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RESEARCH ON THE RURAL POOR IN LESOTHO: PRELIMINARY INDICATORS AND
FUTURE DIRECTIONS

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ABSTRACT

Baseline socio-economic research by the District Level Planning and Rural Development Project in two foothill areas of Maseru district is described. Analysis of the results of the research is taken further with reference to other Lesotho rural survey data in an effort to identify the elements of rural poverty so as to provide a foundation for future research and policy design for rural development.

PREFACE

A draft of this paper was presented to an ISAS seminar on the 11th September, 1984. Participants at the seminar made a number of useful comments, and an attempt has been made to include these in this final version.

We are grateful for the cooperation of the chiefs and people of Ha Ramotsoane and Ha Raboshabane during our period of fieldwork in their areas. The efforts of the students who worked with the DLPRD project in these areas - Mr. K. Khoarai, Mr. M. Majoro, Mr. M.T. Raleting and Ms S. Tsepe - are reflected in the data presented in this report. We gratefully acknowledge the assistance in field supervision of the DLPRD counterpart project manager, Mr. T. Thoahlane, and of Dr. Q. Chakela (Department of Geography); Drs H. Huisman (Department of Geography); Ms E.R.M. Mapetla (Department of Political and Administrative Studies); Mr. M.P. Senaoana (Department of Economics); and Ms P. Setloboko (Department of Political and Administrative Studies). Mr. R.C. Leduka subsequently performed the important task of coding the field data for computer processing.

The advice and information provided by Dr. John Gay before, during and after his short consultancy on data processing and the existing computerized data base were invaluable. We are grateful to the manager and staff of the Government of Lesotho computer centre for their friendly assistance and the resources they provided. The permission of the Ministry of Agriculture and Marketing to review computerized data files deriving from surveys previously carried out under its auspices is acknowledged with thanks.

All errors in this paper remain the sole responsibility of the authors.

S.D. Turner
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September, 1984

SUMMARY

Part I of this paper presents and analyses the findings of a household survey undertaken by the Institute of Southern African Studies District Level Planning and Rural Development (DLPRD) project in two foothill areas of Maseru district in winter 1983. A total of 297 households were surveyed. Part II of the paper carries the analysis of rural subsistence and poverty further by comparing the data presented in Part I with that collected in various other rural surveys in different parts of Lesotho over the past ten years.

The Maseru district foothills survey built upon field research carried out by the NUL Department of Geography in the lowlands of Maseru district in 1982. With fieldwork planned for the mountains of the same district in 1984, this was aimed at partial fulfilment of one of the DLPRD project's terms of reference, that is, analysis of rural conditions in a specific district of Lesotho.

The questionnaire survey (Appendix A, page 51) referred to the household as the principal unit of analysis. Households were later categorized three ways into groups reflecting their mode of subsistence, agricultural networks and involvement in local administration and development (Table 3.4, page 13; 3.8, page 16; 3.13, page 20). A mean household size of 4.73 members was found from the foothill areas studied, with 76% of households male headed and 24% female headed.

An important part of the analysis derived from questions to the respondents as to the principal and subsidiary sources of subsistence of each household member aged ten and over. This method, in a one visit survey, fails to record all the details and complexity of household subsistence strategies, but gives the principal features. 52% of households (Table 3.2, page 10-11) report no involvement with South African migrant labour; 18% report that one or more of their members considers wages from within Lesotho as a principal or subsidiary source of subsistence. Local off farm employment has a significant secondary role. It is assumed that all households need some sort of cash income, and 66% (Table 3.4, page 13) of those surveyed in the two foothill areas reported dependence upon some combination of South African or Lesotho wages, local off farm activities and farming. In fact the households reporting dependence on farming only are likely to have various subsidiary activities that provide some cash; very little sale of farm produce was reported. With regard to agriculture (section 3.3), 19% of the survey households reported having no fields, and 60% no livestock (some under-enumeration is possible in the latter case). Only 30% of households reported having a plough. The means of effective agricultural production are therefore lacking for most households. Sharecropping continues to be an important way for some households to remedy this. Turning to the involvement of household members in local institutions and leadership positions and their participation in local development projects (section 3.4), a generally low level of involvement was reported. Extension contact was found to be very low.

Some relationships between the foothill households' characteristics were tested (section 4). The size of the household and its 'subsistence category' appear to be linked (Table 4.1, page 22); to some extent this represents the typical cycle of family growth and income generating activities experienced by rural Lesotho households. Female headed households tend to depend on farming only, or sometimes on local off farm employment or the wages of a child (section 4.2). They tend to hold fewer fields, to own fewer tools and to be forced to sharecrop their own land more often than male headed households. The family cycle is represented again in the relationship between agriculture and demographic indicators (section 4.2); it is the larger households which tend to own more farm tools and more livestock; and the number of livestock held typically increases with the age of the household head.

The second part of the paper forms a first tentative approach towards a study of the rural poor in Lesotho and their subsistence strategies. This was done by reviewing household data from a number of rural survey files, of which the DLPRD foothill survey was one (Table 5.1, page 31). It was hypothesized that it would be possible to identify the poorest households from these survey files in terms of certain characteristics: that they would have no member in formal wage employment; they would have no livestock, or at least no cattle; they would have fewer large agricultural tools and produce less crops; they would own fewer modern possessions; they would often be female headed and smaller than average (section 5.1). These crude hypotheses could not hope to incorporate all the factors controlling households' levels of subsistence, but were used as a preliminary indication of the nature of poverty. The presence or absence of a wage worker was confirmed as the prime determinant of relative wealth or poverty, and a test using one survey file where actual income data are available confirmed that it is a valid surrogate for the more usual situations where no such data exist (Table 5.7, page 45).

Analysis of the data also confirmed that many of the poorer households are female headed, and that poorer households are smaller than average. Households owning livestock are not necessarily those with wage workers. The wealthier households tend to score higher on agricultural tools, the value of their crops and the number of 'modern possessions' they own, but there is no real difference between wealthier and poorer households in terms of the number of fields held.

DLPRD has since undertaken further research, and is planning more, to complete the survey of Maseru district by covering the mountain zone; to refine the analysis of subsistence and poverty presented here; and to look more closely at the subsistence strategies of the poorest groups, with particular reference to rural non farm employment.

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1. INTRODUCTION

1.1. The District Level Planning and Rural Development Project

The research reported below was undertaken as part of the District Level Planning and Rural Development (DLPRD) project at the Institute of Southern African Studies (ISAS), National University of Lesotho (NUL). This three year project began in May 1983 and is being implemented jointly by the Free University, Amsterdam (FUA) and NUL. Funding comes from the governments of the Netherlands and Lesotho. To date the project has a limited core staff of a manager and counterpart manager, seconded to ISAS by FUA and NUL respectively; the aim is that teachers and students from other NUL departments should add their research efforts to make DLPRD a collaborative NUL venture on rural development problems.

The work described here took place in the early months of project implementation and was intended as a baseline venture in terms of getting the project established in the field, initiating working relationships with collaborating NUL teaching departments, and exploring the parameters of rural poverty in Lesotho in order to begin the research tasks outlined in the project document. The DLPRD project has three aims: to provide, through research and through collation of existing information, a data base for district level rural development planning in Lesotho; to strengthen the research and teaching capacities of NUL staff and students by involving them in the first task; and to develop the role of NUL as an applied research resource that can assist the Lesotho government in achieving its rural development targets. During the project's first phase, research and data collection were concentrated in a single district. In consultation with government, three research topics were identified for this phase: the role of local institutions, particularly village development committees, in rural development; the status and prospects of the rural off-farm sector as a source of employment; and the condition and survival strategies of the poorest sector of the rural population. The first phase research activities, including the initial exercise described in this report were not designed with a specific policy input or objective in mind. They were intended to initiate DLPRD research involvement in Lesotho rural development issues and to lead to more directly policy-oriented research design on narrower aspects of poverty and subsistence in the second phase. It is hoped that the present report will serve in part as the basis for such further research design.

The project document also required that, through a combination of field research and collation of existing data, an integrated survey of human and physical resources and socio-economic conditions in the district under special study be compiled in order to pilot ways in which this data base could be tailored for district development planning purposes. The district chosen for special study during the first phase was Maseru. This was partly for logistical reasons, Maseru obviously being the easiest district to research from a base at Roma during the start up of the project. It also made sense to build on the fieldwork foundation laid by the NUL Department of Geography in that district (see 2.1 below). Moreover, the rural areas of Maseru district have not received as much research attention as might be expected,

and in particular no cross-zonal comparison of conditions in the district on the basis of field survey is known. It might be suspected that with its proximity to the capital, Maseru district might be atypical of rural Lesotho conditions; but comparison with data from elsewhere in the country as reported in Part II below suggests that no clear difference exists.

1.2. Field Research, Winter 1983

In order to provide an integrated foundation for all these research tasks, a baseline fieldwork exercise was undertaken during the NUL long vacation in winter 1983, very shortly after project inception. An early venture into the field meant hasty planning and less than perfect implementation, but was viewed as advantageous for the reasons outlined in 1.1 above. In addition, the NUL long vacation is the best opportunity in the year for involving teaching departments in the project's activities. In a number of the social science departments, third or fourth year students are required to undertake a piece of original research as part of their degree programme. The long vacation is the most convenient time for them to do this research; in some departments it is mandatory for them to do it then, while in others the student may choose whether to do it in the vacation or in term time. These student research projects are of necessity modest efforts, but they provide the students with useful research experience. Moreover, if the research projects of students from several departments can be combined into a coordinated field exercise, a fairly wide ranging survey can be attempted. Involving these students' supervisors from the teaching departments in the exercise provides them with useful experience, and may lay the foundation for further, more advanced work by these lecturers themselves.

The winter 1983 fieldwork was designed with all these aims in mind, although because the long vacation began only a couple of weeks after the arrival of the DLPRD project manager, it could not be designed as thoroughly as might have been desired and the numbers participating had to be kept small. Two students and two supervisors from the Department of Political and Administrative Studies took part. Two Economics students supervised by one lecturer from that department participated, although one of the students left the project during the field period for family reasons. One student from the Department of African Development also participated. The field exercise was designed in collaboration with the Department of Geography, whose vehicle was shared by DLPRD in the field. A number of students from that department's Applied Environmental Science Programme (AESP) worked in the same areas as the social science students working with DLPRD. The one Human Geography student in the Urban and Regional Planning Programme (URPP) who should have done a research project at the time of the winter 1983 field exercise unfortunately left URPP just before the vacation. A Dutch graduate student working in Lesotho under URPP did however, spend some time in the field with the NUL students.

The field research exercise lasted for seven weeks in the period May - July 1983. For the first part of the field period, the students all worked together on a baseline household survey, covering each household in the two study areas (see 2.1 below).

For the remainder, the students worked on their own individual research topics. Their departmental supervisors helped with both these phases. It is the data collected in the first phase which is presented here. Research project reports by the participating students were produced separately and are listed in Appendix C. The data was coded in August - September by a DLPRD graduate research assistant, and subsequently processed at the Government computer centre in Maseru.

1.3. Analysis of the existing data base

Much research and data collection on socio-economic issues relevant to rural development has already been done in Lesotho. The DLPRD project document therefore makes frequent reference to survey of the existing data base and collation of relevant material from that source, in addition to primary data collection in the field. From the outset of the project's first phase an attempt was made to link field work with analysis of the existing data base.

Within the limited areas covered by the winter 1983 field survey, an attempt was made to collect data on a simple range of household variables that would help delineate the elements of production, subsistence and stratification among the rural population. The aim of this was not only to produce a simple description of conditions in the areas studied, but to identify issues that would benefit from further research attention and to define criteria which distinguish sub-groups of the population, with particular reference to levels of wealth or poverty.

When computer processing of the DLPRD data had achieved this for the limited study population, attention was turned to the large body of comparable data on rural Lesotho existing on computer file in Maseru. This data derives from surveys undertaken by a variety of rural development projects and other government agencies since the early 1970s. It refers mainly to the lowlands and foothills. Coming as it does from such a range of sources, the quality of this data base is variable, and inter-survey comparison is not always straightforward or valid. During a short consultancy for the DLPRD project by Dr. John Gay, the authors and counterpart project manager were familiarized with this range of computer files and the sort of uses to which they could be put. Computer manipulation of this large data base has endless possibilities, but an attempt was made to extend the type of analysis used on DLPRD's own winter 1983 material to this wider range of material; to try to identify the common features of wealth and poverty in rural Lesotho and to develop standard criteria that would identify target groups for possible further research and policy support, with particular reference to the nature of rural poverty.

This wider survey of the existing data base largely took place in the two months up to December, 1983. It could, of course, have gone on much longer and become more sophisticated. But enough interesting material was collated from the computer files in that time to situate DLPRD's own first field exercise within a wider context and to suggest some directions for further work by the project. These ideas are

presented in Part II below. In Part I, the winter 1983 field exercise is described and its findings are presented.

