Finally, livestock has a direct productive use in that it supplies the household with food and cash, the latter particularly through the sale of wool of the merino sheep and angora goat, and in the case of horses and mules, also with a means of transport.

These diverse functions of livestock in Basotho society make it a much wanted type of property and this particularly applies to cattle. In view of this combination of social and economic reasons for which cattle is valued, the criteria to judge the quality of animals are not necessarily narrowly economic. Basotho assess the quality of cattle not primarily by the quantity of milk produced; criteria such as colour, bellowing sound, shape of the horns and speed of the animal in cattle racing are considered more important. (Maduna, 1981, 17-18).

The variety of reasons to invest in cattle, and the growing population with increasing incomes from labour migration, especially during the past decades, has led to a sharp rise in the country's livestock population. This in turn caused severe overstocking and a further aggravation of the serious soil erosion problem. In various reports this issue has been discussed (UN/ECA, 1973; Second Five Year Development

Plan, n.d.; World Bank, 1980), and usually the enclosure of grazing land for individual use has been presented as the solution to the problem. For recent years a decline in livestock numbers is mentioned, due to the deterioration of the country's grassland (World Bank, 1980, 14).

In Mafeteng District ,livestock shows a more skewed distribution over the households than the land resources. Firstly, there is a higher proportion of households without livestock, viz. 36% against 12% without land. It should be added that livestock is limited here to cattle, goats and sheep. Horses, donkeys, mules, pigs and chicken have been left out of account. Cattle, including the draught animals, are an even more scarce resource; 40% of the households have no cattle. Secondly, the frequency distribution shows that the number of stock units differs sharply between the stock owning households. About two-thirds of the stock owning households have less than 5 stock units, the other one-third owns more than 5 stock units.

From the figures it may be concluded that a number of households have land but no livestock, no draught animals in particular. A small proportion has neither land nor livestock (5%). But one also finds households without land that still own livestock, also draught animals. These are used to perform services for land owning households - against the payment of cash or kind. This aspect of inter-household cooperation in agricultural activities will be dealt with in more detail below.

The distribution of livestock according to types of household shows a concentration of stock among the households headed by older persons except those older persons

TABLE 12

Livestock Characteristics of Households, Mafeteng District

LIVESTOCK DATA	I	II	III	IV	TOTAL
% of H.H. without stock	42.8	35.7	43.2	21.9	36.1
% of H.H. without cattle	42.8	42.9	47.7	26.8	40.0
% of landless H.H.	0.0	21	14	15	12
% of H.H. without land and stock	0.0	14.2	6.8	2.4	5.2
Av. No. of livestock/H.H.*	5.35	5.40	4.88	4.34	4.9
Av. No. of cattle/H.H.*	3.75	3.88	4.35	3.30	3.8
% H.H. $\leq$ 2 stock units	25	39	28	38	32
% H.H. 2.1 - 5.0 " "	33	22	32	31	30
% H.H. 5.1 - 10.0 " "	29	22	32	25	27
% H.H. $>$ 10.0 " "	13	17	18	6	10

Source: Mafeteng District Rural Survey, 1980

*for livestock owning, resp. cattle owning households only.

in small households without dependents. The latter households clearly are the poorer ones in this respect, although they have the highest average farm size. In addition, the complex households - often headed by older persons - have the highest concentration of stock; not surprising since the presence of one or more non-related herdboys was the very reason to classify it as a complex household. Furthermore, there appeared to be very little difference between nuclear migrant households and nuclear farming households in terms of the percentage without stock and the average number of livestock units per household. Further details are provided in table 13.

TABLE 13

Livestock Distribution according to type of Household, Mafeteng District

TYPE OF HOUSEHOLD	no. of h.h.	total stock units	units per h.h (all house holds)	units per h.h. (stock owning h.h. only	no.of h. h. without stock	% of house-holds without stock
uclear with/without children husband as migrant labourer	66	192	2.9	4.5	23	35%
lder person(s) with adult d(ren) as migrant labourer(s) er or not with grandchildren	21	93.8	4.5	5.9	5	23%
Older person(s) with d(ren)/grandchild(ren) either ot with other dependents - igrant labourers	19	69.8	3.7	5.4	6	31.6%
lder person(s) without endents	6	0	0	0	6	100%
Complex Households	11	70.6	6.4	7.1	1	9%
uclear with/without children farming in reference com-ity	12	33.2	2.8	4.15	4	33%
ther (e.g. incomplete) seholds	20	27	1.4	3.0	11	55%
TOTALS	155	486.4	3.2	4.9	56	36.1%

rce: Mafeteng District, Rural Survey 1980

In the survey the ownership of agricultural implements has also been recorded. Plough and planter are the most important implements in achieving higher levels of production. In view of the short growing season in relation to altitude and distribution of rain, the timing of the

ploughing is very important. Those households that have their own plough - in combination with their own draught animals - are in a better position to carry out ploughing at the right time. Those households that do not own a plough depend on arrangements with other households or have to rent a tractor. The planter has the advantage of a regular distribution of the seed which produces a better crop stand than the alternative method of broadcasting the seed.

