

**UNIVERSITY OF SWAZILAND
SOCIAL SCIENCE RESEARCH UNIT**

no. 52271

REPORT ON
-- AND REVIEW OF --
THE 1982/83 SAMPLE SURVEY
OF SWAZI NATION LAND

J. Iesterink
D. Funnell
K. Freund

Research Paper No. 17
May 1985

RESEARCH PAPER

Kwaluseni Campus, P/Bag Kwaluseni, Swaziland

SOCIAL SCIENCE RESEARCH UNIT
UNIVERSITY OF SWAZILAND

REPORT ON -- AND REVIEW OF -- THE 1982/83 SAMPLE SURVEY
OF SWAZI NATION LAND

Prepared by:

J. Testerink
D. Funnell
R. Freund

MAY 1985

FOREWORD

The main aim of the exercise, of which the present report is the result, was to explore possibilities of analyzing material, collected by the Central Statistical Office (CSO) in the Annual Sample Survey of Swazi Nation Land with the help of a computer.

For this purpose, the Cropping Systems Research and Extension Training Project (CSRETP) (Malkerns Research Station), in cooperation with the Social Science Research Unit (SSRU) (University of Swaziland), in 1983 took a small sample of the data of 50 homesteads, and analyzed about 50 variables on a small micro computer.

The results were promising, and therefore, in a later stage, the exercise was extended to the full sample of 600 homesteads, resulting in the present report.

This exercise has been useful in that it provided information on and insight in how to computerize the existing data bases, and, more important, how to design future surveys in such a way that computerization would be made easier. These insights have been benefited from during the design of the questionnaires, used in the 1983/84 National Agricultural Census. Further cooperation between the CSRETP, SSRU and CSO would be desirable, especially with regard to survey design, data collection and data analysis.

The format of the data presentation is different from the one used in the regular reports in that the information is not generalized to a national level, and that most figures are based on households, rather than on homesteads.

A report in the format used in previous years will be published under a separate cover by the Central Statistical Office.

The Survey was conducted by the Agricultural Statistics Section of the Central Statistical Office under its section head MR. P.F. Kunene.

We would like to express our thanks to all those who provided the information for this survey and to the chiefs of the areas covered, for their cooperation.

D.M. Lukhele
Government Statistician

Central Statistical Office
Mbabane, April 1985.

TABLE OF CONTENTS

List of Tables	
Introduction	1
Section I	4
Some Results	
A. Demographic Structure	4
B. The Workforce	6
C. Off farm Labour and Contributed Money	7
D. Agricultural Production	8
1) Crops and Areas	8
2) Methods of Ploughing and Planting	11
3) Use of Fertilizers and Pesticides	12
4) Livestock	14
5) Maize Output	14
E. Maize Purchases	15
F. Farm Income	16
Section II	18
An Appreciation of the Data	
a. Identification Survey	18
b. The Household Census	19
c. The Subsistence Survey	21
d. General Points	23
Section III	
Future Use of Data	24
References	27
Tables (1-25)	28

List of Tables

1. Homestead Population	28
2. Household Population	29
3. Full-time Farm Labour	30
4. Part-time Farm Labour	31
5. Farm Labour Production Units	32
6. Household contributions by wage earners	33
7. Area of arable land	34
8. Area of land under crops	35
9. Area of fallow land	36
10. Land/Person Ratio	37
11. Area: Hybrid maize	38
12. Area: Local maize	39
13. Total Maize	40
14. Swaziland Maize production	41
15. Area: Cotton, Tobacco	42
16. Area: Groundnut, Legumes	43
17. Area: Sorghum, other crops	44
18. Method of Ploughing	45
19. Method of Planting	46
20. Use of Fertilizer, Kraal manure, pesticide	47
21. Cattle Ownership	48
22. Livestock Ownership	49
23. Expected 1982-83 Maize production	50
24. Maize purchase	51
25. Crop, livestock sales	52

INTRODUCTION

Each year the Central Statistical Office (CSO) surveys Swazi Nation Land (SNL) farmers in order to determine the pattern of land use and crop yields. In 1982/83, supplemental surveys were conducted to:

- a) determine the composition of constituent households within a homestead;
- b) apportion the cultivated land and agricultural practices on a household basis;
- c) check the level of food production and consumption for each household;
- d) determine the pattern of consumer expenditure, farm expenditure, farm income, and total income, together with a livestock inventory (including changes over the previous year); and
- e) collect data on perceived "normal" output, 1981/82 output, and expected 1982/83 output of four crops: maize, cotton, beans, and groundnuts.

The specific instruments that were used to collect this data were:

- 1) An identification survey, which located the chosen homestead and mapped each field (with area and current use), and assigned it to the household which normally worked it.
- 2) A household survey, administered to each household in the homestead, which, provided data for items a through c above.
- 3) A subsistence survey, which dealt with item d above.
- 4) A crop-production survey, which dealt with item e above.
- 5) A crop-cutting survey, dealing specifically with the question of yields.

These surveys were carried out in the first few months of 1983. The survey methodology was largely that utilized by the CSO in previous surveys, though in

this instance an entirely new sample had been selected from the one used in the previous 2 years.

Based on the method of spatial-cluster sampling (fully discussed elsewhere; only in certain instances will it be necessary to note some of the effects in this paper) a selection of 120 of the existing 568 enumeration areas (EAs) making up the SNL was drawn. Blocks of EAs were so designed to cover each ecological zone as well as the main categories of the Rural Development Areas (RDA) Programme. Areas outside the RDAs were also included.

For each EA, five homesteads were selected at random, though this procedure may leave something to be desired in its efficacy. Occasionally the random selection of EAs would put an EA into the selection twice. When this occurred, ten homesteads were chosen from that EA. The sample size was 600 homesteads, reduced from the 900 of previous years in an effort to reduce the cost and the time required to gather data.