PART 1

DLPRD WINTER 1983 HOUSEHOLD SURVEY, MASERU DISTRICT FOOTHILLS

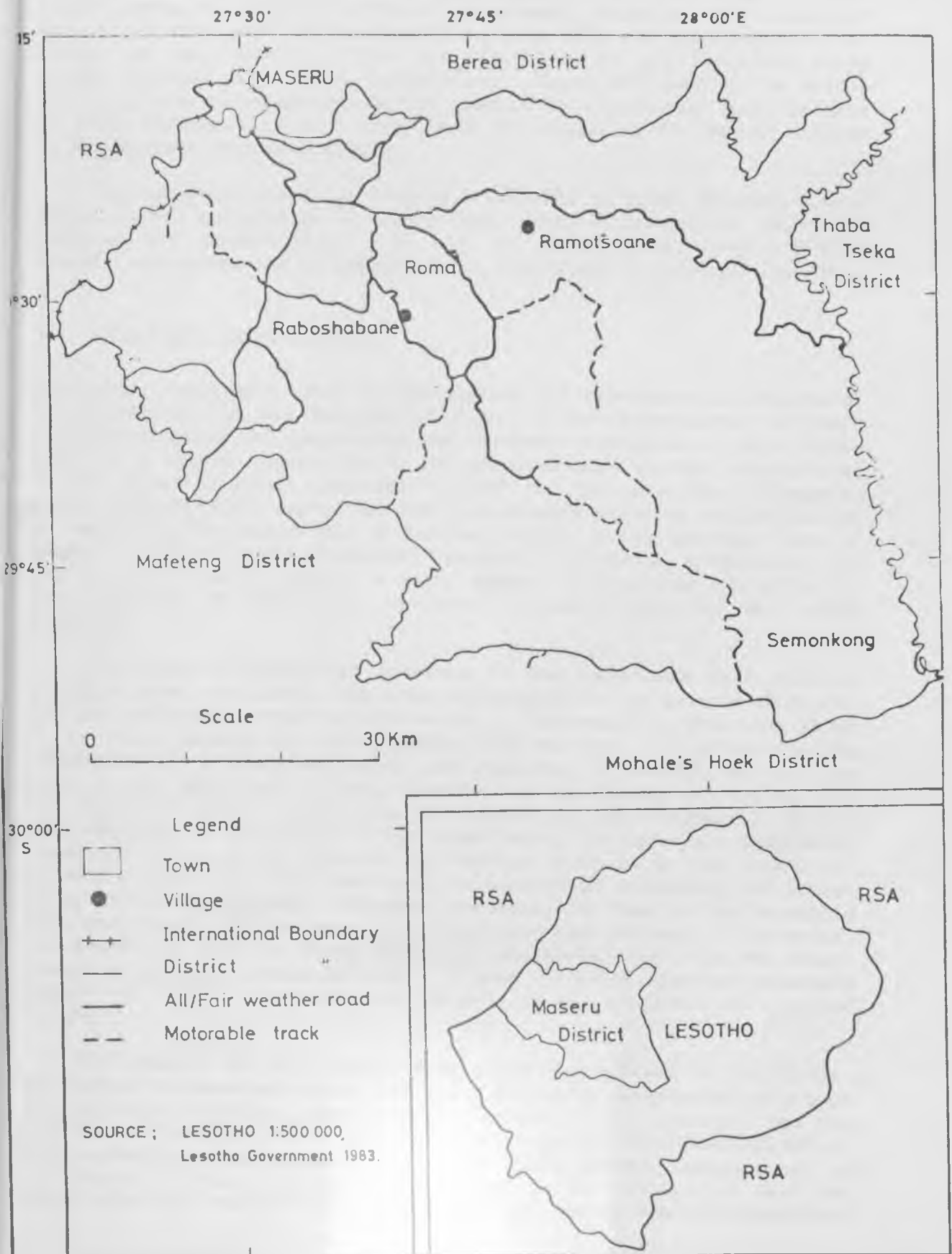
2. RESEARCH AREA AND METHODS

2.1 Communities studied

The DLPRD winter 1983 household survey was carried out in the areas of Ha Ramotsoane and Ha Raboshabane, both in the foothills of Maseru district (see map). The reason for selection of these areas stems from the project's collaboration with the Department of Geography's AES and URP programmes. These had been undertaking long vacation field research for some years, and in winter 1982 a baseline household survey comparable to that proposed by DLPRD and collaborating departments for winter 1983 was administered in two communities in the lowlands of Maseru district. A move to the foothill zone therefore seemed appropriate for 1983. Lesotho's third principal ecological zone, the mountains, is also extensively represented in Maseru district, and it is intended to undertake DLPRD fieldwork in that zone in the 1984 long vacation. A general comparison of the three surveys' data on the three zones of the district may then be attempted. For winter 1983, foothill communities were sought which were reasonably accessible from NUL at Roma; lay in catchment areas suitable for study by physical geography students under the collaborating AES programme; fell into land capability zone 6, identified by Bawden and Carroll (1) as suitable both for cultivation and for grazing, with good access; comprised a total number of households sufficient to provide representative data but not in excess of what the research team could expect to cover in the time available; and offered a good prospect of cooperation from local chiefs and residents. Ramotsoane and Raboshabane met these criteria.

Each area in fact comprised a number of small villages under the jurisdiction of a single chief and subordinate headmen. The students were accommodated in rented houses in the area and were able to cover the distances between the villages on foot. After a period at Ramotsoane, they moved to Raboshabane. Some later moved back for further work at Ramotsoane. All the villages in the area under the Ramotsoane chief were covered. In Raboshabane one village was not covered because of poor cooperation from the local headman, but adequate coverage was obtained by work in the other villages in the area.

MASERU DISTRICT



A total of 297 households were visited in the two areas studied. After approaches through official government channels, the chiefs of both areas were most cooperative in helping with the planning and execution of the research. They provided lists of all household heads in the villages under their jurisdiction. These were used by the students in an attempt to administer the general socio-economic questionnaire in every household in each area (with the exception of the one village in Raboshabane mentioned above).

The two study areas are roughly comparable in size, physical conditions, levels and sources of subsistence, types of production, available services and accessibility. As will be shown below, they are also broadly representative of general rural conditions in foothill Lesotho.

2.2. The questionnaire survey

The survey instrument used in Raboshabane and Ramotsoane is reproduced in Appendix A. It was designed to elicit a restricted amount of basic information about the composition and economic activities of each household in a manner comparable to the questionnaire survey administered in the Maseru district lowlands by URPP the previous year. Comparability with the URPP survey was the main consideration in the definition of variables, in order that a further survey in the mountain case of Maseru district would ultimately permit inter-zonal comparison for the district as a whole. A small number of questions referring to the subjects of individual students' research projects were also included.

The lists of households provided by the two chiefs were accurate enough on their own terms, but some adjustments had to be made in applying the selected survey definition of a 'household'. This was taken to be those persons who eat together from one pot, i.e. share cooking arrangements. A homestead with, for instance, a recently married son away at the mines and a young daughter in law living and eating with her husband's family would thus be treated as one household. If the same daughter in law were, on the other hand, living in the same homestead but catering for herself and perhaps a child or the husband if he were at home, the homestead would be treated as containing two households for survey purposes. Whenever possible, the head of the household was interviewed. In the many cases where the man, as head of the house, was absent at work in South Africa or elsewhere, his wife was interviewed as de facto household head. In some instances, another household member had to be interviewed as the only person available on repeated visits.

The absence of many people from rural communities is an important factor in Lesotho. A cut off point has to be established in household surveys to define when an absent member of the household has been away for so long that he or she should no longer be considered an effective member of that household. In the DLPRD survey, this was set as two years; a person who had not been home to the village for even one short visit in the two years preceding the survey was not considered

a member of the household which mentioned him or her. It was recognised that some household members might return home regularly but not contribute so much to their households' subsistence as others who might be away for longer than two years but remit substantial amounts regularly. Given that any such cut off point will misclassify a few individuals, however, the two year criterion was felt to be most appropriate.

Questionnaires were checked several times a week in the field by the project managers and departmental supervisors, and a fair level of reliability was attained with the data. At the end of the field period, the students classified each household shown on the questionnaires in three ways, assigning it to a 'subsistence category', an 'agricultural networks category' and a 'membership category'. The first categorization was a general attempt to stratify the population of households according to the principal mode of subsistence. It took into account not only the sources of income the household had but also whether they had access to land, it being assumed that such access would significantly influence both the level and the mode of the household's subsistence. The second classification was undertaken largely on behalf of the Dutch URPP student who participated in the project, as his principal interest was the mechanisms whereby agricultural resources and labour are shared and hired. Participation in sharecropping or less formal sharing arrangements, the hiring of implements or labour or indeed employment of household members as agricultural labourers are all relevant to a general analysis of rural subsistence as well, however, particularly when correlated with access to land as was done in the 'agricultural networks' categories. As will be seen below, reference is therefore made in the analysis of the Ramotsoane and Raboshabane data to both the subsistence categories and the agricultural networks categories into which households fall. The third, 'membership' categorization was undertaken on behalf of one of the participating students who was looking at communal involvement in local administration, development planning and project management, along with local participation in development efforts.

Lists of the three sets of categories, together with further notes on some of the working definitions adopted in survey administration and processing, are presented in Appendix B. In the next chapter a summary of household characteristics recorded by the survey in Ramotsoane and Raboshabane is presented.

3. HOUSEHOLD CHARACTERISTICS

This chapter summarizes some key characteristics of the households interviewed in the two village areas studied. The four sets of indicators presented refer to household composition; the households' main sources of subsistence; their access to agricultural resources and involvement in agricultural production; and their participation in local administrative and development activities, together with the extent to which they are being reached by some government services.

It should be noted that these indicators are the result of a first processing of the data in which the variables created refer to the household as unit of analysis. Data in the questionnaires describing individual household members is represented only to a limited extent in the form of summary household variables, e.g. number of people in the household, age and sex of the household head. It has not been considered appropriate at this stage to crosstabulate every household characteristic with the sex of the member(s) to whom it refers. Similarly, data on the household's fields is reported in the main 'household' file only by the summary variable showing the number of fields held. Other data about fields, e.g. size and crops grown, was stored and analysed in a separate file. While some of this data is presented here, it cannot be referred back to household characteristics; for example, a crosstabulation of size of household by crops grown is not possible at the present level of analysis.

Of the total of 297 households whose heads or representatives were interviewed, 132 were in Ramotsoane (44.4%) and 165 in Raboshabane (55.6%). The objective of a complete census of these villages was almost attained (with the exception of the one village in the Raboshane area mentioned earlier). It is believed that the few households not interviewed do not introduce any bias to the data. Tests run to search for any significant differences in household characteristics between the two study areas encountered almost none. The analysis in this and the following chapter therefore refers to all 297 households.

3.1 Demographic indicators

The indicators presented here refer to the households as defined in section 2.2. on page 6. Once this working definition of the household has been applied, it is not usually difficult to identify the household head. This is normally the man whose wife and children most typically make up the rest of the nuclear family; grandchildren, other relations and sometimes unrelated persons may also be household members along with this core group. Although the wife is often de facto household head in the absence of her husband at work, the man retains headship in terms of this analysis except in the rare cases where the household respondent still referred to him as head despite an uninterrupted absence of more than two years (see 2.2 on page 6). In such cases and when the husband was dead, the wife was treated as household head for the purpose of this analysis. The analysis also referred to 'dependants'. These were all household members whose principal source of subsistence was shown in section 1 of the questionnaire to derive from the work or income of another member (see Appendix A).

Household size ranged from one to 14 members, with a mean of 4.73. Male headed households constituted around three quarters of the total (76.1%). Of course, if de facto household managers had been taken as the criterion, many more households would have counted as 'female managed' than the 71 (23.9%) which were officially 'female headed'.

The number of dependent members in the household ranged from none to nine. Table 3.1 shows the distribution of this variable together with some other basic household characteristics.