The survey in Mafeteng showed that almost half of all households own a plough and that one in every five households owns a planter (see table 14). Both implements are found relatively often in complex households, and in households with older heads with adult children in migrant labour, and in those with older heads with children and/or grandchildren (table 15). One would expect that especially the households with a more than average farm size would own a plough because of the amount of farm work to be carried out. In order to trace such a relationship, the households with a plough in combination with at least one draught animal were classified by farm size category. There did not appear to be a clear overall higher incidence of plough and draught animals among the households with larger farms. Although the proportion was lower in the smallest size category, the difference within the higher categories was relatively small, whereas the highest porportion was found in the farm size category 1.1 - 2.0 ha. Moreover, the combination of plough and draught animals was also found among the landless households. Only in one of the lowland villages was there a clear relationship between farm

size and the ownership of draught animals and plough. In the sample as a whole one must conclude that inter-household cooperation in the use of resources is apparently more important than the concentration of all resources in the hands of a few households.

In discussions about the reasons rural Africans have for migration to urban/mining areas, the lack of productive resources is often mentioned. Migration is an age/sex specific phenomenon; the younger males migrate in order to earn cash for which there is no opportunity in their own society, chiefly because they do not have access to sufficient productive resources. By means of the cash earned elsewhere, they come into a position to improve their resource position in their own society. In Lesotho, individual labour histories seem to indicate a similar situation. According to Murray:

> " The paradigm of the successful migrant career for a man is to establish his own household and to build up a capital base, through the acquisition of land, livestock and equipment, to enable him to retire from migrant labour and to maintain an independent livelihood at home."

But he adds that few achieve the desired situation and many older men become dependent on the remittances of sons or younger relatives (Murray, 1981, p. 41).

Because of the economic reasons behind labour migration it has been assumed that poorer households in particular were strongly represented among the migrants. That is, especially the members of landless households, those with small farms and without livestock would be forced to migrate.

TABLE 14

Distribution of agricultural implements, Mafeteng District

Distribution Agric. Implements	I	II	III	IV	TOTAL
Total No. of Households owning					
PLOUGH	23	12	15	23	73
PLANTER	13	5	5	8	31
CART	3	0	3	0	6
% of Households with					
PLOUGH	55%	43%	34%	56%	47%
PLANTER	31%	18%	11%	19%	20%

Source: Mafeteng District Rural Survey, 1980

TABLE 15

Distribution plough/planter according to type of household

TYPE OF HOUSEHOLD	% owning a plough	% owning a planter
1. Nuclear with/without children with husband as migrant labourer	41	18
2. Older person(s) with adult child(ren) as migrant labourer(s) either or not with gradnchildren	52	24
3. Older person(s) with child(ren)/ grandchild(ren) either or not with other dependents - no migrant labourers	63	26
4. Older person(s) without dependents	0	0
5. Complex Households	82	45
6. Nuclear with/without children and farming in reference community	58	0
7. Other (e.g. incomplete) households	35	20
All Households	47	20

Source: Mafeteng District Rural Survey 1980.

TABLE 16

Distribution of ploughs and draught animals according to farm size

Farm Size	No. of farms with plough & draught animals	% of farms with plough & draught animals (as to all farms in size category)	Average farm size (ha)
1 ha	13	19.1%	.56
1.1 - 2.0 ha	23	33.8%	1.53
2.1 - 4.0 ha	16	23.5%	2.75
4.0 ha	16	23.5%	5.63
TOTAL	68		

Source: Mafeteng District Rural Survey, 1980.

Others could afford to stay at home and earn the required income by means of farming. In this way, labour migration would have an inequality decreasing effect.

Various authors have challenged these assumptions for Lesoth Van der Wiel has shown that labour migration is the main household income determinant. The poorer households in Lesotho are those without labour migrants, irrespective of the productive assets in the form of land and livestock (Van der Wiel, 1977). Both Spiegel and Murray have pointed out the differential distribution of land holding and migrant labour between households at the different stages of what they call "the development cycle"; younger heads of households migrate while the older heads have obtained rights to land (Spiegel, 1980; Murray, 1981). In addition, Murray emphasizes the interdependency between labour migration and farming - migrants invest both in arable farming and in livestock. The investment in cattle provides them with

draught animals which allows for more effective farming. In this way, farming does not function as an alternative to labour migration.

Low and Fowler have developed an economic model by which they show the general attractiveness of labour migration as a source of cash income, if compared with farming, under the conditions operative in Swaziland and Lesotho. Farming activities are undertaken to provide at least part of the food needs for the household. This especially applies to households with small farms where surpluses can only be created at the intensive margin, i.e. through labour intensive production. This subsistence orientation does not prevent the adoption of new technologies, as long as it increases food production per labour and per land unit. Their conclusion....."in conjunction with the availability of remuncrative off-farm wage employment, the traditional land tenure arrangements pertaining in Swaziland and Lesotho create a socio-economic environment in which it is rational for the majority of the households to be simultaneously engaged in the modern wage and traditional farm sectors." (Low and Fowler, 1980, 27).