Throughout this report, minimum-input-RDAs are referred to as min-RDAs and maximum-input-RDAs as max-RDAs; areas outside the Rural Development Areas Project are referred to as non-RDAs. Areas like highveld non-RDAs, lowveld max-RDAs, etc., are referred to as "domains," in keeping with CSO tradition. Lubombo will here be used to refer to the plateau "domain" which is all in a max-RDA.

An effort was made to adjust sample size proportional to total population in the different distinguished domains. The lowveld maximum input RDA, in which only 10 homesteads were sampled, is an extreme example. Generalizations based on such a small sample number may be misleading.

The remainder of this paper is divided into three sections. The first deals with part of the data from the sample. About 90 variables were encoded and analysed as they stand. Secondly, the findings are subject to a critique which is aimed specifically at determining just what can be considered valuable from the material. Finally, we comment on how lessons from these surveys might guide future surveys.

SECTION I.

SOME RESULTS

Perhaps the most innovative feature of this set of data has been the attempt to collect material on the basis of the household unit rather than the homestead. This follows from a debate amongst local researchers about the most appropriate unit for studying social and economic variables (Black-Michaud, 1981; de Vletter, 1981; Russell, 1983).

The CSO definition of a household is that of a domestic unit "eating from the same kitchen." Though practical, this definition is by no means perfect and it needs more careful enquiry (Russell, 1983). For our purpose, the definition was slightly adjusted in regard to access to land. In other words, when two households shared fields, these two units were regarded as being one household.

Data from 567 of the 600 homesteads was analysed; the 33 remaining homesteads were cast out because data was incomplete. Of the 567 homesteads processed, 47 (or 8.3%) could be described as "complex," i.e. they consisted of more than a single household. Nationwide, 113 households (17.9% of the total of 632 in the sample) came from complex homesteads.

A. DEMOGRAPHIC STRUCTURE (Tables 1, 2).

The mean size of the household for all of Swaziland (when absentees are included) is 8.6. Differences between sub-regions are not significant. If we restructure the data to represent homesteads rather than households, the mean population is 9.6, with a mean of 2.1 absentees. This corresponds closely to the figure provided by de Vletter (1983): 10.0, with a resident homestead population of 8 and 2 absentees.

The percentage of children younger than 10 years is very high (almost a third of the population falls in this age category). This reflects the youthfulness of Swaziland's population.

For this analysis, one resident adult (15 years or older) is considered to be a consumption unit, and each resident child (under 15 years) is calculated as one-half unit.

The number of consumption units on average is almost constant at 5 per household, except in Lubombo, where households are smaller.

The average number of resident members in Swazi households is 6.7; and the mean for absentees is 1.9. One would expect farms in the RDAs to have smaller numbers of absentees and larger numbers of residents, since the RDAs have been established to create more attractive situations for farming. But this does not seem to be the case, as no significant differences appear in the proportion of absentees in the total household population. For all households, regardless of the location, this is about 20 percent. In the middleveld, the percentage of household heads away from home is slightly higher in non-RDAs than in the RDAs (just over 40% against just over 30%). In the lowveld, less heads are absent, which is not surprising when we take the scarcity of employment opportunities into consideration. This is most probably also the reason for the high percentage of absent heads in the highveld min-RDAs, which, located near Mbabane, have two-thirds of the heads absent.

The average age of the head of the household differs little between domains; the average for all of Swaziland is 48.3 years. Highveld max-RDAs are an exception; here the mean is 55.7 years of age.

B. THE WORKFORCE (Tables 3-5).

It should be noted that there is ambiguity in the usage of terms relating to "time" in the completed questionnaires. For instance "part-time" and "irregular" appear to have been used inconsistently, depending upon the understanding of the concept by the enumerator. Indeed, even "full-time" labour is not sufficiently defined: it is not clear whether it means full-time availability year-round, or only during the agricultural season.

The number of male adults working full-time on the farm rises consistently when we move from non-RDAs to max-RDAs, but differences are small: the means vary between 0.7 and 1.0. The means for female full-time working adults are much higher, varying between 1.3 and 1.9, and are on average higher in RDAs than in the non-RDAs.

The min-RDAs in the highveld, with a fairly low full-time adult workforce (2.1 against an overall mean of 2.8 in the highveld), show the highest mean of children working full-time on the farm: 1.4 against an overall average of 0.9 in the highveld and 0.5 for Swaziland as a total. A possible reason for this may be the proximity of wage-employment opportunities for adults, resulting in children being kept out of school for agricultural activities on the farm.

The input of part-time and irregular labour, at best widely variable and questionable, is hard to assess. The total adult part-timers for the different domains show the same trend as was noted for the full-timers; a consistent rise when moving from non-RDAs to max-RDAs.

The total workforce, added up and expressed in production units (adults working full-time counted as one, children working full-time as 0.5, adults working part-time also as 0.5, and children working part-time as 0.25) again shows the

same trend: the mean number of production units available to the household (farm) is larger in RDAs than in non-RDAs.

This trend is not so clear when the number of production units available per hectare of arable land is considered. In the lowveld, the means are lowest with a range from 2.6 to 4.2. The overall figure for Swaziland is 5.2 production units per hectare of arable land.

Low (1982) has suggested the presence of a positive relationship between household size and arable land. This relationship is not reflected in our data. Correlations between total household size and total arable land available to the household show a coefficient of 0.240 for Swaziland total (0.22 for RDAs and 0.276 for non-RDAs). Correlating the number of production units and total arable land produced coefficients of 0.147 for Swaziland total, 0.818 for RDAs and 0.115 for non-RDAs.