Table 3.1

Household composition and characteristics of the household head

Size of hh	1	2	3	4	5	6	7	8	9	over 9		
% of hh	7.7	10.8	14.1	17.1	17.5	10.1	7.7	7.1	3.7	3.4		
	Median = 5					Mean = 4.73						
No. of Depen- dants in hh	0	1-2		3-4		5-6		7-8		over 8		
% of hh	14.8	34.3		31.0		13.8		4.7		1.3		
	Median = 3					Mean = 2.85						
Marital status of hh head	single		married		widowed		divorced		unknown			
% of hh	1.7		70.4		24.9		2.7		0.3			
Age of hh head	21-30		31-40		41-50		51-60		61-70		over 70	unknown
% of hh	12.1		16.8		22.4		14.5		17.5		15.8	1.0
Head's principal source of subsis- tence	agric- ulture		migrant labour RSA		wages Lesotho		local off farm employ- ment		other/unknown			
% of hh	48.5		30.0		12.9		3.7		5.0			

3.2 General sources of subsistence

In the survey, questions were asked about the principal source of subsistence/income over the last 12 months for each household member aged ten or over, and about where these activities were carried out. The answers have been combined in various ways, to give the principal source of subsistence of the household head (and its location - see Table 3.1 above), and to show how many households have one or more members whose main and subsidiary sources of subsistence are in, respectively, agriculture, migrant labour in South Africa, wage employment elsewhere in Lesotho, and local off-farm employment. (Local off-farm employment was defined as income generating activities, excluding the raising

of crops and livestock, carried out within the survey area. Typical examples are brewing, building, knitting and sewing, the making of building blocks and grass weaving). The main features of the data are shown in the following table. It should be noted that there remains a tendency among Basotho to report agriculture as the principal source of subsistence even when migrant labour or Lesotho wages in fact give more material support to the household. The significance of having land and raising some sort of crop on it remains strong. This probably explains, for instance, why some households report migrant labour in South Africa as their subsidiary source of subsistence. Also on the subject of migrant labour to South Africa, it is significant that over half the households reported no involvement whatsoever in this activity. As for off-farm employment, Table 3.2 shows it to have a significant secondary role in the areas studied. Further details are provided in Table 3.3 on page 12. As indicated above (section 2.2), each household was placed in a 'subsistence category' defined in terms of access to land and principal source of subsistence. A household was defined as having access to land if it held its own field(s) or was shown to be cultivating another household's land through a sharecropping or less formal arrangement. Definition of the household's overall principal source of subsistence referred to the principal sources of subsistence reported for its individual members. In cases where more than one principal subsistence source was quoted, a subjective assessment was made as to which subsistence category best described the household. In these cases, greater significance was given to migrant or Lesotho wages than to agriculture or local off-farm employment. For instance, a landless family with one member earning wages in South Africa and another employed in the local off-farm sector would be characterized as depending principally upon migrant labour for its subsistence. This classification revealed the following breakdown.

Table 3.2

Households' main and subsidiary sources of subsistence

	<u>Source of subsistence</u>			
	<u>Agri- culture</u>	<u>Migrant labour RSA</u>	<u>Wage emp- loyment Lesotho</u>	<u>Local Off- farm employ- ment.</u>
% of households with 1 or more members reporting given <u>principal</u> source of subsistence	61.3	42.1	18.2	14.8
% of households with 1 or more members reporting given <u>subsidiary</u> source of subsistence	35.7	6.1	3.7	42.8

Table 3.2 continued.

% of households with no members reporting given activity as either principal or subsidiary source of subsistence	2.7	51.8	78.1	42.4
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Table 3.3

Number of household members with given principal and subsidiary sources of subsistenceSubsistence source of members

No. of members	Agriculture				Migrant labour in South Africa				Wages elsewhere in Lesotho				Local off-farm employment			
	Principal No.	%	Subsidiary No.	%	Principal No.	%	Subsidiary No.	%	Principal No.	%	Subsidiary No.	%	Principal No.	%	Subsidiary No.	%
0	115	38.7	191	64.3	172	57.9	279	93.9	243	81.8	286	96.3	253	85.2	170	57.2
1	105	35.3	86	29.0	116	39.1	14	4.7	49	16.5	11	3.7	36	12.1	109	36.7
2	51	17.2	15	5.1	9	3.0	4	1.3	5	1.7	-	-	8	2.7	14	4.7
Over 2	26	8.8	5	1.7	-	-	-	-	-	-	-	-	-	-	4	1.3

Table 3.4

Household Subsistence Categories

<u>No access to land (16.8% of total)</u>			<u>Access to land (83.2% of total)</u>		
<u>Principal household subsistence source</u>	<u>% of total</u>	<u>% of subgroup</u>	<u>Principal household subsistence source</u>	<u>% of total</u>	<u>% of subgroup</u>
Migrant labour to SA	9.8	58.0	Farming only	31.6	38.0
Wages elsewhere in Lesotho	3.0	17.8	Farming + wages of husband in SA	26.3	31.6
Agricultural labour	2.4	14.2	Farming + wages elsewhere in Lesotho	11.4	13.7
Local off-farm farm employment	1.7	10.1	Farming + local off-farm employment	8.8	10.6
			Farming + wages of son in SA	5.1	6.1

The indication of whether migrant wages for households with access to land are from the husband (head of the household) or from the son was included to refer to the stage in the typical family development cycle reached by the household.

Some sort of cash income is necessary for the survival of every Lesotho family: the purely subsistence mode of survival disappeared several generations ago. For most households, this income comes from the wages earned in South Africa or Lesotho by one or more of their members. 55.6% fall into the subsistence categories primarily dependent upon such wages or a combination of these and farming (agricultural labour is excluded here because much of it is remunerated in kind). If we add the households primarily dependent on the local off-farm sector, almost all of which yields an income in cash rather than in kind, the proportion of all households rises to 66.1%. Very few households raised a cash income from the sale of agricultural or craft products; 8.1% sold crops, 4.0% sold animals, 6.4% wool and 1.0% handicrafts. The small minority of

households apparently dependent only upon agriculture probably draw part of their subsistence from unrecorded cash transfers by family members or from sales between households within the area - most notably of beer. The brewing and sale of beer is an important survival strategy for the rural poor in Lesotho. Details of this activity were not recorded in the survey. Those women who brew regularly and live from that income are probably represented in the 'local off-farm employment' category. Those households - often land holding - which brew less regularly and were placed in other subsistence categories may still gain a significant cash income from this occasional activity.

3.3 Agriculture and livestock

Although the percentage of households reporting no involvement whatever in agriculture was very small (see Table 3.2 above) and many households depend on this sector as a major source of subsistence, 18.9% of the households had no fields, 59.3% had no livestock and 66.7% had no major agricultural implements.

Table 3.5

Distribution of fields and tools

No. of fields	0	1	2	3	4	5	Mean
% of hh	18.9	23.9	26.6	27.6	2.7	0.3	1.72
No. of tools	0	1	2	3	4	5	
% of hh	66.7	10.8	9.1	6.7	5.4	1.3	0.77
Type of tool	Plough	planter	cultivator	sledge	cart	harrow	
% of hh owning	30.3	14.1	13.8	13.8	3.7	1.7	

That only 30.3% of households should report ownership of a plough, and far smaller percentages ownership of planter, harrow or cultivator indicates the pressure that is likely to be on the available implements at critical periods in the agricultural season and the proportion of land on which key operations must be performed suboptimally and/or without adequate soil preparation.

It was noted earlier that the survey data on fields have not yet been linked back fully to those on households. But in addition to noticing the distribution of fields shown in Table 3.5 above it should be observed that although 55.6% of the households interviewed were in the Raboshabane area, only 237 (46.4%) of the total 510 fields reported were in that area. Moreover, average field size - although reported only in Sesotho acres and therefore somewhat unreliable - was larger at Ramotsoane (5.3 Sesotho acres) than at Raboshabane (4.7).

Table 3.6

Distribution of fields by village

No. of fields	0	1	2	3	4	5
No. of households (Percentage)						
Ramotsoane	22 (16.7)	29 (22.0)	38 (28.8)	38 (28.8)	5 (3.8)	0 (0.0)
Raboshabane	34 (20.6)	42 (25.5)	41 (24.8)	44 (26.7)	3 (1.8)	1 (0.6)

The Sesotho acre is an interesting unit of measurement which reveals its functional agrarian origins in referring only to one side of the field, at right angles to the direction of ploughing. 12 paces along this side of the field constitutes one Sesotho acre, regardless of the length of the ploughing strip. Despite the obvious variability of the unit, Table 3.7 on the next page suggests a considerable range in actual field size and indicates that the number of fields held is therefore not a reliable guide to the total area of land held.

With a proportion of households not holding land of their own and many lacking implements and draft power (see Table 3.5 above and Table 3.11 below), various forms of cooperation in agricultural production are adopted. 29.6% of households reported that they were sharecropping some or all of their own land with others, while 22.9% were cultivating other people's land through a sharecropping arrangement. (Note that some of the sharecropping was with persons from outside the survey area). 29.0% reported that they were hiring agricultural inputs of one sort or other in the year prior to the survey on

Table 3.7

Size distribution of fields in Sesotho acres

Size in Sesotho acres	1	2	3	4-5	6-10	Over 10	missing
Percentage of fields	3.7	15.2	20.5	26.2	25.4	5.7	3.3
							Mean size = 5.0

the land of other households. Not all of this was recorded as principal or subsidiary reliance upon agricultural labour as a means of subsistence. Again, payment (if any) for such work is usually in kind rather than in cash. As noted earlier, involvement in these agricultural networks was characterized for each household in terms of 'agricultural networks' categories, leading to the following breakdown.

Table 3.8

Households by agricultural network category

<u>Category</u>	<u>% of households</u>
Landless,	
- sharecropping or otherwise involved in agriculture	9.4
- not involved in agriculture	9.4
Access to land,	
- no sharecropping arrangements	37.7
- sharecropping own land	28.6
- sharecropping other land	12.8
- sharecropping both ways	2.0

Crops planted in these foothill areas in the agricultural year 1982/83, both in pure stands and in mixes, were dominated by maize followed by sorghum. Maize and combinations including maize were planted on more than half the fields (51.8%); sorghum and sorghum combinations made up over one third (34.2%). Other crops were far less important.

Table 3.9

Crops planted

% of fields planted with ¹	Maize	Sorghum	Wheat	Beans/Peas	Others	Fallow
Pure stand	38.7	31.4	1.6	4.3	1.0	8.1
Combined with sorghum	4.9					
beans/peas	5.9	1.8				
others	2.2	0.8			1.0	
fallow		0.2			0.2	

¹Adjusted frequencies; data missing for 0.6% of cases.

The crop or crops planted did not vary significantly with field size, nor between the two areas studied.

A total of 8.6% of the fields were recorded as fallow or partly fallow. The length of time the fields had been fallow was not always easy to establish, either because of reluctance to admit a fallow of several years in case it should lead to proceedings under customary law or the new Land Act for its repossession by the land authorities, or because of poor time recall in terms of years and dates. Fields were left fallow for various reasons: a lack of money was quoted in about half the cases. The drought at the time of survey did not figure much more prominently than the lack of various inputs. There was no significant correlation between the length of fallow and the reasons for leaving a field fallow.

A note of caution must be sounded on the livestock data that will be presented below. It is thought that this is likely to be somewhat less reliable than the other data collected by the survey. Although the results do not compare unreasonably with those of other recent surveys, some under-enumeration is suspected. However, no reasons were found why this should systematically affect the distribution pattern emerging from Table 3.11 on the next page. The table refers to the numbers of animals present, i.e. actually managed on the village land; these comprise animals owned by village residents and those belonging to others but managed by them under the customary mafisa loaning system. They exclude animals owned by respondents but loaned on mafisa elsewhere.

Table 3.10

Fields fallow

No. of years fallow	0	1	2	over 2	missing			
% of fields	91.4	2.7	1.6	1.2	3.1			
Why fallow	Not fallow	No money	No seed	No imple- ments	No power	Drought	Other	Unknown
% of fields	91.4	3.9	0.4	0.6	0.8	1.0	1.4	0.6
Adjusted %		48.8	4.9	7.3	9.8	12.2	17.1	

Table 3.11

Livestock managed on village area land

	Livestock units (1)	Horses	Donkeys/ Mules	Sheep	Goats	Pigs	Cattle
Mean no. per hh	3.3	0.4	0.2	1.5	2.9	0.3	Not calculated
Max. no. per hh	46.0	5.0	6.0	over 98 ⁽²⁾	over 98 ⁽²⁾	5.0	Not calculated
Livestock units	0	1-2	3-5	6-10	11-20	Over 20	
% of hh managing	59.3	8.5	11.1	10.8	8.3	2.0	

¹One livestock unit equals one bovine/equine or five sheep or goats. Pigs were excluded from the calculation of livestock units.

²A few households had more than 98 sheep or goats, but inadequate coding meant that these figures were not processed or tabulated.

Not taking into account animals owned but out on mafisa elsewhere may under-estimate or over-estimate 'wealth' in animals. It was found that while 121 households stated that they managed animals in the vil-

lage area, 133 said they owned cattle. It therefore seems appropriate to tabulate the distribution of reported cattle ownership.

Table 3.12

Distribution of cattle ownership

Number	0	1-2	3-5	6-10	11-15	16-20	33
% of households	55.2	12.2	15.9	10.8	3.7	0.9	0.9

It can be seen that while a significant 18.9% of households had no land of their own, a far larger proportion (55.2%) had no cattle and 59.3% managed no livestock in the area. While rural society has so far been able to maintain some equity in land distribution, cattle ownership in these foothill communities - a significant index of ability to farm effectively with the draft power they provide as well as of potential wealth through sales and of social status - is far more skewed. While 'tragedy of the commons' arguments may still apply in these areas, it can be seen that those involved are now a minority.