The distribution of farm resources according to type of households in Maféteng tends to confirm other observations about the interrelationship and inter-dependency between labour migration and farming. Migrant households generally have smaller farms. But livestock resources are more related to the age of the head of household than to migration. Nuclear households with a migrant labourer do not have less stock than other nuclear households. The larger size households often with migrant labourer(s) and usually headed

by older person(s) have larger farms, and also more livestock. The plough/cattle combination does not increase significantly according to farm size. Also landless households and those with small farms (less than 1 ha) own implements and cattle, either separately or in combination, and they use these resources to perform farm activities for other households in the community in order to increase their cash income and/or food supply.

In discussing the differences in access to resources between ecological zones and population density areas, caution is required, because the factor of incidence may play a distorting role in a survey of this limited size. In the Foothills zone 14.1% of all households reported to have no access to land at all, viz. 8.6% in the Lowlands zone, whereas in the village which is situated in the low population density area, complete landlessness does not occur at all. Apart from this, however, land distribution data seem to justify the conclusion that population density does not have a significant influence on the degree of access to land in this zone. In the Foothills zone no important differences between high and low population density areas as regards to access to land and land distribution can be found.

The sharp difference in the resource position of households in terms of land, and the absence of the assumed correction of farm size by household size, raises the question as to specific household characteristics for the larger farms. To this end, a number of characteristics were recorded for all farms above the average size of 2.3 ha. It appeared that in certain respects households with larger farms hardly

differ from the average for all households. This applies to the average size of the household; the average number of dependents per household, for those with dependents; the average number of stock units; and the average number of cattle, for those households owning cattle. But for some characteristics, substantial differences were observed. Households with larger farms were much more often without migrants, had a considerably lower proportion of female heads and a sharply higher proportion without dependents. Moreover, the larger farms were generally found among households with older heads. Apart, of course, from the significantly higher average farm size (4.2 ha.), they had a lower percentage without stock, cattle in particular, a higher participation in share cropping on own fields and a higher percentage of plough-owning units. (For details see table 17).

TABLE 17

Characteristics of households and farms for larger farms compared with total sample

CHARACTERISTIC	All Households/ Farms	Households/Farms > Farm Size 2.3 ha
Total no. h.h.	155	48
Average size h.h.	4.9	4.4
Av. no. dependents per h.h.	2.6	2.4
No. of h.h. without dependents	40	21
% h.h. without dependents	26%	44%
% h.h. with female heads	68%	50%
% h.h. without migrants	34%	54%
% of heads > 50 years	47%	63%
Average farm size	2.30 ha	4.22 ha
Average no. of stock units	4.91 units	4.92 units
% h.h. without stock	36%	29%
Average no. of cattle	3.77 units	3.64 units
% h.h. without cattle	40%	31%
% sharecropping own fields	20%	31%
% ploughs	47%	63%

Source: Mafeteng District Rural Survey, 1980.

CHAPTER IV

The Organisation of Production

The previous section has shown the irregular distributinn of resources over households. This irregularity exists in two respects. Firstly, households have different resource positions in terms of the type of resources. Not all households have land, a larger proportion does not have livestock, and about half of the households do not have a plough. Various combinations of resources per household are found. Secondly, the resources differ per household in quantitative terms, i.e.acreage of arable land and number of livestock units. In addition, labour migration causes a differential distribution over households of another major resource, viz. available farm labour.

Households act in a variety of ways to achieve a mutual adaptation of resources in order to optimise the acreage of cropped land and to obtain optimal levels of production under the existing circumstances.

The agricultural activities of households in the Mafeteng District are mainly directed towards food production for the farm households. This appears from the cropping pattern and the marketing of produce (see table 18).

Farming in Lesotho is generally considered a risky undertaking. The growing season is relatively short and the timely performance of farming activities is very important, especially ploughing. In addition rainfall is highly irregular, the beginning of the rainy season which determines ploughing and planting, varies greatly from year to year. Hail and frosts occur frequently at the end of

TABLE 18

Cropping Pattern and Produce Marketing, Mafeteng District

VARIABLE	I	II	III	IV	TOTAL
No. of fields	84	55	99	71	309
No. of fields - fallow	26	7	15	2	50
% of fields - fallow	31%	13%	15%	3%	16%
% of households growing					
maize	48	86	79	86	72
sorghum	62	41	61	60	58
wheat	5	14	21	9	12
peas/beans	14	23	21	11	17
No. of households marketing produce	2	3	nil	5	10

Source: Mafeteng District Rural Survey, 1980.