C. OFF-FARM LABOUR AND CONTRIBUTED MONEY (Table 6).

The difference between resident adults (mean = 3.2) and full-time farm workers (mean = 2.4) reflects the involvement of many adult residents in off-farm income-generating activities. Furthermore, substantial numbers of household members are recorded absent and in wage employment. The average number of wage earners contributing money to the household for all of Swaziland is 1.2. Values for the individual domains vary but little, with the exception of the highveld RDAs, (means of 2.1 and 1.8). As noted before this is probably due to the proximity of wage-employment opportunities (Mbabane, Havelock, Peak Timbers, Usutu Pulp). Percentages of households reporting no wage earners contributing money are the highest (around 50%) in the lowveld; this category is lowest in the highveld, especially in the RDAs (4 to 13%)

The total amount of money contributed annually has to be interpreted with the greatest caution. The complexity of remittances was highlighted in a recent study by Russell (1984). Nevertheless, the figures recorded may give an indication of the differences between regions, rather than an estimate of the exact amounts.

The amount of money contributed to households reporting such remittances is fairly constant over the domains. In Swaziland, the total amount is E799 per household; in RDAs it is slightly higher than in non-RDAs; this is not what one would have expected.

D. AGRICULTURAL PRODUCTION (Tables 7-23).

1) Crops and areas (Tables 7-17).

The mean area of total arable land available to each household is 1.5 hectare. In the CSO/SNL 1980/81 report, the data suggest an average area of 1.8 hectare, with regional differences. This figure is based upon homesteads. Modifying our data produces a mean value of 1.7 hectare per homestead. It has to be noted however that often in the past all land allocated to the homestead was counted as arable land, including grassland around the homestead, kraal area, farmstead, and other areas on which no crops are produced. This may account for the slight difference in the total area.

The largest areas of arable land per household are to be found in the lowveld. Significant differences do not occur between RDAs and non-RDAs.

The area fallow, on average 0.3 hectare, does not differ for RDAs and non-RDAs; in all domains the percentage of land under crops is about 90 percent of the total

available land. The lowveld is an exception; the percentage fallow here is about 25 percent. This can be explained by the fact that large numbers of cotton growers decided not to plant cotton, mainly as a result of the season starting late (due to the mourning period after the death of the King), agricultural credit was more difficult to obtain, and many farmers were reluctant to run risks after a dry 1981/82 season with low yields. Furthermore, resistance to the compulsory registration of cotton farmers resulted in less area planted with cotton; fields were left fallow instead.

When we look at the land/person ratio (total arable land available per consumption unit), there appears to be a fairly significant regional difference: the lowveld scores higher (range from 0.37 - 0.49 hectare per consumption unit) than any other region. The overall average for Swaziland is 0.33 hectare per consumption unit. Furthermore, it is again clear that farmers in RDAs do not have more land available.

Maize is by far Swaziland's most important crop: 95.4 percent of all households plant maize. In the highveld and middleveld, this percentage is even higher: about 98 percent. In the lowveld, especially in the non-RDAs, high percentages of households (19.3% in non-RDAs and 9% in min-RDAs) claim not to grow maize. This may not be correct. It is possible that crop failures were reported as "no maize" (perhaps as "fallow," thus accounting for the high percentages of fallow reported in this region), although maize may have actually been planted.

The average total area under maize, for those households growing the crop, is 0.98 hectare. Most recent CSO returns suggest a homestead figure of 1.09 hectare. When our data are recast for homesteads, the result is an average area of maize of 1.07 hectare. Regional differences do occur but are not statistically significant; all means are around 1 hectare under maize, except in the middleveld non-RDAs and max-RDAs, with means of 0.7 and 0.6 hectare under maize.

Area under maize seems to be a function of total land available, rather than of the number of consumption units per household. This becomes clear from the low correlation coefficient of 0.247 between the number of consumption units in the household and total area under maize for Swaziland total (0.250 for RDAs and 0.249 for non-RDAs). Self-sufficiency in maize therefore seems to be restricted by total available land. The same restriction seems to apply to commercialization of maize production, as was also concluded in a recent commercialization study (Testerink, 1984).

Hybrid maize pure stand was expected to be most frequently found in max-RDAs. This however does not seem to be the case. Actually, the percentages of farmers growing hybrid maize are in fact lowest in the max-RDAs. In all of Swaziland, 70 percent of all households grow hybrid maize; and 40 percent of all households grow open-pollinated traditional varieties which are commonly referred to as "local" maize. Percentages of farmers growing local maize are highest in the max-RDAs. (Table 14 shows that, nation-wide, local maize accounts for 32% of total maize area. One-half of this local maize is planted as pure stand, and an equal area is intercropped. Pure stands of hybrid maize account for 42%, and intercropped hybrid plantings cover 26% of total maize area.

Cotton is the most important cash crop, especially in the lowveld. Areas under cotton differ substantially; the smallest areas are in the middleveld min-RDAs (mean 0.31 ha per grower); the largest in the lowveld non-RDAs (mean 2.25 ha per grower). The latter are to be found mainly in the southern part of the lowveld, the Matsanjeni area: an area with a high percentage of cotton growers on large areas.

Figures for groundnuts and legumes are all very low, mainly because only the pure stands were taken into consideration. In the highveld, 5.6 percent of the households grow groundnuts (pure), but the areas are very small (0.07 ha on

average). Very few farmers in the lowveld grow pure stands of groundnuts (2.4%), but areas are large: on average 0.46 ha. In the middleveld, the areas under the crop are slightly smaller (0.28 ha), but more farmers (8.2%) grow it. Slightly more farmers grow legumes (pure): 20 percent in the highveld, 16 percent in the middleveld and only 10 percent in the lowveld and Lubombo. The type of legumes however would probably differ between areas. Regional differences in area under legumes are small; all legume panels (except those in Lubombo) are about a quarter of a hectare in size. Panels in the Lubombo are a mean of 0.56 ha per grower (mean for Swaziland is 0.26 ha per grower).