3.4 Local participation and government contacts

The questionnaire survey made a brief attempt to discover the extent to which respondent households participated in local organizations and development projects and how often they had been contacted by government representatives in the previous six months. As indicated in section 2.2 above this information was summarized by allocation of households to a set of 'membership and participation' categories which referred to whether any member of the household had participated in any local development project (remunerated with food aid or voluntary) in the previous year, and whether any household member belonged to any local organization or held any traditional office such as being chief or chief's councillor. The resultant breakdown is shown in Table 3.13 on the next page. The 'other organizations' referred to represent a wide range of less development orientated groups such as religious associations, brewing/entertainment groups, burial societies and mothers' unions. The table principally shows a low level of participation in local development projects over the previous year (23.9%), a high proportion of households with no membership of any type of organization or tenure of traditional office (46.7%) and very few households reporting that any of their members belonged to any of the listed organizations - or held leadership positions - which might more specifically

Table 3.13

Membership and participation categories

<u>Category</u>	<u>No. of hh</u>	<u>Percentage</u>
Participated in local development project,		
- no membership of any organization	23	7.7
- a hh member is chief	2	0.7
- a hh member is chief's councillor	2	0.7
- a hh member is Village Development Committee member	15	5.1
- a hh member is Land Allocation Committee member	2	0.7
- a hh member is cooperative member	1	0.3
- a hh member belongs to some other organization	22	7.4
- a hh member belongs to more than one organization	4	1.3
Did not participate in any local development project,		
- no membership of any organization	116	39.0
- a hh member is chief's councillor	1	0.3
- a hh member is Village Development Committee member	4	1.3
- a hh member is Land Allocation Committee member	6	2.0
- a hh member is cooperative member	2	0.7
- a hh member is credit union member	1	0.3
- a hh member belongs to a women's organization	2	0.7
- a hh member belongs to some other organization	80	26.9
- a hh member belongs to more than one organization	12	4.0
	297	100.0

relate to development activities.

Again there were few positive responses with regard to visits to respondent households by government extension officers in the six months before the survey. An agricultural extension officer was resident in Raboshabane, which meant that some households said they saw her often. Nevertheless 83.2% of all households reported no visit by an agricultural extension officer in the previous six months; 93.9% said they had not been visited by a village health worker in that period, and 94.6% reported no visit by a rural development officer in the previous six months. None of these levels of response is particularly surprising given the relatively small sizes of the extension cadres in Lesotho, particularly the latter two mentioned. While visits to

individual households are rare, extension workers more commonly resort to the pitso or public meeting as a means of getting their message across. (The pitso has largely degenerated from its central consultative role in the mechanisms of traditional government into being a forum for announcement or lectures; although questions and statements of opinion by the public at these meetings are still common, these rarely influence the course of policy.) 58.6% of household heads were reported to have attended a pitso in the village area in the six months before the survey. Recollection of what had been discussed at these pitsos tended to be scanty, however.

Having presented this outline summary of household characteristics in the two foothill villages studied, we proceed in the next chapter to identify some of the relationships between these characteristics which help to delineate the elements of subsistence and poverty in Lesotho.

4. SOME INTERRELATIONS OF HOUSEHOLD CHARACTERISTICS

Three types of possible relationship between household characteristics are tentatively explored in this chapter. These are the relationship between household composition and sources of subsistence; more specifically, the relation between household composition and the involvement of the household in agriculture; and the relationship between the overall mode of subsistence and involvement in agriculture.

Given the crudity of the analysis described in this and subsequent chapters - deriving in part from the crudity with which criteria were established and variables defined - only the simplest statistical measures of relationships have been used in this report. The intention was mainly to test for the likely existence of relationships, rather than to measure their strength. Where the level of significance is reported, it is therefore subject to further confirmation in subsequent analysis.

4.1. Subsistence categories and demographic indicators

There appears to be a significant relationship (at better than the 1% level) between the size of households in the villages studied and the way in which they earn their living. This is particularly clear in the commoner subsistence categories (see section 3.2 above), that is, those containing 20 or more households.

Table 4.1

Subsistence category by household size for the commoner subsistence categories

<u>Subsistence category</u>	<u>n</u>	<u>Size</u>									
		1	2	3	4	5	6	7	8	9	over 9
Landless, migrant labour to SA	29	0	21	17	28	14	10	3	0	3	3
Access to land, farming only	94	16	18	19	13	16	3	4	1	5	4
Access to land, + husband's SA wages	78	0	1	15	21	19	15	12	10	3	3
Access to land, farming + local off farm employment	26	8	12	15	8	12	8	19	15	0	4

As Table 4.1 shows, landless households depending mostly on wages from South Africa tend to be fairly small (two to four or five members). By contrast, households that have already acquired fields while the husband continues to work in South Africa have three or more members, most commonly four to five, and in over a quarter of cases seven or more members. Households depending only on farming tend to be the smallest: this is the only category with a significant proportion of single person households, and over half of the households in this category have three members or less. Households deriving their living form farming, combined with local off-farm employment tend to fall into two different size groups: over one third have three members or less, but another group of over one third of the total have seven members or more. These two groups represent, first, the largely female-headed, single-person or small households subsisting in large part from brewing and off-farm activities combined with (often marginal) farming; and, second, large and more successful, often male headed households which probably farm more successfully but also reported some local off-farm income.

The relation between the sex of the household head and the way in which households obtain their living (defined in terms of 'subsistence categories') is also strong. South African wages earned by the husband are associated, logically enough, with male household heads. Female heads are more than proportionately found in households depending on farming only, as well as in the smaller groups of households with a son in South Africa or getting by with local off-farm work or wages within Lesotho.

Table 4.2

Subsistence category by sex of household head

Subsistence category

<u>Sex of hh head</u>		<u>Subsistence category</u>					<u>Total</u>
		Landless, agricultural labour	Landless, SA wages	Landless, local off-farm employment	Landless, Lesotho wages	Access to land, farming only	
Male	No.	5	28	3	6	59	
	% of category	71.4	96.6	60.0	66.7	62.8	
Female	No.	2	1	2	3	35	
	% of category	28.6	3.4	40.0	33.3	37.2	
		Access to land, husband's SA wages	Access to land, son's SA wages	Access to land, local off farm employment	Access to land, Lesotho wages		
Male	No.	66	10	22	27	226	
	% of category	84.6	66.7	84.6	79.4	76.1	
Female	No.	12	5	4	7	71	
	% of category	15.4	33.3	15.4	20.6	23.9	

Subsistence categories have not been run against age of the household head. They do, however, correlate closely with the principal occupation of the household head, and the latter variable appears to show a very significant relation with the age of the household head. The proportion of household heads whose main occupation is farming increases steadily in the older age groups, whereas the proportion in migrant labour in South Africa decreases, quite abruptly so once the head is 50 or older.

Table 4.3

Principal source of subsistence of household head by age

<u>Principal source of subsistence</u>		<u>Age</u>						TOTAL
		30 or less	31-40	41-50	51-60	61-70	Over 70	
Agriculture	No.	3	18	24	24	36	38	143
	% of age group	8.3	36.0	36.4	55.8	76.6	95.0	50.7
Migrant labour S.A.	No.	30	24	28	4	2	1	89
	% of age group	83.3	48.0	42.4	9.3	4.3	2.5	31.6
Wage employment home area	No.	0	1	0	0	1	0	2
	% of age group	0.0	2.0	0.0	0.0	2.1	0.0	0.7
Wage employment village Maseru district	No.	1	0	4	3	1	0	9
	% of age group	2.8	0.0	6.1	7.0	2.1	0.0	3.2
Wage employment Maseru town	No.	1	5	4	6	3	0	19
	% of age group	2.8	10.0	6.1	14.0	6.4	0.0	6.7
Wage employment elsewhere Lesotho	No.	1	1	0	3	1	1	7
	% of age group	2.8	2.0	0.0	7.0	2.1	2.5	2.5
Local off-farm employment	No.	0	1	4	3	3	0	11
	% of age group	0.0	2.0	6.1	7.0	6.4	0.0	3.9
Other	No.	0	0	2	0	0	0	2
	% of age group	0.0	0.0	3.0	0.0	0.0	0.0	0.7

(15 missing observations)

These trends are, of course, what would be expected. It can also be noted that the proportion of household heads in wage employment in Lesotho increases with age and reaches a peak of (only) 28% in the 51-60 age group, whereafter the decrease is rapid. Local informal sector employment has some importance, principally for the middle age groups.

An alternative way of assessing the subsistence mode and level of a household is simply to count the number of members it has working as migrants either in South Africa or for wages elsewhere in Lesotho. (There is very little formal sector wage employment available locally in the rural areas, but migrant labour to Maseru and to other urban areas within Lesotho is growing in significance.) The 'away worker' variable is referred to more extensively in Part II of this paper. It may suffice to mention here that the number of 'away workers' in a household is closely related to the size of the household and to the age of the household head. It also correlates, less strongly, with the sex of the household head and his/her marital status. Migrant labour within Lesotho is commoner for women than migrant labour across the border.

4.2 Involvement in agriculture and demographic indicators

The size of the household and the characteristics of the household head show certain relationships with some of the variables created to indicate a household's involvement with agriculture in this survey. Only a few of the possible relations have been tested. Households that have no fields tend to have fewer members than average, and mean household size increases with the number of fields held, but this relationship does not seem to be strong. In Ramotsoane and Rabosha-bane, female headed households have a maximum of three fields; few have none and most have two or three. One in five male headed households (mostly the young, nuclear families) has no fields, and roughly a quarter each have one, two and three fields respectively. Only 4% of the male headed households have more than three fields.

A majority of the households surveyed were found to own no agricultural tools. The mean size of these households, 4.1, is somewhat below the overall average of 4.7. The mean size of the group of households which do own one or more agricultural tools is 6.1. Tool ownership and household size are strongly related. No such significant relationship exists with either the sex or the age of the household head in terms of the number of agricultural tools owned, although it might emerge if all tool owners were grouped together regardless of the number owned. 63% of the male headed households own no tools, while 79% of the female headed ones do not.

The relationship between access to livestock and household size is tested here in terms of the 'total livestock present' variable (see section 3.3 above) as this is considered more directly relevant to the ability to profit from livestock draft and products than actual

ownership. Poor households, if they own any animals, are likely to keep them present in the home area for their own use rather than mafisa than out of the home area. Although, as indicated in section 3.3, total livestock units present and the total owned are likely to differ somewhat, this variation principally affects the richer households, which have adequate stock present and are in a position to mafisa out a certain surplus. Testing total livestock present against household size, then, produces a relationship which appears highly significant (at the 0.1% level). Single person households were found to have no stock present; the major dependence of these households on agriculture shown in Table 4.1 above suggests that if they have no direct access to stock their poverty must be severe. Two person households have far fewer stock units present than the mean of 3.27, and households with three to five members still tend to be below the mean. Above average numbers of livestock present are largely concentrated in households with six or more members. The total livestock units a household has present is also strongly related to the age of the household head: numbers steadily increase with his/her age up to 70 years, and then fall back. No such relation is found between the number of livestock units present and the sex of the household head: although female headed households have a mean number of units considerably lower than that for male headed households, there is a large standard deviation to blur the relationship.

There is no evident relationship in the Ramotsoane and Raboshabane data between household size, or the number of dependants, and whether households sharecrop, or in which way. However, the proportion of female headed households that sharecrop their own fields, that is, must make sharecropping contracts with other households for the provision of essential inputs such as draft power and labour, seeds etc., is significantly larger (at the 1% level) than the proportion of male headed households reported to be sharecropping in this way.

4.3 Involvement in agriculture and main sources of subsistence

In this section the main sources of subsistence of the foothill households studied, as characterized by the nine 'subsistence categories', have been set against some of the agricultural variables in the survey. There is a significant relationship between subsistence category and the number of fields the households has, but that is hardly surprising and largely tautological given that access to land was one of the criteria used in allocating households to the subsistence categories. However, within the subsistence categories representing households that have access to land, the generational dynamics of the typical rural Lesotho household cycle can be seen at work. Households combining farming with the husband's wages from South Africa are clearly behind in field acquisition: more than half of these households have no or one field, whereas in the other groups those that have no more than one field form less than a quarter of the total. Typically, these are young households where the husband is regularly absent as a migrant labourer. Of households at a senior stage of the generational cycle,

Table 4.4

Number of fields held by households in subsistence categories having access to land

		<u>subsistence category</u>				
<u>No of fields</u>		Access, farming only	Access, husband's SA wages	Access, son's SA wages	Access, local off- farm emp- loyment	Access, Lesotho wages
0	No of hhs	6	4	0	1	1
	% of category	6.4	5.1	0.0	3.8	2.9
1	No of hhs	16	37	2	4	7
	% of category	17.0	47.4	13.3	15.4	20.6
2	No of hhs	37	17	4	9	12
	% of category	39.4	21.8	26.7	34.6	35.3
3	No of hhs	30	18	8	11	14
	% of category	31.9	23.1	53.5	42.3	41.2
4	No of hhs	5	1	1	1	0
	% of category	5.3	1.3	6.7	3.8	0.0
5	No of hhs	0	1	0	0	0
	% of category	0.0	1.3	0.0	0.0	0.0

identifiable by their having access to a son's South African wages, 60% have attained the 'ideal' of having three or more fields while only 24% of the typically younger group just mentioned have this many. This percentage is 41 for households combining farming with wage earning in Lesotho, and 46 for those with access to land and to income from local off-farm employment. Of households dependent on farming only, however, only 37% have three fields or more. A number of these households are likely to be headed by widows, and the group as a whole probably contains many of the poorest households in the communities studied.