TABLE 19

Age of Heads of Household in Relation to Fallow Land

Age Category of Head	No. of Households with fallow land	%
Below 40 years	10	26.3
41 - 50 years	9	23.7
Over 50 years	19	50.0
Total	38	100.0

Source: Mafeteng District Rural Survey, 1980.

the growing season, while during the ripening period insects and birds endanger the harvests. Under these conditions, the use of inputs, such as HYV seeds and fertilizers, is a rare phenomenon. Out of the 137 farm units, only 18 (13%) reported to have used fertilizers, often in relatively small quantities and some of these mainly because they entered into a share-cropping arrangement with the Ministry of Agriculture. The average size of the farms using fertilizers was considerably above the average for all farms, viz. 3.14 ha against 2.3 ha.

Under these conditions extension agencies hardly have a message to bring to the farmers, and it is no surprise that extension officers only rarely visit the farm households. No more than three households out of 155 reported to have been visited by an extension officer during the 6 months preceding the survey.

The insignificance of the sale of farm produce and the low level of external inputs indicate that the farmers in the Mafeteng District try to achieve their main objective, i.e. the food supply of the household, with a minimum of monetary investment and at little risk. The difference between the resource position of the households and the demand for food in view of size and composition of the household is attempted to be bridged at the level of the community through a variety of labour arrangements. Sometimes the boundaries of the village community are crossed, viz. where villagers enter into arrangements with persons in neighbouring villages.

The following arrangements were observed in Mafeteng District:

1. Sharecropping (sehlolo)

Farmers with more farmland than they can cultivate

with the regular household members because of their labour, livestock and implements position, enter into share cropping arrangements with other households. The contribution of the various parties differs from one case to the other. Sometimes the land owner brings in his or her cattle as draught animals. Weeding may be carried out by both partners. Alternatively, either of the two,or both, may hire labour for this type of task. Harvesting may again be undertaken by both partners, either or not with the help of others. Invariably, the harvest is divided 50:50 between the partners.

2. Sharecropping arrangements made with the Ministry of Agriculture.
The farmer brings in his land, the government ploughs the land, plants it with hybrid seed and harvests. The farmer is expected to weed but sometimes spraying against weeds is carried out by the Ministry by means of planes. The farmer gets 25% of the harvest.

3. Farmers hire tractor services or a team of animals for ploughing and/or labourers for weeding and harvesting and pay for these services in cash. The usual rate for the hire of a tractor was R40 per ha. at the time of the survey. The daily rate for labour amounted to R0.15-0.20 per hour or R1.0-R1.20 per day.

4. Farmers have relatives and co-villagers participate in the harvesting of the crop and remunerate the worker in the form of a share in the harvested crop. Occasionally

weeding was also paid in kind, which means that the workers usually have to wait for their payment until harvest time.

5. "Kopano" or labour exchange arrangements between a number of co-villagers. Each brings in what he has in terms of draught animals, implements and labour. They work (part of) their land together but each participant is entitled to the whole harvest of his own land.

6. Farmers organize working parties (letsema) for weeding and especially harvesting, and remunerate participants in the form of locally brewed beer, "joala".

These arrangements roughly tally with those found by Murray. In addition, Murray also mentions a sharecropping arrangement by which a contractor is entitled to the full harvest of part of the land in exchange for his ploughing services. Such a type of sharecropping was not encountered in Mafeteng. In contrast, Murray did not report about the agreement farmers enter into with the Ministry of Agriculture (Murray, 1981, 77-78).

The advantages of the various arrangements are obvious; a larger proportion of the land is cultivated than otherwise would have been the case; investments in cattle and implements through labour migration become more effective; and households without land are in a position to acquire at least part of the food needed. The wide variety of arrangements allows households to enter into the most suitable one in

view of their resource position. In fact, households often have different arrangements for individual fields in order to arrive at the best adaptation to resources for the household and the farm as a whole.

The table below summarizes the arrangements observed in Mafeteng District. It shows the high proportion of households engaged in any combination of arrangements (60%) and the variety between villages. For one of the villages the low participation in labour arrangements of any kind coincides with a high proportion of fallow fields (table 20).

TABLE 20

Labour arrangements, Mafeteng District

Labour arrangement	I	II	III	IV	TOTAL
Households sharecropping own field	9	5	14	3	31
Households sharecropping on other fields	1	1	10	15	27
Households using paid labour - cash	5	1	15	3	24
Households using labour paid in kind	8	3	8	4	23
Households using labour exchange	2	9	6	7	24
Households involved in labour arrangements	16	15	35	25	91
Total no. of households	72	28	44	41	155
% of households in labour arrangements	38%	54%	80%	61%	59%
% of fields fallow	31%	13%	15%	3%	16%

Source: Mafeteng District Rural Survey, 1980

In spite of these advantages, the agricultural system as operative in Lesotho now, also has clear disadvantages.

The most striking of these are the low yields levels and the detrimental effect on the natural resources.

The low yields are related to the use of land which is less suitable for arable purposes, the low level of inputs, especially fertilizers, the inadequacies in crop husbandry, and, in particular, the absence of proper weeding. It is extremely difficult to obtain reliable yield data in a single visit survey. Therefore, yield figures will not be mentioned here. But the survey data do allow some general conclusions.