Very few farmers grow sorghum. Even in the lowveld, where it is a highly suitable and promoted crop, only 8% of the farmers grow the crop. Areas for growers in the highveld and middleveld are almost the same: a mean of 0.27 and 0.24 ha, respectively. Areas under sorghum in the lowveld are larger: 0.55 ha, on average, per grower.

Very few tobacco growers appear in the sample; probably too few to comment upon. It can be concluded that tobacco seems to be a disappearing crop.

The category "other crops" is not very useful for comment; this classification mainly consists of pumpkin, irish potato, sesame, melons, etc., all of which are, to a certain extent, also intercropped with maize. Therefore, total hectorages and total percentage of farmers growing the crop are not known.

2) Methods of ploughing and planting (Tables 18, 19).

It must be remembered that during the tillage season of 1982/83, a royal decree banned ploughing until the end of October. The death of King Sobhusa occurred just as the plowing season began, and tillage was prohibited during the period of mourning.

Therefore, it is possible that a number of households, normally using oxen for ploughing, now hired a tractor to speed up the process and avoid further delay in planting. On the other hand, interviews in some areas suggest that many farmers who normally hired tractors plowed with their own oxen, rather than wait for the over-booked tractors.

The figures suggest that tractor ploughing predominates for hybrid maize. In the highveld, the percentage of farmers hiring a tractor for ploughing the hybrid maize fields are highest in the max-RDAs (43.3%), followed by the min-RDAs (39.1%) and the non-RDAs (24.2%). In the middleveld and the lowveld, however, this trend is reversed: higher percentages in the non-RDAs.

A high percentage of cotton growers also hire tractors for ploughing; again, the highest percentages were noted in the non-RDAs: 41.4% of the cotton farmers hired tractors for ploughing. Nearly one-fourth of the cotton growers own tractors (most of these are probably in the Matsanjeni area, the southern part of the lowveld).

Nation-wide, in RDAs and non-RDAs alike, regardless of the crop, most farmers plant by hand. Oxplanters are the common form of mechanised planting, especially for hybrid maize. In the highveld max-RDAs, however, almost all farmers use oxplanters for their hybrid maize. In all other areas, the distinction between RDAs and non-RDAs is less evident or even totally absent. For cotton, planting by hand predominates, although fairly high percentages of farmers use tractor planters here.

3. Use of fertilizers and pesticides (Table 20).

Rates of fertilizer application were calculated, but the results were very unsatisfactory. In too many cases the claimed applied rate in kg/ha was far

too high to be realistic. The reason for this basically was that in many cases it was unclear whether, for example, one bag was used for all fields or that one bag per field was used (see our comments in Section II). Information on fertilizer use will therefore be restricted to percentages of households using it. The same strategy will be followed for the use of kraal manure and pesticides.

One would expect to find more farmers within RDAs applying fertilizer than on non-RDA areas. The data does not show this trend. Especially in the min-RDAs lower percentages were recorded. The overall percentage of farmers applying fertilizer is 62.7 percent for hybrid maize and 33.1 percent for local maize. In all regions, fertilizer-use is more popular for hybrid maize than it is for local maize.

Kraal manure appears to be used most often in the min-RDAs and next most frequently in the max-RDAs. There appears to be little difference between application for hybrid and local maize (in Swaziland, 28.3% of all hybrid maize growers apply kraal manure; 25.8% of the local maize growers do so), nor are there any significant regional differences.

Except in the highveld, pesticides are seldom used on local maize. The percentage of farmers using pesticides on maize in the lowveld is very low (only 6.7% of the farmers apply pesticides to hybrid maize). In the highveld, however, 61.2 percent of the hybrid maize growers use pesticides; the highest percentage of users (82%) farm in the max-RDAs.

Just over half of the cotton farmers use pesticides on this crop. In the lowveld max-RDAs, all farmers interviewed use it, but the sample here was very small and may not be representative.

4. Livestock (Tables 21, 22).

Livestock numbers (bovine) for all ecological zones, except the Lubombo Plateau, look plausible; they are slightly less than findings of de Vletter (1983) and the Agricultural Sample Census (1971/72) (ASC) (those recordings were based upon homesteads). Lubombo Plateau, however, with an average herd size in our census of 16.7 head per household, in no way compares with an earlier finding of 28.7 (de Vletter) and 24.1 per homestead (CSO 1984).

The overall mean household herd size for Swaziland is 16.1 head, which compares reasonably well with the 18.6 and 19.4 reported by de Vletter and ASC respectively.

Mean herd sizes in the highveld are largest in non-RDA areas, 18.5 animals; in the max-RDAs it was 12.8 and 17.9 in min-RDAs. In middleveld and lowveld, however, the largest herds were found in the max-RDAs.

Ownership of goats between regions, was about the same; the overall herdsize for Swaziland was found to be 13.1 (de Vletter reported 15.4; and ASC 20.6).

5. Maize output (Table 23).

To obtain crop production data a special survey was carried out at the homestead level. This attempted to compare the output for 3 years - - - (a) a "normal" year as perceived by the farmer; (b) actual production with that achieved for 1981-82, and (c) that expected by the farmer for the 1982-83 season. This data is open to considerable error; one reason being that estimates of past performance is subject to faulty recall. Therefore, "normal" year figures are not taken into consideration here. Neither are the 1981-82 figures, because much more reliable figures are already available for that season through crop cutting experiments, carried out by the CSO. Only maize production has been taken into consideration here.

The expected maize production indicates a substantial decline in output over the last few years. The 82/83 output was about one-third of the output of previous years, as figures (not tabulated here) from the crop-cutting survey indicate.

The percentage of farmers who expected no yields at all is astoundingly high, even in the drought-prone lowveld (mean of 41.1% of all homesteads). RDA farmer seem to be slightly more optimistic here: the percentage of homesteads with no output declines while moving from non-RDAs to max-RDAs. This corresponds with the move into more favorable ecological zones.