Although a significant relationship might have been expected between subsistence categories and the number of large agricultural tools owned, this is not in fact the case. Such a relationship might again emerge if, as suggested in section 4.2 above, a simple comparison were made between households owning no tool and those owning one or more.

In any event, although most of the landless households have no large agricultural tools, this is true for the majority of land holding households as well.

Nor was any statistically significant relationship found between subsistence category and the number of livestock units managed by the household, or the number of cattle owned. This is probably because many households strive to acquire livestock for a variety of economic and social purposes; their ownership is not restricted to households which are more heavily dependent on agriculture for their subsistence.

Having made this introductory comparison of household characteristics with reference to data from the DLPRD 1983 survey in Ramotsoane and Raboshabane, we now proceed with an attempt to review a broader range of data and suggest some of the principal characteristics of the poorest rural households in lowland and foothill Lesotho.

PART II

RESEARCH ON THE RURAL POOR IN LESOTHO

The DLPRD project's Plan of Operations defines as one of the research activities (to be carried out in selected sub areas of districts):

"To identify economic activities and resource use; the sources, uses and distribution of income and wealth; and the variation of these variables with other (household, group and village) characteristics."

It was stipulated that "in planning these activities, it is essential that the project will use results of work that has been done and is presently being done.... The project will aim at making good use of existing knowledge, trying to build further on it."

The aim of this research is that "the study of selected areas will contribute to the identification of the poorest groups and of the mix of strategies employed by various groups to maintain or improve their levels of living. The analysis will also enable the identification of non-farm income generating activities that could possibly be expanded or initiated in future. In depth studies of such strategies and activities are planned following the survey, as this is the area where our knowledge of the rural economy is slightest and where hopes for employment creation are strong."

This part of the present paper reports on an intermediate step between the winter 1983 survey and in depth studies of the survival

strategies of the poorest groups: an analysis of data already available, in order to help identify the characteristics of the poorest groups in the rural areas.

When the DLPRD project proposal was being drafted, valuable comments were received from Dr. John Gay. One of his points referred to the need for the project, in referring to previous investigations in the rural areas, to study not only the published reports of these investigations but also the substantial data base generated by them and stored on computer files. During a brief consultancy for DLPRD in October 1983, Dr. Gay introduced project staff to some of the rural development related computer files stored at the government computer centre in Maseru (2). He guided project staff in pilot design of programs to reprocess some of this data. Particular reference was made in this program design to the definition, identification and description of the poorest households in the rural areas and of their survival strategies.

The results of the analysis subsequently undertaken, and the consultant's report, form DLPRD's first tentative approach to the identification of the rural poor and their survival strategies in Lesotho, as set out in the two chapters below.

5. IDENTIFICATION OF THE POOR

5.1 Indicators of poverty

A starting hypothesis in our research through rural survey files was that a certain constellation of household characteristics would define the rural poor in Lesotho. It was thought that the first and most important characteristic would be that poor households contain no employed wage workers, particularly not those working elsewhere in Lesotho or in South Africa. The second most important feature was thought to be that poor households would have no livestock, and particularly no cattle. A third was that the poor would have no, or very few, large agricultural tools, such as ploughs, planters, harrows, cultivators, sledges and carts. A fourth idea was that the level of crop production would be lower for poor households, and a fifth was that the number of modern household possessions like chairs, table, bed, cupboard, radio, lantern, cement house construction or latrine would be lower for this group. In addition to these 'wealth' criteria, it was thought that many of the poor households would be (de jure) female headed and small.

It was recognized that indicators such as these can only have partial validity in distinguishing 'poor' households from others in rural Lesotho. In particular, a household's position in the typical family development cycle should also be taken into account. Small nuclear families with a young man working in South Africa and a young wife and child at home may have a steady, relatively affluent cash income but no agricultural production. A larger, senior household whose head no longer migrates to South Africa may have a number of 'modern possessions' acquired in his days of wage employment and a reasonably comfortable subsistence based upon crops and livestock ownership, but no member currently in wage employment. On the other hand, the same household would probably be more affluent if a son were remitting part of his wages from South Africa or Maseru. Some correlation between the hypothesized wealth indicators and the stage in the household development cycle can be identified, but the crude level of prediction allowed by the wealth indicators alone must be recognized. Nevertheless, useful results can be derived from their use, and the analysis of those presented below could be taken much further.

5.2 Survey data used

After expert advice had been obtained on the reliability of the surveys on which the various data files are based, only some of those considered highly dependable were selected. These surveys give basic information on rural households and their members, including indicators for some or all of the characteristics discussed in section 5.1 above. The number of cases in each file varies substantially, from 110 to 4315 households. These are usually a complete cross section or census of the communities covered by the surveys, including some households with no land and/or no livestock; but it should be noted that the TB HOUSEHOLDS file contains only 'farm' households, defined as having at least one field. In this file, which contains data from a series of twice yearly surveys, only the first three surveys were analysed as these are considered more reliable than the next four. The BASP-PHASE 1 file contains data from the northern and southern lowlands and foothills of Lesotho, but only the northern blocks data was used for reasons of reliability. The SENQUHMEMBER file was included for a special reason; whereas it does not include data on crops, fields, tools, livestock or modern possessions (and those available from another Senqu Project survey file, SENQUFMINPUT, are considered less reliable and therefore not used), it is one of the few available files that contain reported levels of household earnings in cash and kind.

Some details of the surveys used are shown in Table 5.1. It should be noted that these surveys cover lowland and foothill, not mountain, areas; that they were done in different districts; that some cover wide areas and others just two villages; that the percentages of households interviewed in the areas surveyed varies widely; and that the dates of the surveys stretch over almost a decade.

Table 5.1

Survey files consulted

<u>Name of file</u> (and abbreviation subsequently used in this report)	<u>Ecological zone</u>	<u>District</u>	<u>Census/sample</u>	<u>No of cases</u>	<u>Year</u>
MAFQAL (MAFQAL)	Lowlands	Berea	Census of 2 villages	110	1978-9
SENQUHMEMBER (SENQU)	Lowlands and foothills	Mohale's Hoek and Quthing	Random sample from hh lists of 65 villages	195	1975-6
DLPRD83H (DLPRD)	Foothills	Maseru	Near census in 2 villages	297	1983
TBHOUSEHOLDS, 1974 data (TBHOU5)	Lowlands and foothills	Maseru and Berea	Stratified random sample of land holding hhs	304	1974
HOLOMEMBER1 HOUSE1 FIELD1 (HOLOLO)	Foothills	Butha-Buthe	Census of all in original project area	4315	1978
BASPBASELINEDATA PHASE1 (Northern Blocks) (BASP)	Lowlands and foothills	Butha-Buthe, Leribe, Berea	Stratified random sample	1656	1979

The intention of this exercise is to look for indicators which may be used in future surveys studying the rural poor; the results shown here cannot necessarily be used to generalize about conditions in the rural areas of Lesotho.

5.3 Basic approach, standard runs and results

The basic aim of this part of the exercise was to find those indicators which have the highest predictive value in separating the poorest 25 to 50% of the households from the remainder of the population. To

this end, dichotomies were created using different criterion variables, separating the households into a 'WEALTH = 0' group and a 'WEALTH = 1' group. The score of these groups on wealth indicators other than the criterion variables and on demographic indicators was then compared and tested for statistical significance, using simple measures (see 4.1 above).

Three sets of criterion variables have been used on the data of three or more of the surveys, and the results of the analyses may be called the 'standard runs'. These are, WEALTH = 0 if the household has:

- no wage worker (see 5.1 above) and no livestock (criterion 1)
- no wage worker and no cattle (criterion 2)
- no wage worker (criterion 3)

In analysis of the household data after application of these various criteria, three principal questions may be asked. How do the two groups created by application of each criterion in turn compare? What are the mean scores on various other poverty/wealth indicators and demographic variables in the groups so created? Do households in each pair of groups score significantly differently from each other on these indicators and variables?

Table 5.2

Division of survey populations into two groups, using different criteria

	1		2		3	
Criteria: WEALTH = 0 if	No wage worker, no livestock		No wage worker, no cattle		No wage worker	
WEALTH =	0 %	1 %	0 %	1 %	0 %	1 %
<u>Data file</u>						
MAFQAL	15	85	35	65	62	38
SENQU					45	55
DLRPD	26	74	26	74	43	57
TBHOUS					29	71
HOLOLO (10% sample)	23	77	27	73	52	48
BASP			52	48	61	39

Not all 'standard' runs have been made for all data files. However, Table 5.2 shows clearly that the 'same' criteria applied to the populations of different surveys do not always produce similar proportions in the 'WEALTH = 0' and 'WEALTH = 1' groups. One important reason for this is that different surveys seldom use exactly the same definitions of the variables used in the analysis, and surrogates have sometimes had to be constructed from alternative variables to make comparison possible. For example, as indicated in section 5.1 above, the aim was to identify households with members in wage employment. For the Thaba Bosiu Project data (TBHOUS), however, it was necessary to use a variable that included all persons employed off the farm. A minority of such persons (e.g. those involved in handicrafts or local repair work) would not necessarily have a regular wage from such employment. In the BASP data the variables are defined in such a way that for our purposes it was necessary to refer to households which had wage workers who came home at least once a year. Unavoidable adjustments of this nature are bound to blur comparisons to a certain extent. A second comment on Table 5.2 is that at least one expert has expressed some scepticism about the high percentage of households in the BASP survey that are reported to have no cattle. The comparison between the WEALTH = 0 and WEALTH = 1 groups according to criterion 2 in Table 5.2 might otherwise be more uniform.

One expects the proportions of the survey population in the two wealth groups to change when the classifying criterion is changed, and this is what happens. Table 5.2 shows that the double criterion of no wage worker and no livestock produces the lowest proportion in the 'WEALTH = 0' group, and the single criterion no wage worker, the highest. While the double criteria tend to result in a 'WEALTH = 0' proportion of 25 to 50% of the households, the single, no wage worker criterion only does so in half the cases; in other surveys, the 'WEALTH = 0' group under this criterion contains more than half the households, indicating the large proportion of rural Lesotho households that subsist without access to formal sector wages.

Table 5.3 shows a comparison of various survey populations, broken down according to each of the three criteria, in terms of certain demographic variables. Taking into account the comments above on the direct comparability of the different surveys, and noting that data, time and computing constraints did not permit a completely uniform set of calculations for each data set and each breakdown, a number of points may be noted from the table. First, the hypothesis that poor households tend to be small can be seen to be confirmed. Households in the 'WEALTH = 0' category have a mean size which is consistently smaller than the overall mean, and the difference tends to show a high level of statistical significance. The hypothesis

that poor households tend to be female headed is confirmed by most, but not all the results. While a 5% or better level of significance is attained for most of the survey data sets, this is not the case for households from the Hololo and BASP northern project areas. The marital status of the household head, when checked, tends to differ very significantly between the 'WEALTH = 0' and the 'WEALTH = 1'

groups, except for the BASP survey population when divided into two groups in terms of criterion 3 (presence/absence of a wage worker). It was observed from the data that widows and the smaller group of divorced and separated women tend to be in the 'WEALTH = 0' group.

Turning to a comparison between richer and poorer groups, selected according to each of the three sets of criteria, in terms of other

Table 5.3

Differences in scores on demographic variables between two groups of households, using different classification criteria

<u>Data file</u>	<u>Mean hh size</u>		<u>Level of significance of difference between groups in</u>			<u>Sample size</u>	
	Total WEALTH =0	WEALTH =1	Mean hh size (F)	Sex hh head (X ²)	Marital status hhh (X ²)		
<u>CRITERION: NO WAGE WORKER, NO LIVESTOCK</u>							
MAFQAL	5.1	3.5	5.3	5%	no signif.	not tested	110
DLPRD	4.7	3.5	5.2	.1%	.1%	.1%	297
HOLOLO	4.8	3.6	5.2	.1%	1%	not tested	435(1)
<u>CRITERION: NO WAGE WORKER, NO CATTLE</u>							
DLPRD	4.7	3.5	5.2	.1%	.1%	.1%	297
HOLOLO	5.2	3.8	5.7	.1%	.1%	not tested	442(1)
BASP	-	not tested	-	-	2%	not tested	1656
<u>CRITERION: NO WAGE WORKER</u>							
MAFQAL	5.1	4.6	5.9	5%	5%	not tested	110
SENQU	-	not tested	-	.1%	.1%	.1%	195
DLPRD	4.7	3.8	5.4	.1%	2%	.1%	297
TBHOUS	-	not tested	-	.1%	.1%(2)		304
HOLOLO	4.9	4.5	5.4	.1%	no signif.	not tested	399(1)
BASP	3.6	1.4	7.0	.1%	no signif.	no signif.	1656

- Notes: 1. Holololo runs are based on independent samples of about 10% from the total file.
2. TBHOUS combines the sex and marital status of the household head in one variable.