1. A high proportion of the households experienced crop failure on at least one of their fields during the year of the survey because of drought;
2. Yield levels varied strongly between households;
3. The higher crop yields reported were found among those households using fertilizers;
4. The larger size farms usually experienced higher yield levels in view of more intensive operations and a more frequent use of fertilizer.

But higher yields do not, of course, point at more efficient farm operations. The farms which recorded higher yields in all probability also experienced higher costs. Fertilizer is expensive, and has strongly increased in price recently (R. 14.00 per 50 kg in 1982)

In addition, by not participating in labour migration households forsake monetary income. If compared with the alternative of labour migration, farming, even for subsistence purposes, has become less attractive. On the other hand, a higher degree of self-sufficiency means a lower

proportion of remittances spent on the food-supply of the household and a larger proportion available for other purposes, including the purchase of cattle and the investment in a house well adapted to Lesotho's climatological conditions. The economic model developed by Low and Fowler attempts to provide the rationalization of household behaviour in the allocation of labour over the available opportunities (Low and Fowler, 1980).

A rough indication of the degree of self-sufficiency in the Mafeteng District can be calculated on the basis of calory requirements per average household, average yield levels and average farm size. The average household of 4.4 persons was calculated to need 14 bags of grain carbohydrate requirements (Feachem, 1978, p. 19). For the slightly larger Mafeteng households this would amount to 15.6 bags. Hardly any household in the survey appeared to achieve such a level of production, and, consequently, almost all were to a varying extent dependent on outside sources to purchase staple food.

The observations in Mafeteng are supported by data provided by Reichart and Winch. In their survey covering the districts of Mafeteng, Mohale's Hoek and Quthing, they found that almost half of all farms did not harvest any maize and sorghum in 1978/79 with the highest proportion of failures in the Lowlands. In addition, also in their survey the variation among farmers was considerable, but in general yields per farm were higher in the Foothills. Since farms were on average smaller in the Foothills, yield levels in this area exceeded those in the Lowlands. Their information had not yet been worked out thoroughly as to types of farms/ households and they adopt a circular argument, (e.g. they first select better/progressive farmers on the basis of total

output levels (p. 15) and then conclude: "....that the total production levels of the better farmers in both the Lowlands and the Foothills are much greater than those of the average farmer....."(p. 31)), but they observe higher overall output levels for larger households, with a higher proportion of male heads and a higher percentage of older people as the head of the household (Reichart and Winch, 1981, p. 31).

TABLE 21

Yields of Maize/Sorghum for Ecological Zones in Mafeteng/Mohale's Hoek/Quthing (% of farms 1978/79 season)

YIELD LEVELS per farm	LOWLANDS		FOOTHILLS		ALL FARMS	
	Maize	Sorghum	Maize	Sorghum	Maize	Sorghum
NIL	56.2	58.8	38.3	38.7	45.1	46.6
1-9 tins	16.5	7.0	9.0	4.7	12.4	5.6
10-49 tins	25.1	27.6	44.0	45.7	36.6	38.5
50+ tins	2.2	6.6	8.7	10.9	5.9	9.3
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average (in bags)	2.2	4.0	4.3	5.3	3.6	4.9

Source: Reichart & Winch, 1981. (1 tin = 15 kgs.)

If these yield data are in the correct order of magnitude, they make clear that households produce on average only half of their gram carbohydrate requirements. But for a substantial proportion of the households these purchases by far exceed half of the required quantity. Neither the Reichart and Winch data, nor the Mafeteng Survey 1980, allow for the identification of households in terms of household characteristics as to the degree of dependence on staple food purchases in relation to monetary income.

SUMMARY AND CONCLUSIONS

The research in the rural areas of Mafeteng District aimed at obtaining an insight into the characteristics of households and farms. It was assumed that the households and farms would differ in relation to ecological conditions, and population density in association with land scarcity. Therefore, villages were selected in respectively a high and a low population density area, both in the Lowlands and in the Foothills.

The households in Mafeteng District showed a strong variation in size and composition. Two-thirds of the households consisted of less than five members; in addition a small group of fairly large households was found with sometimes more than ten members. Household size was, of course, related to composition; in this respect the number of dependents (persons below fifteen years of age) was an important determinant. But a number of these dependents were economically active since they were herdboys.

The most important criterion which distinguished households from each other was the participation in labour migration. This is not surprising in a country where between half to two-thirds of the adult males more or less regularly migrate to the Republic of South Africa. The high incidence of migration coincides with a large proportion of female heads of household - sometimes indicated as household managers - a term which points to the fact that the most important decisions about production and consumption matters are taken in close consultation with the regularly returning husband. The vast majority of households have one - usually male - member participating in the labour migration.