Lubombo Plateau has the highest anticipated output (15.1 bags estimated per homestead that expects some yield). For homesteads anticipating maize yield the difference between middleveld and lowveld are negligible (4.3 and 4.4 bags, respectively). The highveld does a little better with 6.7 bags of maize per homestead. Unfortunately, these figures can not be related to maize hectareage, due to the fact that areas were recorded per household and output was recorded per homestead.

F. MAIZE PURCHASES (Table 24).

Substantial amounts of maize were purchased (in the period March '82 - March '83), mainly due to very low yields in the dry 1981/82 season. Some households bought more than actually needed (when we assume a total annual need of 250 kg per consumption unit). This can partly be explained by the fact that many households sell maize after harvest to satisfy cash needs, and therefore have to buy at a later stage. Furthermore, some may resell or give away a certain amount of maize (e.g., relatives living in the same homestead). Wastage (e.g. "overcooking") is another factor. It is also possible that, in the case of "complex" homesteads, purchases were recorded double by the enumerator because maize was bought for the homestead as whole and not for the separate households.

When we assume that households not buying maize are self-sufficient, only 24.4 percent of households can be so categorised. The percentage of self-sufficiency is lowest in Lubombo Plateau (12.2%), closely followed by the lowveld (13.3%). In the highveld min-RDAs, more than half of the farmers are self-sufficient, whereas the non-RDA-middleveld farmers score very high with 61.9 percent. Thus there is no evidence that maize self-sufficiency is more prevalent in the RDAs.

The average amount purchased (considering all of Swaziland) is 110 kg per consumption unit. Average purchases are smallest in the highveld; the largest amounts were recorded in the lowveld and Lubombo.

When self-sufficiency is redefined to permit maize purchases of up to 50 kg per consumption unit, evidence of higher degrees of self-sufficiency in RDAs does not appear. Defined this way, 39.8 percent of all farmers are self-sufficient in maize, with Lubombo still showing the fewest (22.0%) and the highveld the most (62.7%).

There appears to be some problem with these Lubombo figures as they seem to be inconsistent with CSO crop-cutting data from the 1981/82 harvest.

F. FARM INCOME (Table 25).

A significant section of the subsistence survey dealt with the patterns of income from the sales of farm produce and with expenditures incurred in farm production. Regrettably there are many problems in attempting to interpret this data which will be discussed more fully in Section II.

Only 20.7 percent of all households claimed that they had crop sales in the subsistence survey. This value is considerably smaller than that of de Vletter, who reported that 41.6 percent of all homesteads on record as having sold crops.

The data provides little evidence that RDA farmers sell more frequently, or receive higher incomes from crop sales, when compared with non-RDA farmers. For all of Swaziland, total income from crop sales per household selling crops averaged E256 in the year being studied. Average incomes among regions from this activity varied widely; middleveld farmers on max-RDAs reported the lowest in average sales (E70 per household); the largest comparable sum (E813) was found in highveld households located on min-RDAs.

Only 25.3 percent of all households in this survey reported income from livestock sales (de Vletter's survey found 32.7 percent). Our figure is probably too low, especially since the year in question was a drought year, (drought conditions usually force people to sell off cattle). Regional differences did appear; lower percentage of highveld farmers sold; percentages in the lowveld were higher (up to 51.1 percent in the non-RDAs). Significant differences between RDAs and non-RDAs did not appear. Average income from livestock sales for those selling is E246 (Swaziland in total); the minimum was found (E33) in the middleveld non-RDAs, the maximum (E1240) in the highveld min-RDAs.

SECTION II.

AN APPRECIATION OF THE DATA

In the section preceding we have treated the data largely at its face value. Here we will review the data in light of the methods of collection and likely problems of interpretation.

a) The identification survey.

This survey was made to provide a base from which other studies could be carried out. It was administered to the homestead to identify its constituent households, name the household heads, and name the homestead head. A map and calculations provided data on distribution of fields, by type of crop/fallow, and by household to which they are primarily allocated.

For the most part, the data from the identification survey reflects consistency. Accuracy, while difficult to judge, presumably should be equivalent to that normally achieved in CSG/SHL surveys.

Generally what was most important to us, from a socio-economic point of view, was information pertaining to identification of particular fields with individual households and the relationships between the homestead head and household heads in complex homesteads. In a number of cases this relationship was not clearly stated. Also, in a few returns, fields belonging to complex homesteads were not identified with the individual households which managed and cultivated those fields.

In this phase of the survey, each enumerator also recorded a value for each crop that was grown in every field where mixed cropping occurred. This is a subjective evaluation of the relative density of each constituent crop in the mixture, and is

expressed as a percentage (e.g. 90% maize, 10% cowpeas). The C.S.O. have used these percentage figures to calculate a "pure stand equivalent area" for crops that are grown in mixtures. This calculation does serve to give a measure of the relative areas of all the crops that are grown on S.N.L., but in our analysis we have chosen not to adjust crop areas by these percentages. Nor have we devised any simple alternative method to deal with minor crops in a mixed cropping situation.

The purpose of this paper is to analyse the information which is contained in the CSO survey in the hope that it will shed more light upon the process by which SNL homesteads and households allocate resources to their farming enterprises, their non-farming activities, and how they provide for the subsistence needs of their members.

b) The household census.

There is no doubt that the household census, combined with (a) above, presents the most useful and interesting set of data. The questionnaires were generally filled in clearly, but some problems arise from interpretation.

There is a problem with the age data; the census figures suggest that very few homesteads or households have young babies, younger than one year of age. There might also be some inaccuracy in the reporting of the ages of elderly persons. This problem is fully discussed in the reports on the 1976 census. Since the CSO survey is not to be used as a population census, these inaccuracies do not have a major impact on the findings.