Table 5.4

Difference in scores on 'wealth' indicators between two groups of households, using different classification criteria

Data file	<u>No. of tools</u>				<u>Crop value (Rands)</u>				<u>No. of modern possessions</u>			
	Means Total	WE=0	WE=1	Signif- icance	Means Total	WE=0	WE=1	Signif- icance	Means Total	WE=0	WE=1	Signif- icance
<u>CRITERION: NO WAGE WORKER, NO LIVESTOCK</u>												
MAFQAL	1.0	0.5	1.1	no sig.					2.4	0.8	2.7	.1%
DLPRD	0.8	0.1	1.0	.1%								
HOLOLO	0.9	0.1	1.1	.1%					2.8	2.1	2.9	.1%
<u>CRITERION: NO WAGE WORKER, NO CATTLE</u>												
DLPRD	0.8	0.1	1.0	.1%								
HOLOLO	0.8	0.2	1.0	.1%					2.7	1.9	2.9	.1%
BASP	1.0	0.1	1.9	.1%	69	13	128	.1%				
<u>CRITERION: NO WAGE WORKER</u>												
MAFQAL	1.0	0.8	1.2	no sig.					2.4	1.9	3.3	.1%
DLPRD	0.8	0.7	0.9	no sig.								
TEHOUS					96	91	96	no sig.				
HOLOLO	0.9	0.8	0.9	no sig.					2.8	2.6	3.0	5%
BASP	1.0	0.4	1.8	.1%	118	33	137	.1%				
<u>No. of fields</u>												
				Means Total	WE=0	WE=1	Signif- icance					
<u>CRITERION: NO WAGE WORKER, NO LIVESTOCK</u>												
MAFQAL				2.0	2.1	1.9	no sig.					
DLPRD				1.7	1.7	1.7	no sig.					
HOLOLO				1.6	1.1	1.7	.1%					
<u>CRITERION: NO WAGE WORKER, NO CATTLE</u>												
DLPRD				1.7	1.8	1.7	no sig.					
HOLOLO				1.6	1.2	1.7	1%					
<u>CRITERION: NO WAGE WORKER</u>												
MAFQAL				2.0	1.6	2.2	5%					
DLPRD				1.7	2.0	1.5	.1%					
HOLOLO				1.6	1.7	1.5	no sig.					
BASP				1.4	0.7	2.6	.1%					
<u>(No. of acres held)</u>												
TEHOUS				5.7	5.8	5.7	no sig.					

wealth indicators, certain differences may be seen in Table 5.4. Not all indicators could be calculated and compared for all the survey data files that were used, but the predictive power of these criteria in separating the richer from the poorer is generally confirmed. A higher level of significance in the correlation between 'WEALTH' group and these other indicators is found when 'WEALTH' is defined more strictly in terms of the double criteria than when it is defined only in terms of presence or absence of a wage worker. In this latter instance, it can be seen that such levels of significance are obtained only when the survey file containing the largest number of cases, that for BASP, is used.

Table 5.4 shows that one indicator with no predictive value in separating the richer and poorer groups as defined by the three sets of criteria used here, is the number of fields (or, in the case of the Thaba Bosiu data, the number of acres held). In some cases, the poorer group actually holds a higher number of fields on average than the richer group. While the number of fields is only a surrogate for the area of land held, the Thaba Bosiu acreage figures show almost no difference between households with and without wage workers. Primarily the number of fields held is determined by the age of the household, that is, the stage in the generational cycle which the household has reached. As noted in section 4.3 above, older households with a larger number of fields may or may not have a wage worker (if they do, it is likely to be a son); younger households often will have a wage worker and therefore fall into the 'WEALTH = 1' group as defined here, but are likely to have one or no field.

It was also possible, with some surveys, to compare the richer and poorer groups as defined in terms of their sharecropping activity. The BASP data indicated a low incidence of sharecropping overall - only 15% were involved in it - and that households without a wage worker are less likely to sharecrop than those who do have such a worker. Reference to the 'agricultural networks' categories (see section 2.2 above) into which the DLPRD survey households were divided shows a higher incidence of sharecropping. Of those 241 households having land, 112 did not sharecrop; 85 sharecropped their own land with others; 38 sharecropped out on the land of other households, and six were involved in both types of arrangement. Those sharecropping their own land were found to be substantially less likely to have a wage worker than the population as a whole. Not surprisingly, given that this category of sharecropping represents a response to a shortage of farming inputs, they are also overrepresented in the 'WEALTH = 0' group defined in terms of lack of wage worker plus lack of livestock/cattle. It is also not surprising to find that DLPRD survey households which sharecrop out on other households' land tend to fall into the groups that have livestock or cattle and/or a wage worker, or indeed a wage worker only when criterion three is applied: these are the households that can provide the draft power and (often with the help of remittances from wage employed members) the implements like ploughs and planters which are lacked by those who must sharecrop in.

One other indicator checked was the difference in the number of garden crops grown by the 'WEALTH = 0' and 'WEALTH = 1' groups respec-

tively. This was only possible for two of the surveys. The BASP data showed that the 'WEALTH = 0' group defined in terms of criteria two and three grew a significantly smaller number of garden crops than the 'WEALTH = 1' group. No such difference was found for the MAFQAL data, however.

Overall, the basic approach outlined at the beginning of this section, as tested here, is shown by the survey data to be effective. There are significant relationships between 'wealth' as defined in terms of households having a wage worker and livestock or cattle, and other indicators of a higher standard of living. In terms of selecting criteria that best separate out the poorest 25 to 50% of the population, testing for the presence of a wage worker and livestock or cattle appears most effective. The livestock or cattle distinction is probably less significant in the lowlands, where small stock are less important and cattle are a valid surrogate for livestock overall, than in the mountains where real wealth can be derived from small stock only and it would therefore be more important to refer to presence of wage workers and total livestock units. While it is acknowledged that the predictive power of the criteria used here is often blurred by the variation introduced by the household's position in the typical family development cycle, use of these poverty indicators can be supported as a first attempt to identify the poorer groups in rural Lesotho.

5.4 Some interactions between the 'wealth' indicators

The previous section shows that the combination of wage worker and livestock/cattle criteria most often leads to significant relationships with other poverty indicators. It does not show how far the criterion variables themselves are related, nor whether the use of other criterion variables might have higher predictive value. More analysis will be necessary before these questions can be fully answered. Some indications exist, however, and these are outlined here.

For the MAFQAL households, a simple crosstabulation of presence/absence of wage workers and livestock showed that, at this level, these two indicators did not relate with any statistical significance. Comparison of the number of cattle owned by groups with and without wage workers in a sample of HOLOLO households showed that the mean numbers held were very similar and the difference certainly not statistically significant. When broken down by subsistence category, which as explained in Chapter 3, is a close approximation of the wage worker criterion, numbers of livestock managed and cattle owned by DLPRD households did not differ significantly. Even these limited tests make it clear that criteria 1 and 2, as used in the previous standard runs, combine quite different households in the same group: at the level of these tests, there is no evidence that households which have a wage worker are likely to have many more or less livestock or cattle than other households.

The relations between all the basic poverty indicators referred to in the surveys used here have not yet been tested systematically. Preliminary crosstabulations show some significantly related 'pairs', or 'triangles', but also clearly indicate that not all indicators are associated - even at a 5% level of significance - with all others. For example, in the small MAFQAL survey there is a 'better than 5%' relation between the number of agricultural tools possessed and the number of livestock owned, and between the number of tools and the number of modern possessions owned, but not between modern possessions and livestock. There is a 'triangle' between having a wage worker in the household, owning modern possessions and having a male household head, but no statistically significant relationship at all between variables in other 'triangles' that might also have been suggested, like possession of agricultural tools, the value of crops harvested and the presence of a wage worker. The only relationship in this triangle that reaches a 5% level of statistical significance for the larger TBHOUS file is between the value of crops harvested and the number of agricultural tools. These few examples may be sufficient to indicate that it is difficult to trace the various indicators of wealth or poverty to their root on the basis of computerized survey data alone, as each seems to be related to some but not all of the others.

Some of the indicators may derive from others. An attempt has been made to avoid evident relationships of this sort among the 'key' indicators, but this is not always entirely possible. For example, female headed households in Lesotho tend to be smaller than average. Also, having modern possessions will most likely imply that there is a source of income from wage employment, with which these possessions have been bought. But these relations do not necessarily work both ways. Having wage workers does not automatically mean that the household will buy modern possessions. It may alternatively buy agricultural tools or inputs, or livestock, or use the money for one or more of the many other purposes to which it might be put, such as school fees, and particularly for young landless households, the regular purchase of food.

In order to take the analysis of the relationship of the criterion variables with other indicators further, a discriminant analysis was undertaken on the small MAFQAL file. The objective was to see which factors separate those households with and without wage workers and/or cattle in the two survey villages. To this end, four groups were formed in a first run, on the basis of these criteria, and the analysis proceeded with some 15 other household variables (not all of them 'key' variables, therefore, and some clearly derivative of others): part of the exercise involved ranking these variables in terms of their explanatory power in determining which households fell into which of the four groups.

The most significant conclusion that could be drawn from the results is that for the MAFQAL households, the presence or absence of wage workers is the principal determinant of wealth. Two main

discriminant functions resulted from the analysis. The one which separates households without wage workers from those with explains 71% of the variance in the data. The second function separates households without cattle from those with, but explains only 23% of the variance. Factors associated with having wage workers are, first, a large household size; as Table 5.3 above shows, this feature is even more closely associated with wage workers in other surveys than in MAFQAL. A second and third factor were household head resident outside the village and a small number of farm workers in the household, but these are clearly derivative. Also associated were a low ratio of dependents (those under 15 and over 65) to total household members and a low total of hectares held by the household. Given the age structure of migration and of field acquisition in Lesotho, these results are not surprising.

In this first run, when the discriminant functions were used to predict which households belonged to which of the four groups formed by the classification criteria (presence/absence of wage workers and cattle), 71% of the households were correctly classified. A second run performed better and classified 90% of the households correctly. In this second run, the MAFQAL households were divided into a group of 68 which did not have a wage worker and 42 which did, and ownership of livestock was added to the variables that might discriminate between them. The basic results, as was to be expected, were rather similar to the first run, again including derivative factors. A difference was that this time, ownership of livestock was among the variables in the discriminant function: having livestock turned out to be associated with not having wage workers. According to Dr. Gay (who undertook the MAFQAL survey), in his report to DLPRD on his assistance with computer survey data processing,

"It may be that those who have finished their migrant labour and are now back in the village are likely to be those who have already purchased livestock, whereas those who are still engaged in migrant labour are waiting to buy cattle."

There is some support for this view in the second discriminant function formed in the first run, which showed that high livestock ownership is associated with a large number of farm workers, a high dependency ratio, a high agricultural tool value, and a large number of houses in the family homestead. As Dr. Gay observes,

"These are characteristics of families which have settled into village life, after the household head has completed an extended period of wage labour outside the village."

A similar discriminant analysis exercise was undertaken with the DLPRD survey data, with largely comparable results. Again, four groups were formed in the analysis and households allocated to them in terms of whether they had wage workers and cattle; and again, two principal discriminant functions emerged. The first, explaining 79% of the variance in the data, separated households according to whether

they had a wage worker. The second, explaining 19% of the variance, split them according to ownership of cattle. For the DLPRD households, an important factor associated with having wage workers is a large household size. Again largely derivative is the association with having a low number of household members whose principal source of subsistence is agriculture, as is the link with having a low number of members for whom it is local off-farm employment. Factors associated with not having a wage worker are a higher number of dependants, of household members whose principal subsistence source is agriculture and members whose principal subsistence source is local off-farm employment. These findings are comparable with those of the discriminant analysis of the MAFQAL data, although when the DLPRD functions were used to predict which of the four groups a household would fall into, only 72% of the households were correctly classified.

With regard to cattle owned, it is interesting to note from the variables associated with the second discriminant function that households owning cattle were linked with not sharecropping their own land, having a higher number of large agricultural implements, sharecropping other households' fields, holding a larger than average number of fields and having an older head who tends to be a married man.

Again, in interpreting the results of computer analysis of the interrelationships between indicators of the rural standard of living, it can be seen that so far the web is only partially untangled. Variety is inevitable and accounts for part of the 'unexplained' percentage in this analysis. But, it is again suggested that the major factor linking together the scores of rural households on the types of indicator examined here is the stage reached in the family cycle: from young couple with the husband away as migrant labourer, through the establishment of a larger family, the acquisition of modern possessions, land, agricultural implements, a common transition to greater or total dependence of agriculture, the stage where children of the household are themselves remitting as migrant labourers, and ultimately the residual stage where the household has dwindled to, typically, a widow and one or two grandchildren. The full variety of this cycle is hard to reduce to variables susceptible of numerical analysis; but it is here that the main residual area of explanation lies.