A second criterion to distinguish among households is the age of the head in association with the relationship of the household members to the head. Half of all were nuclear households, most of which with the husband as a migrant labourer. These households had an average size of five persons. In addition, one-third of the households were headed by older persons (over fifty years of age). Migration was less common among these households (about half of these had (a) migrant(s). Here again households had an average size of five persons, except a small group without dependents. The remaining households were either complex in composition or incomplete. The complex ones were of more than average size because of the higher number of dependents (including herdboys) and/or other relatives and friends. The incomplete ones - usually below the average size - were characterised in general by the absence of a male head, for other reasons than labour migration. The female heads of these households were unmarried, divorced or widowed and below fifty years of age.

Household size differed between ecological areas: the proportion of large size households was bigger in the Foothills. This was related to the higher incidence of labour migration in the surveyed villages in the Foothills. This phenomenon, however, was not observed for the district as a whole, where according to population census data differences between the agro-ecolocial zones with regard to the participation in labour migration are not significant. Nuclear households with the husband as a migrant labourer were found more often in the Foothills zone than in the Lowlands zone. Households with older persons with children and/or grandchildren and other dependents were much more common in the Lowlands. Here as well, population density was found to have no influence on the incidence of labour migration.

The households in Mafeteng District were almost all

agricultural households in the sense that they had access to land, and/or owned livestock and/or implements, and the members carried out agricultural activities. This does not mean, of course that they were also chiefly dependent on agriculture in income terms. Subsequent agricultural censi and other research have revealed for Lesotho a growing proportion of landless households, a decrease of the average farm size, an increase in inequality in terms of access to resources such as land and livestock. The Mafeteng Survey, although a single visit survey, confirms such trends in the sense that it showed some ten percent of the households being without land, with strong variation between villages; and a farmsize which sharply differed between households with access to land, also if acount is taken of the size of the household. Access to land appeared to be related to type of household. The nuclear migrant households had the smallest holding size, the household headed by older persons the largest one.

Livestock resources showed an even more skewed distribution over households. In the first place, more than one-third of them did not have any stock. Secondly, livestock, especially cattle, was irregularly distributed over the stock-owning households with only one-third of them having more than five heads. Some five percent appeared to have neither land nor livestock. However, in contrast to that some households had land and no livestock; others did not have land but owned stock.

Again, a relationship between the type of household and the ownership of livestock could be observed similar to that between households and land - there was a clear concentration of livestock among households with older heads.

In addition, the complex households showed a higher than average number of livestock, a phenomenon obviously related to the fact thathat complex households often comprised one or more herdboys. Finally, there appeared to be no difference between migrant and non-migrant nuclear households as to livestock ownership.

Agricultural implements also showed a skewed distribution over households: half of all households did not own a plough and four out of five households did not own a planter. The availability of a plough and at least one draught animal was not related to the size of the holding. Ploughs and draught animals were also found among the landless households. Households with older heads, except the ones without any dependents, relatively often did own both ploughs and planters. Therefore, these households were found not only to have access to more land, to own more cattle, but also to have more agricultural implements than other households.

The distribution of farm resources according to type of household in Mafeteng District tends to confirm other observations about the interrelationship between labour migration and farming activities. Migrant households generally had smaller farms, but livestock resources were rather related to the age of the head of household than to migration. Nuclear households with a migrant labourer did not have less stock than other nuclear households. The larger size households often with migrant labourers were usually headed by older persons, had larger farms and also owned more livestock.

Differences were observed between the two agro-ecological zones with regard to access to land. The most remarkable aspect found was that landlessness occurred almost twice as often in the Foothills zone than in the Lowlands zone. Differences

as a consequence of population density influences were not found at all.

In the Mafeteng District landlessness coincided with fallow due to shortage of labour to complete all work in time. A high proportion of fallow land was found in association with a high percentage of older heads of households. This points at the inadequacies of the mechanisms to adapt the distribution of resources over segments of the society to the optimal use of these resources. However, these mechanisms were definitely not absent in the Mafeteng District. Households acted in a variety of ways to achieve a mutual adaptation of resources in order to expand the acreage under crops and to obtain higher levels of output under existing circumstances. A wider variety of sharecropping arrangements and other forms of co-operation were recorded which had led to a more intensive use of available resources and to households without land but with other resources - including surplus labour - obtaining at least part of their food requirements.

Differences in organization of production were again not found between areas of varying population density in the Mafeteng District However, differences reported on this aspect between the agro-ecological zones were considerable, especially with regard to the incidence of the various labour arrangements. The phenonmenon of households sharecropping other farmers fields was a rather common aspect of farming in the Foothills zone, while this hardly occurred in the Lowlands zone. Also the hiring of labour for cash was a rather usual arrangement in the Foothills zone, again in contrast to the situation found in the Lowlands. These factors explain for an important part the

difference in the proportion of fallow land between the zones: in the Foothills, where the various types of labour arrangements and sharecropping were practised, relatively low percentages of fallow fields were reported. In the Lowlands fallow fields were quite often found at the time of the survey.