Turning to the question of occupation, a number of ambiguities occurred, particularly with respect to the categories of "wage", "casual" and "retired". When combined with the question on residence, other inconsistencies sometimes

occurred. For instance, are "South Africa" employees resident in a household? Of course, if they are gold/coal miners they may well be at home on leave. In one case we noted a non-resident farm worker, which is plausible, but may have been confused with someone employed in agriculture elsewhere. These problems can usually be resolved, but vigilant field supervision is needed to spot inconsistencies in time for convenient rechecking.

Similar problems may occur over the designation of farm labour. In some cases a particular EA appears to be composed totally of "irregulars"; in another EA, all labourers were listed "part-time". The data does not indicate exactly when part-time labour is available, which makes estimation of labour inputs for specific operations difficult. Also there is the occasional "full-time labourer" being ascribed to a wage worker or even someone working in the Republic of South Africa.

More serious is the difficulty of determining the amount of money contributed to the indlu by the household head. Many heads of households reported contributing money and if the head is employed this makes sense, but if he or she resides at the homestead and labours full-time on the homestead, this raises interesting questions. The source of this money is not clear; if it's from farm income or from elsewhere is tough to determine. It is suspected that in a number of returns the head merely aggregated contributions from other members and reported them as his own. There is a great opportunity for double counting in such cases, and some method which can avoid such pitfalls is needed.

As for the agricultural inputs, the returns were generally quite thorough and satisfactory and thus useful in conjunction with the field data from the identification survey. In some cases, though, field numbers were not adequately recorded in the sense that they did not correspond between the two surveys.

This problem was compounded by the use of "ditto" marks associated with, for instance, an ambiguous allocation of fertilizer usage. It was therefore not always clear whether the notation "4 bags" meant four bags applied to each field, or a total of four bags spread over all fields. Such a distinction is required for analysis of input use.

Units of measurement turned out to be the most difficult problem encountered with the food-consumption data. This is a common difficulty, and efforts to alleviate its affect included a special section for the recording of units being quoted. A few enumerators used this provision merely to record the total amount of crop produced-satisfactory if correct - but the bewildering variety of bag weights quoted needs cautious interpretation. Were these simply the weights verbally provided by the respondent, or were they carefully checked by the enumerator? If we use data based upon the often-recorded 80-kg bag, when in fact the true weight was nearer 70 kg, an error of some 14 percent would result. When expanded to reflect national totals, the distortion is considerable.

In the list of crops covered by the food-consumption survey, green maize is included alongside grain maize. Given that the homesteads were surveyed in March 1983, it must be presumed that some of the maize in the "green" category would have come from the 1982/83 crop, while the grain maize was that of the 1981/82 crop. The question stated that returns should be made for the "last" season, so confusion on the part of the respondent should perhaps be expected.

c) The subsistence survey.

In theory, this survey should likewise have been administered to households, but in a number of returns we find it applied only to homesteads. Interrogation in this survey, carried out mostly in April 1983, frequently was with a respondent other than the persons queried in previous surveys. It is very difficult to determine the validity of many of the data sets. Many of

the returns appear to have been filled in very casually, leaving much to guesswork.

Livestock data, except for Lubombo, appear to be quite reasonable. But the problem of sis'a'd cattle is not dealt with, and it is probable that poultry figures should be treated with caution. It appears that the poultry figures are less accurate than those for cattle or goats.

An effort was made in this survey to collect some farm-management data from this nation-wide sample. Previously farm-management surveys had been limited to a single RDA in one season.

There are numerous problems associated with income and expenditure data; which is to be expected when a survey relies upon the memory recall of a respondent, who maintains no financial records and who may not even have been involved in the financial dealings or the decision-making process. In an effort to get some meaningful data from a one-time interview process, different time-frames were used for different data sets. This was deemed to be necessary because, at the time of the interview, most dryland crops were standing in the fields. Farm income for one year would have to include sales from the harvest of the previous year's crops. To record farm expenses for the year which corresponded to the income season it would have been necessary to recall crop expenses, not for the previous 6 months, but for the period from 18 months to 6 months prior to the interview - a hopeless task indeed! Realizing that it would not be possible to compute such esoteric concepts as "Net Farm Income" from the data, it was hoped that some worth-while information about SNL household economics might emerge. Unfortunately, it appears that the findings must be interpreted with caution.

The farm-income and expenditure data are problematic because of inconsistencies between these returns and other information. For example, sale of livestock is a very important part of cash flow in some households. In many cases, livestock disposal is recorded, but the income from the sale does not appear as a cash figure in the financial accounts. Similarly, some households stating that they hired equipment reported no expenditures in this category. Obviously the collection of data of this kind needs to be carefully handled and, in particular, requires very careful supervision and checking.

d) General points.

In addition to the general problems noted above, not one of the surveys appears to have been conducted with a standardized procedure for dealing with "no answer". There is an important difference between not being able to obtain an answer to a question and a question that is correctly answered "zero." Unless, this is clarified, the resulting statistical work can be highly misleading, especially when working with proportions.

It is perhaps unfortunate that so few of the questions were set out in siSwati, especially from the standpoint of some of the socio-economic information. Concepts discussed in one language may be misinterpreted through translation. It is possible that some of the returns suffered from this problem.

SECTION III.

FUTURE USE OF DATA

The data set collected by the CSO provides an enormous resource for studies of various aspects of Swaziland rural life. The clustered nature of the sample and the use of EAs represent problems, but they are fully appreciated by the CSO and exist mainly because of logistic requirements. In theory this limitation could be corrected by the 1984 census of SNL in which a listing of homesteads and households - including locations - would provide a proper sample frame. This could serve as the basis for subsequent surveys which could be structured in different ways to suit the specific purpose. Whilst some general problems remain with the 1982/83 data, the material is useful for preliminary study of several topics.

The household survey and the identification survey provide material for the homestead/household debate. Our analysis shows that there are 47 complex homesteads in the sample.