5.5 Some other uses of the data

A further application of the 'wealth' criteria discussed above is to use all of them at the same time in order to find very poor or destitute households: those that have no wage workers, no livestock, no agricultural tools, no crops and no modern household possessions. Among the 110 households covered by the MAFQAL survey, only one such household was found. In the large Hololo survey file, 45 out of 4315 households, or around 1%, were 'destitute'. The mean size of these households was significantly smaller than the overall mean: 3.0 compared to 4.8 (significant at the 0.1% level). Female headed households were overrepresented in the destitute group, forming 60% as against 26.9% in the total population.

Another exercise is to find out whether the items included in the wealth indicators collectively referred to as agricultural tools and modern possessions relate to each other in any sort of logical sequence. Here, Guttman scaling was used. A Guttman scale is an ordered list of items (or characteristics) in which the presence of an item/characteristic implies necessarily the prior existence of all items below it on the list. A perfect list can seldom be obtained, but if the sequential relationship exists in most cases - ultimately a matter of judgement but indicated by the 'coefficient of reproducibility' - the list can be accepted. The only survey file on which this technique has been tried so far is MAFQAL. For these two Berea lowland villages it was found that nearly perfect Guttman scales can be constructed for modern household items and agricultural tools. This means that these aspects of 'wealth' can be ordered to predict which modern possessions and which agricultural tools a household is most likely to buy first and which next. The modern possessions scale indicated that those MAFQAL households with very few such items tended as a first step to build a structure with a flat roof, then generally acquired chairs and next a table. In the middle range, a bed, a radio and a cupboard would be acquired. When a household had all of these, it would most probably buy a lantern and start to use cement in house construction. The list has a coefficient of reproducibility of 0.9364. (1.0 would indicate a perfect scale; 0.9 is considered the minimum for a valid scale.) The agricultural tool list was expanded to include hand tools, viz. hoes, sickles and spades. Many MAFQAL households had only these. The first piece of large equipment is - as one would expect from other surveys - a plough. This is followed by yoke(s) and a cultivator; these in turn by a planter and a sledge. Least common and towards the end of the scale are harrows and carts. The coefficient of reproducibility of this scale is 0.9218. Such Guttman scale analyses have not yet been applied to survey data from elsewhere in the country. The value of doing so lies in the fact that these scales give good indications of rural people's priorities in acquiring the elements of a comfortable household and the implements needed for agricultural production.

5.6 The 'wage worker' criterion and poverty as measured by 'income'

Is absence of a wage worker in the household the best indicator of poverty in rural Lesotho? In theory a preferable indicator would be a total income from all sources below a selected cutoff point. But adequate measurement of rural income in low income countries is a difficult undertaking. One reason for this is of course that income is a 'flow' variable whose accurate measurement requires repeated survey visits to the household, or detailed self survey by the household, over an extended period. Presence/absence of a wage worker, on the other hand, is a 'stock' variable which can be ascertained

in a once-off survey. Neither indicator is entirely satisfactory. One reason for this is that level of income does not convert uniformly into level of welfare: absent wage earning members of households will remit varying proportions of their income, and the money at households' disposal is of course spent in various ways - some more 'rational', 'careful' or materialist' than others. More fundamentally, we can never expect cash income to be a complete surrogate for 'welfare', or standard of living, much wider concepts which include a variety of other tangible and intangible factors such as health status, literacy and political freedom.

But, given that neither indicator is entirely satisfactory, is presence/absence of a wage worker in the household an acceptable proxy for the actual level of income? It is certainly tempting to assume this, not only because of the greater ease with which the 'wage worker' criterion can be ascertained in field surveys. Moreover, it could be argued that in Lesotho, formal sector employees - either in South Africa or within the country - are able to earn so much more than those working in the agricultural or local off farm sectors, that it is more helpful just to use the wage worker proxy and devote survey resources to other aspects of the web of poverty. So far the DLPRD research has made one attempt to test whether we can in fact justifiably use the wage worker criterion rather than referring to actual income.

For this test of the relation between presence/absence of a wage worker, level of income and other poverty indicators, the SENQU file (N = 195) was used. This is one of the few Lesotho surveys in which an attempt has been made to record household income, in cash, kind and total. The test could only be partial, as the file contains no data on ownership of agricultural tools, or modern household possessions, on the value of crops (separated from overall in kind income) or on the number of fields held. It should also be noted that the survey took place in 1975-6, so that absolute income levels have no significance today and relative income levels did not favour mining as much as they now do.

The first step was a 'standard run' on the poverty indicators that were available in the file using criterion 3 (presence/absence of a wage worker). The results of this have been shown in section 5.3 above. Wage workers were defined as persons recorded working in mining, industry, commerce or teaching. As in other surveys, households with few members tend to have no wage workers, and larger households tend to have one or more; female headed households are much less likely to have wage workers. The second step was to set total household earnings (cash and kind) against the same indicators, as well as the presence/absence of a wage worker. The results were much the same. Incomes of larger households tended to be above the overall mean; female headed households had much lower incomes; households in which the head was married tended to have above average

incomes, and where the head was divorced, separated, deserted or never married (these, in fact, mostly female headed), mean income was below the overall mean. Groups of households with and without a wage worker showed very significantly different mean incomes; income by number of wage workers in the household did the same.

The third step was to estimate cutoff points that would divide the survey households into three groups according to total income per month in cash and kind: the lowest 40% had an income below M7.00; the middle 40%, M7.00 - M103.00, and the highest 20% had over M103.00 per month. Three questions were then asked: do the lower income households have wage workers; if households are classified according to income in these 40-40-20 groups, what are their scores on the demographic indicators; and what is the overall correlation between income group and the wage worker criterion?

Table 5.5 shows that the poorest households almost never contain a wage worker. Having one member in mining or industry tends to correspond with a middle income position, while households with two members in mining are all in the top 20% group.

The pattern shown in Table 5.6 is a familiar one. The female headed households are largely to be found in the poorer income groups: while 73.2% of the female headed households are in the lowest income group, only 30.5% of the male headed ones fall into this category. The female headed households in the top income group (9.8% of all female headed households) are all headed by widows: presumably these are households where the widow is still supported by migrant remittances from a son or sons.

The very close relationship between the presence or absence of wage workers and the level of total income is evident from Table 5.7. The 'wage worker' criterion would have classified 45.1% of the households as 'poor', and it can be seen from the table that it would have failed to predict correctly - if recorded income is taken as a more absolute norm - in two cases: one household is in the poorest 40% despite having a wage worker, while one household falls into the top 20% despite not having a wage worker. (The available runs do not indicate what the 'error' would have been if one of the cutoff points had been set at 45.1% of the population, to coincide with the 'WEALTH' distribution.) The table also shows that households in the middle income group tend to have one wage worker, although some have one female and one male wage worker, which is a common arrangement for households in this group with two wage workers, rather than both of them being male. It appears that to belong to the top 20% of the income distribution tends to require two or three household members in wage employment. While around half of these households have only one (or, in the exceptional case, no) man earning wages, the women tip the scale; the proportion of households with one wage worker goes down and the only households with three wage workers are found in this group.

In conclusion, it is suggested on the basis of this first test

Table 5.5

Type and sex of wage workers by income group (SENQU data)

Income group	<u>0 (lowest 40%)</u>	<u>1 (middle 40%)</u>	<u>2 (top 20%)</u>
n =	77	79	39
<u>No., sex and type of wage workers</u>			
One male in mining	1	45	20
Two males in mining (one female in mining: coding error)	0	0	17 (2)
One male in industry	0	15	3
One female in industry	0	4	1
One male in commerce	0	4	2
One female in commerce	0	2	4
One male in teaching	0	1	1
One female in teaching	0	4	2

Table 5.6

Sex and marital status of household head by income group (SENQU data)

Income group:	<u>0 (lowest 40%)</u>	<u>1 (middle 40%)</u>	<u>2 (top 20%)</u>	<u>Row total</u>
	%	%	%	%
<u>Sex of head:</u> Male	61.0	91.1	89.7	79.0 (154)
Female	39.0	8.9	10.3	21.0 (41)
	100.0	100.0	100.0	100.0 (195)
<u>Marital status:</u>				
Married	54.5	86.1	89.7	74.4 (145)
Divorced	1.3	2.5	0.0	1.5 (3)
Deserted	1.3	0.0	0.0	0.5 (1)
Separated	0.0	1.3	0.0	0.5 (1)
Widowed	41.6	7.6	10.3	21.5 (42)
Never Married	1.3	2.5	0.0	1.5 (3)
	100.0	100.0	100.0	100.0 (195)

Difference between groups in terms of sex of household head significant at 0.1% level.

Difference between groups in terms of marital status of household head significant at 0.1% level.

Table 5.7

Wage workers and income groups (SENQU data)

Income group:	<u>0 (lowest 40%)</u>		<u>1 (middle 40%)</u>		<u>2 (top 20%)</u>		<u>Row total</u>	
		%		%		%		%
No wage worker ('WEALTH=0')		98.7		13.9		2.6	45.1	(88)
Wage worker(s) ('WEALTH=1')		1.3		86.1		97.4	54.9	(107)
<u>No. of wage workers:</u>	0	98.7		13.9		2.6	45.1	(88)
	1	1.3		77.2		35.9	39.0	(76)
	2	0.0		8.9		43.6	12.3	(24)
	3	0.0		0.0		17.9	3.6	(7)
<u>No. of male wage workers:</u>	0	98.7		20.3		2.6	47.7	(93)
	1	1.3		77.2		48.7	41.5	(81)
	2	0.0		2.5		41.0	9.2	(18)
	3	0.0		0.0		7.7	1.5	(3)
<u>No. of female wage workers:</u>	0	100.0		87.3		79.5	90.8	(177)
	1	0.0		12.7		27.9	8.7	(17)
	2	0.0		0.0		2.6	0.5	(1)

Difference between groups in terms of presence/absence of wageworker(s), number of wage workers, number of male wage workers significant at 0.1% level.

Difference between groups in terms of number of female wage workers significant at 0.5% level.

that use of the wage worker criterion as a proxy for actual levels of income is valid in assessing the wealth or poverty of a household. The conclusion presented earlier in this report that this is the primary indicator of rural Lesotho levels of living is thus corroborated.

6. NEXT STEPS IN THE RESEARCH: RURAL EMPLOYMENT AND SURVIVAL STRATEGIES OF THE POOR

6.1 Other DLPRD Phase 1 activities and the DLPRD Phase 2

During the DLPRD project's first phase (see section 1.1 above), which is due to end in mid 1984, a number of other research activities were undertaken. The integration of data for Maseru district pilot planning purposes was postponed due to uncertainty as to the form district level development planning was to take in Lesotho, if it materialized at all. Following clarification by GOL, such work, not necessarily restricted to Maseru district, is likely to be a major component of the project's second phase, which lasts until May 1986. Research on local institutions during the first phase focused on village development committees and involved extensive field survey as well as assistance to policy drafting by GOL. Research on the poorest groups was not initiated as a separate activity, although it had been identified as such, because of a lack of personnel within National University of Lesotho willing and able to undertake it. A baseline study of off-farm employment conditions was undertaken in two Maseru district lowland villages already studied by URPP in 1982 and the two foothill villages covered by the DLPRD field exercise in winter 1983: a report on this study is forthcoming.

Design of research activities for the second phase of the DLPRD project is now under way. In suggesting next steps for research on rural poverty in Lesotho, the concluding sections below will therefore refer not only to the general issues raised in the body of this report but also to the specific tasks DLPRD might set itself for the next two years. It should be noted that in addition to the work on rural poverty envisaged here, DLPRD hopes also to do more research on the role of village level institutions in rural development.

6.2 Rural employment

In researching and designing rural development a range of social, institutional and economic issues need attention, but our primary

focus must be on rural employment. Political and social problems aside, the opportunities for labour migration to South Africa are diminishing. Migration to the rapidly expanding urban sector of Lesotho is dysfunctional in social and some infrastructural terms, and can never usefully employ more than a fraction of the nation's population. But the range of economic opportunities available to rural households is limited. Many of these opportunities have been noted, and some analysed, in this report. They can be restated here.

Family agriculture remains the principal survival strategy for many rural households. Their ability to pursue this strategy effectively is of course dependent upon their access to the means of production - land, draft power, implements, seed and other inputs - and, if they are to prosper from it, their access to markets. Linked to this are horticulture and fruit production, often identified as more intensive sectors that could raise the profitability of food production in the rural areas if effectively supported by extension and marketing services. At the same time, vegetables and fruit may constitute an important element of survival for the poorest groups and provide a crucial dietary input for a broader spectrum of rural households.

Livestock management is a second significant sector. With the exception of chicken and egg production, it is restricted to a smaller section of the rural population. Its future is uncertain, depending upon shifting attitudes to the sale of cattle and, more significantly, the ability of marketing structures to support this sector; maintenance of wool and mohair quality, and the ability of the country's range to withstand the current rate of exploitation. At the village level, ownership of livestock may permit the household to earn money from renting them out as draft power and will allow them an emergency source of income through sale of animals.