The inadequacies in the prevailing system appeared from the observed disadvantages: a proportion of the land being fallow, low yield levels, and environmental degradation because of inappropriate landuse. Moreover, these inadequacies are related to the extremely difficult situation for agriculture in Lesotho: high risks because of the ecological circumstances (eg. rather poor and vulnerable soils, a short growing season, unpredictable and highly irregular weather conditions) and a rather "attractive" economic alternative in the form of the labour migration to the Republic of South Africa.

Lesotho is characterised by what has been called a low risk, low input and low yield level type of agriculture. This has also been observed in the Mafeteng District. Production is geared to self-consumption, which became apparent from the cropping pattern, (most households only cultivated the staple crops of maize and sorghum), and the almost total absence of crop sales. Very few farmers used inputs such as High Yielding Variety (HYV) seeds and fertilizer. With one or two exceptions, farmers were not visited by extension officers, for obvious reasons: there was hardly any message to convey.

The results of the research on households, production and resources in the Mafeteng District do not dramatically differ from surveys and observations made elsewhere in Lesotho. To some extent they are more specific about the relationship between the type of households and the distribution and the type of resources. These results seem to justify more intensive research than that possible in a single visit survey in the framework of a university Ba/BSc training programme like the Urban and Regional Planning Programme at the National University of Lesotho.

This type of research is of crucial importance to planning. The expected decrease in the flow of Basotho labour migrants to the Republic of South Africa necessitates a better and more intensive use of resources in Lesotho, an increase in remunerative employment and a reduction of the country's dependence on external sources of its food supply. This shows the obvious needs for a carefully prepared landuse plan at village/community level in accordance with these villages' resource position, the creation of more flexible arrangements for the use of these resources by the members of the community in order to avoid unnecessary fallow, and a thorough investigation into the opportunities for the application of external inputs, which both reduce the risks of the farmers and increase their output substantially.