Furthermore, from this data it would be possible to construct from the CSO 1982/83 data a picture of the allocation of labour, wage income, and arable area for each constituent household. It may also be possible to provide a guide to the types of complex homesteads, such as those composed of married sons, as differentiated from those consisting of wives of the homestead head. We might expect households headed by married sons of the homestead head would act differently with regard to agricultural production when compared with individual households headed by wives of the homestead head. Careful scrutiny of the household census, guided by the detailed knowledge now accumulating at the Social Science Research Unit of the University of Swaziland, could prove rewarding.

The subsistence survey can provide a general indication of the financial-flow patterns commonly occurring in homesteads. It is not possible to use the financial information as a basis for farm-management accounting, but scrutiny of the livestock returns would permit a comparison with results of other studies.

For future surveys of SNL, we suggest that the following points might be usefully considered:

- 1) Generally CSO surveys produce consistent, and reasonably accurate, returns of land areas and crop patterns. The measurement or calculation of areas of minor crops in mixed-cropping situations is still a problem for which there is no easy solution.
- 2) On the basis of the household-census returns, it is clear that reasonably accurate household-composition data can be collected if attention to the question of the recording of ages is observed.
- 3) Agronomic data can be collected insofar as the data consists of "use of," "date of," etc. But when dealing with estimates of amounts applied, and more especially with monetary values, the study suggests that serious problems will arise. Accurate responses to these questions are likely to require more time spent by the enumerator at the household, and will likely involve a whole series of supplementary questions. Field demonstrations and other farmer-education efforts should help in this regard.
- 4) Additional economic and social data perhaps also come into category (3) above. It is doubtful if the CSO is currently equipped to investigate total income/expenditure patterns or certain social relations because of the time, staffing, and specialized training required.

5) Two features of the CSO procedure may need careful consideration for future surveys. The first is supervision; collection of socio-economic data requires very diligent field management. Second, if findings of surveys are to be employed productively, their design must begin with a consideration of the facilities available for analyses of the results. It is likely that there will be limitations, and it is hardly worthwhile to collect data that cannot be handled in good time.

6) Finally, we would like to suggest that the CSO consider carefully preserving the household census and identification survey. There are many ways in which selections of data could be drawn out of the survey. Other workers might wish to exploit parts of this data base from time to time; therefore we highly recommend that the original returns be preserved in some form.

REFERENCES

- Black-Michael, A. 1981. "Homesteads versus Households", Malkerns Research Station (mimeo), Ministry of Agriculture, Mbabane.
- Central Statistical Office. 1973. "Agricultural Sample Census of Swazi Nation Land, 1971/72", Mbabane.
- Central Statistical Office, 1984. "Annual Sample Survey of Swazi Nation Land, 1981/82", Mbabane.
- De Vletter, F. 1981. "The Swazi Rural Homestead: Preliminary Findings of a Socio-Economic Survey undertaken by USAID, PBFL, FAO and UCS" (mimeo), University College of Swaziland.
- De Vletter, F. 1983. "A Socio-Economic Profile of Swazi Rural Homesteads: A summary of the main findings arising from the Swaziland Rural Homestead Survey", in: F. De Vletter (ed) "The Swazi Rural Homestead", Social Science Research Unit, University of Swaziland.
- Low, A. 1982. "Farm Household Theory and Rural Development in Swaziland", University of Reading, Development Study no.23.
- Russell, M. 1983. "The Rural Homestead in its Context: A review of the literature and thoughts for future directions", in: F. De Vletter (ed) "The Swazi Rural Homestead", Social Science Research Unit, University of Swaziland.
- Russell, M. 1981. "Beyond Remittances: The redistribution of cash in Swazi society", Social Science Research Unit, Research Paper no. 12, University of Swaziland.
- Testerink, J. 1984. "Agricultural Commercialization in Swaziland. Farmers compared", Social Science Research Unit, Research Paper no. 11, University of Swaziland.

TABLE 1

HOMESTEAD POPULATION

	No. of Homesteads in sample	No. of households in sample	Mean Homestead population, residents & absentees	Mean no. of absentee members of homestead	Mean resident homestead population
<u>RIGHVELD</u>					
NON-R.D.A.	36	41	10.2	2.1	8.1
MIN-R.D.A.	20	23	9.9	1.0	8.1
MAX-R.D.A.	69	79	10.3	3.1	7.2
TOTAL	125	143	10.2	2.6	7.6
<u>MIDDLEVELD</u>					
NON-R.D.A.	57	63	8.6	2.2	6.4
MIN-R.D.A.	140	157	9.6	1.9	7.7
MAX-R.D.A.	59	61	9.3	1.9	7.4
TOTAL	256	281	9.4	1.9	7.5
<u>LOWVELD</u>					
NON-R.D.A.	77	88	9.9	1.7	8.2
MIN-R.D.A.	59	67	9.4	2.1	7.3
MAX-R.D.A.	10	12	10.8	1.7	9.1
TOTAL	146	167	9.8	1.9	7.9
<u>LUBOMBO</u>					
	40	41	8.1	2.3	5.8
<u>SWAZILAND</u>					
	567	632	9.6	2.1	7.5