Linking these first two sectors are the economic opportunities afforded by agricultural cooperation. Some households resort to sharecropping as a survival strategy in the strictest sense: lacking their own agricultural inputs, they rely upon those of a contractor to realize some yield from their land. Other households which possess these means of production are able to make a more profitable living by offering their services as sharecropping contractors. There are also a wide range of sharing and helping arrangements, not strictly sharecropping, which enable more households to survive with the help of agriculture than would otherwise be the case.

A small proportion of households are able to gain part or all of their subsistence through seasonal agricultural employment for cash. More significant, however, are the survival strategies offered by rural off farm employment. Some activities involve work for an employer, paid in cash or kind, either in the household (domestic work) or in the few retail, educational and religious establishments that provide more formal employment in the rural areas. But most rural off farm employment is essentially self employment in such enterprises as brewing, shoe repair, traditional healing, building or knitting and weaving. This is the type of enterprise studied

in the DLPRD baseline survey of off farm employment.

Given the amount of research completed or ongoing on agricultural and livestock issues, the DLPRD project should concentrate its research on these other, off farm survival strategies. A second focus should continue to be on the poorest sector of the population: how they can be identified, how they survive, and what their particular characteristics and constraints are. Thirdly, research and policy consultation should continue on the institutional framework and range of data needed for the planning and implementation of rural development at the district level, with particular reference to these two research topics. Some further suggestions can be made on how research on these two issues - off farm employment and the poorest groups - might proceed. This research is likely to continue to take two forms: further analysis of the existing data base, and further field research.

6.3 Further research on existing data

As noted earlier in this report, the possibilities for manipulation of the extensive computerized rural survey data base in Lesotho are endless. But it is suggested, on the basis of the work carried out so far and reported here, that only a certain degree of resolution can be achieved by this sort of analysis when we are concerned with the nature of poverty. Computer analysis helps to point to those households likely to be poor and to describe them in general terms. Further refinement of this analysis is clearly possible, but a residual, 'unexplained' area of understanding is likely to remain. To broaden our analysis of poverty and of the survival strategies of the poorest groups, further fieldwork is likely to be necessary.

For an analysis of the rural off farm sector as a whole, however, there remains much useful work to be done with the computerized data base. Working with the survey files described in this report, more details could be extracted on the full range of off farm activities that exist and the types of person or household involved in them. In a sense work of this sort would be a counterpart to the investigation of poverty reported here. It is proposed that it be undertaken by DLPRD later in 1984 and be linked to further field work, much as the existing computer analysis of poverty should now be linked to a field study.

6.4 Further field work

The first field exercise planned for the DLPRD project's second phase

is to take place during the NUL 1984 long vacation, in Rapoleboea, a mountain area of Maseru district. Baseline data will be collected by staff and students from DLPRD and four collaborating NUL departments, to complement that obtained from the Maseru district lowlands in 1982 and the Maseru district foothills in 1983. In addition, it is hoped that some of the students' individual research topics will relate to the off farm employment and poorest group issues identified for DLPRD attention. A subsequent task will be to merge the data files from the Maseru district lowlands, foothills and mountains. This will partly complete the task outlined in the DLPRD project document (see section 1.1 above) and will also help to fill a gap in the existing data base: many of the surveys available in computer files exclude Maseru district, and of those that include it (the Thaba Bosiu project data), not all are reliable.

Fieldwork to be carried out later in the DLPRD project's second phase cannot be proposed in detail at this stage, as it will depend on the availability of interested staff and students at NUL; the amount of research that can be carried out directly by the two DLPRD full time staff is limited, and resources for the employment of enumerators and research assistants are modest. But, as suggested in section 6.3 above, further work on the poorest groups and on the off farm sector can be anticipated.

Fieldwork on the poorest groups in the rural areas should be designed to include the three main ecological zones of Lesotho and take as its task, guided by the computer analysis already undertaken, the identification of those households in sample communities which are significantly poorer than the mean. (This would in turn lead to a refinement of the indicator criteria suggested so far by the computer analysis.) A number of subjects should then be explored with regard these households. They would all require extended attention for an accurate picture to be built up: repeated field visits to the same areas would be desirable. The issues include the details of these poorest households' strategies for survival; their position within the community, for example in terms of participation in leadership and administration, benefit from support networks and degree of social marginality; their health, education and demographic status - leading to a refinement of our understanding of the family cycle, to which reference has often been made in this report; the nature and future of the redistributive mechanisms which have often reduced the range of wealth and poverty in traditional societies but may be less effective in doing so today; and, given that we know many of the poorest households to be female headed, a particular research reference (as indicated in the DLPRD project document) to the social and economic position of this subgroup within the poorest sector of the rural population. All this suggests an extended field effort. As indicated, it is not clear at this stage how much of it can be accomplished; but the final stage should be a report focusing on the policy implications for GOL - how rural development strategies can be designed specifically to support the poorest groups in the rural areas.

With regard to off farm employment, it is hoped that the winter 1984 field exercise will extend the baseline data already collected in the lowlands and foothills to the mountains of Maseru district. Beyond that, proposals must again be tentative. The baseline data will still be sketchy, being limited to five village areas in one district. Resources permitting, it may be desirable to extend coverage to other parts of the country. Beyond that, there are macro level and micro level options. It would be ideal to follow them both. At the macro, community level, communities for which baseline data is already available could be studied to ascertain the proportion of total income derived from the local off farm sector; the redistribution of this income; and the extent of competition and pooling between enterprises within and outside the community. At the micro level of the individual enterprise, much more detailed information might be obtained, although this tends to be an intensive and consequently expensive task. It would probably be necessary to restrict the study to the commonest forms of rural off farm employment. Issues to be covered could include labour inputs, production techniques, the flow of cash through the enterprise, materials availability and the learning of production skills. In all aspects of the research on off farm employment, the purpose of the DLPRD project should be, by the end of its second phase, to produce policy recommendations to GOL on support to individual off farm enterprises and to this crucial employment sector as whole. Regardless of migrant and formal sector opportunities, the dependence of the rural poor on rural off farm activities will remain significant in Lesotho and may even increase.

APPENDIX A

Questionnaire used in Ramotsoane and Raboshabane, winter 1983.

PARTICIPATION OF HOUSEHOLD MEMBERS IN LOCAL DEVELOPMENT PROJECTS SINCE LAST WINTER

MEMBER NO.
(SEE P. 1)

PROJECT

INVENTORY OF HOUSEHOLD LAND (INCLUDE GARDENS WITH FIELD CROPS/VEGETABLES BUT EXCLUDE GARDENS ADJACENT TO HOUSE)

LD	PLOT	CROP/CROP COMBINATION	FIELD/PLOT SIZE (SESOTHO ACRES)	IF FALLOW, HOW LONG AND WHY?
	1			
	2			
	3			
	1			
	2			
	3			
	1			
	2			
	3			

DID HOUSEHOLD SHARECROP ANY OF OWN LAND THIS SEASON? / YES

2 NO

DID HOUSEHOLD SHARECROP ANY OTHER LAND THIS SEASON? / YES

2 NO

DID HOUSEHOLD HIRE ANY AGRICULTURAL INPUTS THIS SEASON? / YES

2 NO

H.H. NO. _____

LIVESTOCK INVENTORY

	OWN PRESENT	MAFISA ELSEWHERE	MAFISA PRESENT
HORSES			
OXEN			
BULLS			
HENS/CALVES			
COWS			
DONKEYS/MULES			
GOATS			
PIGS			
SHEEP			

OTHER CAPITAL INVENTORY

	YES 1	NO 2
PLOUGH		
CULTIVATOR		
PLANTER		
CART		
TRACTOR		
OTHER(SPECIFY)		

WERE ANY OF THE ABOVE ACQUIRED THROUGH GOVERNMENT ASSISTANCE? (SPECIFY)

HAS THE HOUSEHOLD SOLD ANY CROPS, ANIMALS, HANDICRAFTS, OR WOOL TO CO-OPS OR TRADERS SINCE LAST WINTER?

1 YES (SPECIFY)

2 NO

12. VISITS TO HOUSEHOLD BY EXTENSION WORKERS SINCE CHRISTMAS

AGRICULTURAL EXTENSION WORKER
VILLAGE HEALTH WORKER
RURAL DEVPT. ASSISTANT

	YES* 1	NO 2
AGRICULTURAL EXTENSION WORKER		
VILLAGE HEALTH WORKER		
RURAL DEVPT. ASSISTANT		

*SPECIFY HOW MANY TIMES.

13. HAS HOUSEHOLD HEAD ATTENDED ANY PITSO IN VILLAGE AREA SINCE CHRISTMAS?

YES / (SPECIFY SUBJECT) _____

NO 2 _____

APPENDIX B

HOUSEHOLD CATEGORIES

Classified according to principal source(s) of subsistence

- SUB 1 Landless: agricultural labour
(includes a few cases of sharecropping out or hiring out
draft power/implements.)
- SUB 2 Landless: SA wages
- SUB 3 Landless: local off farm employment
- SUB 4 Landless: wages elsewhere in Lesotho
- SUB 5 Access to land: farming only
- SUB 6 Access to land: farming + SA remittances: husband
- SUB 7 Access to land: farming + SA remittances: son(s)
- SUB 8 Access to land: farming + local off farm employment
- SUB 9 Access to land: farming + wages elsewhere in Lesotho

No household gave livestock as principal subsistence source, but its significance to some foothill households should not be overlooked.

Classified according to agricultural networks

- AG 1 Landless: sharecrops others' land
- AG 2 Landless: hires out draft, implements
- AG 3 Landless: hires out farming labour
- AG 4 Landless: other agricultural involvement (e.g. farms his
brother's fields)
- AG 5 Landless: no agricultural involvement
- AG 6 Access to land: sharecrops own land
- AG 7 Access to land: sharecrops others' land
- AG 8 Access to land: sharecrops own + others' land

AG 9 Access to land: does not sharecrop

Classified according to membership/participation of any household member

- MEM 1 Participated in a local development project: holds no office, member of no organisation/committee
- MEM 2 Participated: chief
- MEM 3 Participated: chief's councillor
- MEM 4 Participated: VDC
- MEM 5 Participated: land allocation committee
- MEM 6 Participated: cooperative
- MEM 7 Participated: thrift/credit
- MEM 8 Participated: women's organisation
- MEM 9 Participated: other organisation
- MEM 10 Participated: more than one of the above
- MEM 11 Did not participate in any local development project: holds no office, member of no organisation/committee
- MEM 12 Did not participate: chief
- MEM 13 Did not participate: chief's councillor
- MEM 14 Did not participate: VDC
- MEM 15 Did not participate: land allocation committee
- MEM 16 Did not participate: cooperative
- MEM 17 Did not participate: thrift/credit
- MEM 18 Did not participate: women's organisation
- MEM 19 Did not participate: other organisation
- MEM 20 Did not participate: more than one of the above

SOME NOTES ON DEFINITIONS USED DURING THE QUESTIONNAIRE SURVEY

Those defined as household members are all those who eat from the same pot. Migrants working in South Africa are listed as household members if they have been home in the last two years. Migrants working in Maseru or elsewhere in Lesotho are treated as household members if they treat the household as their home base to which they return regularly. If they have set up base permanently in Maseru or elsewhere and only visit occasionally, they are not recorded as household members.

The household head is recorded as the husband if alive or the wife if widowed. But if the husband has not been back to the household for more than two years, then for our purposes the wife is recorded as household head.

The principal source of subsistence for each household member aged 10 or over is recorded as reported by the respondent (namely the household head or acting household head).

Participation in local development projects (question 4 on the questionnaire) refers to participation in the planning, execution or maintenance of any activity aimed at increasing production or improving services in the area.

Hiring of agricultural inputs (question 8) refers to the payment of cash for the use of the specified inputs.

APPENDIX C

REPORTS BY STUDENTS ON THEIR RESEARCH PROJECTS

<u>Student</u>	<u>Report</u>
Mr. K. Khoarai	Popular participation in local development projects in Lesotho. Department of Political and Administrative Studies, January 1984.
Mr. M. Majoro	Rural non-farm employment in Lesotho; An alternative source of employment. Department of Economics/ISAS, May 1984.
Mr. T.M. Raleting	Basic results on sharecropping. A Case of Ha-Ramotsoane and Ha-Raboshabane. Department of African Development, April 1984.
Ms S. Tsepe	The implementation of the Land Act of 1979 in the rural areas. Department of Political and Administrative Studies, January 1984.

NOTES

1. Bawden, M.G. and Carroll, D.M., 1968. The land resources of Lesotho. Tolworth, Land Resource Division, Directorate of Overseas Surveys.
2. We would like again to express our sincere thanks to the Ministry of Agriculture for permission to use these files and to repeat that, although the most reliable surveys have been used, the results should be interpreted with caution and not automatically be assumed to be applicable throughout Lesotho.



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