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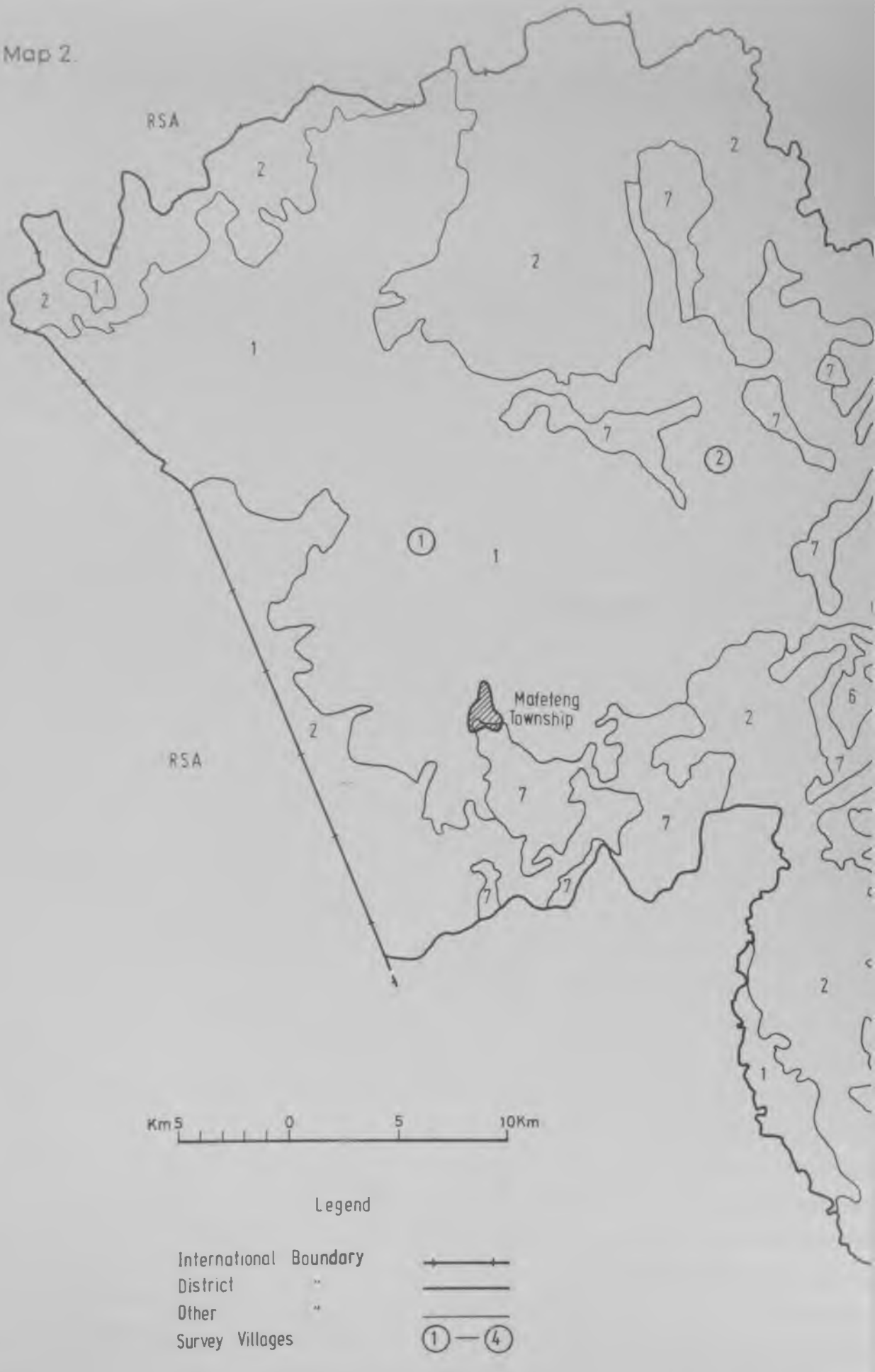
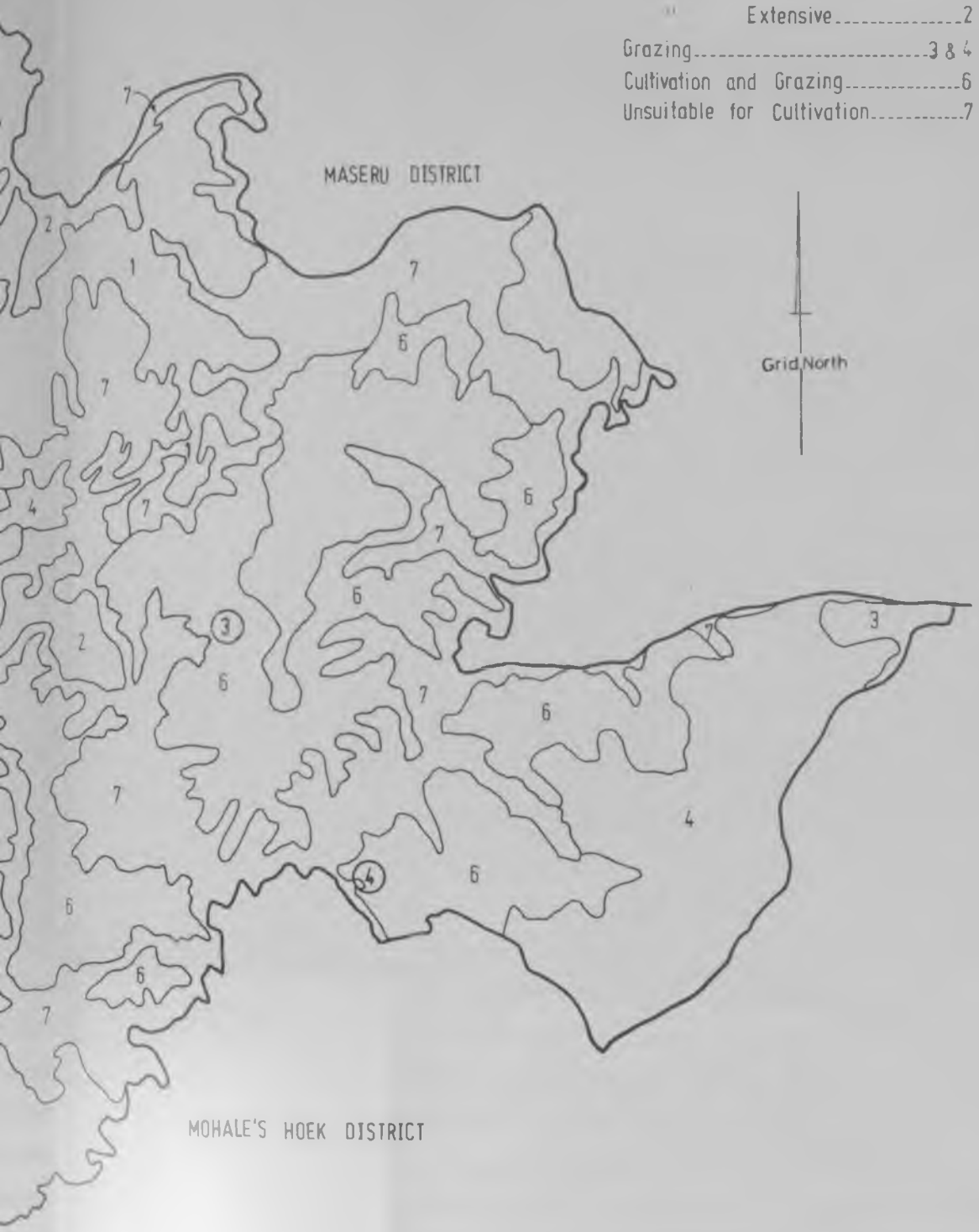
Map 2.


RSA
RSA
Mafeteng
Township
Km 5
0
5
10Km
Legend
International Boundary
District "
Other "
Survey Villages
1 — 4

MAFETENG DISTRICT — Land Potential and Location of Sample Villages.



Map 1

MAFETENG DISTRICT — Agro-ecological Zones and Location of Sample Villages.