TABLE 2

HOUSEHOLD POPULATION

	No. of res. adults per household	No. of res. children per household (0-14 yr.)	No. of child. younger than 10 yrs., in household	Total res. household population	Total no. absentees (members of household)	No. of consumption units*	Age head of household	% of male heads	% of heads absent
<u>HIGHVELD</u>									
NON-R.D.A.	2.9	4.2	3.4	7.1	1.8	5.0	45.5	85.4	46.3
MIN-R.D.A.	3.1	3.9	2.8	7.0	1.6	5.0	46.4	91.3	65.2
MAX-R.D.A.	3.4	3.2	2.2	6.6	2.9	5.0	55.7	72.2	29.1
TOTAL	3.2	3.6	2.7	6.8	2.4	5.0	51.3	79.0	35.0
<u>MIDDLEVELD</u>									
NON-R.D.A.	3.0	3.5	2.2	6.5	1.5	4.8	48.1	82.5	42.9
MIN-R.D.A.	3.1	3.7	2.7	6.8	1.8	5.0	48.0	77.7	31.2
MAX-R.D.A.	3.5	3.6	2.5	7.1	1.9	5.3	49.1	85.2	34.4
TOTAL	3.2	3.6	2.5	6.8	1.7	5.0	48.2	80.4	34.6
<u>LOWVELD</u>									
NON-R.D.A.	3.4	3.7	3.0	7.1	1.5	5.3	42.8	88.6	28.4
MIN-R.D.A.	3.0	3.4	2.4	6.4	1.9	4.7	49.5	95.5	37.3
MAX-R.D.A.	3.4	4.2	2.8	7.6	1.4	5.5	48.1	58.3	-
TOTAL	3.3	3.6	2.7	6.9	1.6	5.1	45.9	89.2	29.9
<u>LUBOMBO</u>									
	2.9	2.8	2.2	5.7	2.2	4.3	48.3	92.7	48.8
<u>SWAZILAND</u>									
	3.2	3.5	2.6	6.7	1.9	5.0	48.3	83.2	34.6

* Consumption unit: all resident adults + 0.5 resident children (0-14 yr.)

TABLE 3

FULL-TIME FARM LABOUR

	Male Adults Full-Time % of Households with						Female adults full-time % of households with						Children 7-14 full-time % of households with					
	0	1	2	3	4	Mean	0	1	2	3	4	Mean	0	1	2	3	4	Mean
HIGHVELD																		
NON-R.D.A.	41.5	46.3	9.8	2.4	0	.73	9.8	43.9	26.8	9.8	9.7	1.71	70.7	19.5	2.4	0	7.2	.83
MIN-R.D.A.	39.1	47.8	8.7	0	4.3	.82	0	73.9	21.7	4.3		1.30	30.4	26.1	26.1	4.3	13	1.44
MAX-R.D.A.	40.5	31.6	11.4	7.6	8.8	1.15	3.8	40.5	30.4	13.9	1.4	1.76	64.6	13.9	10.1	2.5	8.9	.82
TOTAL	39.9	39.2	10.5	4.9	5.6	.99	5.6	46.2	28	11.2	9.1	1.76	60.8	18.2	10.5	2.1	8.4	.86
MIDDLEVELD																		
NON-R.D.A.	42.9	49.2	3.2	3.2	1.6	.73	9.5	55.6	20.6	11.1	3.2	1.43	95.2	0	3.2	1.6	0	.11
MIN-R.D.A.	48.4	33.1	14	1.3	3.1	.81	5.1	54.8	29.3	8.3	2.5	1.51	73.2	8.9	11.5	3.8	2.5	.54
MAX-R.D.A.	37.7	32.8	24.6	4.9	0	.99	9.8	34.4	31.1	14.8	9.8	1.80	67.2	18	8.2	3.3	3.2	.59
TOTAL	44.8	36.7	13.9	2.5	2.3	.83	7.1	50.5	27.8	10.3	4.4	1.56	76.9	8.9	8.9	3.2	2.1	.46
LOWVELD																		
NON-R.D.A.	38.6	48.9	6.8	3.4	2.2	.84	18.2	50	26.1	5.7	0	1.19	84.1	10.2	3.4	2.3	0	.24
MIN-R.D.A.	38.8	38.8	17.9	3.0	1.5	.95	11.9	55.2	23.9	4.5	4.5	1.34	73.1	7.5	10.4	6	3	.58
MAX-R.D.A.	41.7	25	25	8.3	0	1.0	8.3	66.7	25	0	0	1.17	91.7	8.3	0	0	0	.08
TOTAL	38.9	43.1	12.6	3.6	1.8	.88	15	53.3	25.1	4.8	1.8	1.25	80.2	9	6	3.6	1.2	.37
LUBOMBO																		
	36.6	43.9	7.3	9.8	2.4	.95	19.5	46.3	19.5	9.8	4.8	1.42	70.7	12.2	14.6	2.4	0	.49
SWAZILAND																		
	41.8	39.2	12.3	3.8	2.8	.88	9.7	50	26.6	9	4.7	1.51	73.9	11.1	8.9	3	3.2	.52

TABLE 4

PART-TIME FARM LABOUR

	Male Adults Part-Time						Female Adults Part-Time						Children 7-14 Part-Time					
	% of Households with						% of Households with						% of Households with					
	0	1	2	3	4+	Mean	0	1	2	3	4+	Mean	0	1	2	3	4+	Mean
HIGHVELD																		
NON-R.D.A.	41.5	31.7	19.5	4.9	2.4	.98	70.7	26.8	0	2.4	0	.34	34.1	29.3	19.5	12.2	4.8	1.29
MIN-R.D.A.	30.4	39.1	21.7	4.3	4.3	1.13	60.9	21.7	8.7	0	8.6	.83	43.5	13	13	21.7	8.7	1.39
MAX-R.D.A.	17.7	44.3	19	10.1	7.0	1.57	44.3	22.8	13.9	15.2	3.8	1.13	51.9	12.7	12.7	12.7	10.1	1.34
TOTAL	26.6	39.9	19.6	7.7	6.3	1.33	54.5	23.8	9.1	9.1	3.5	.85	45.5	17.5	14.7	14	8.4	1.34
MIDDLEVELD																		
NON-R.D.A.	33.3	41.3	14.3	6.3	4.8	1.13	60.3	28.6	7.9	3.2	0	.549	42.9	19	14.3	14.3	9.6	1.35
MIN-R.D.A.	33.8	38.2	19.7	4.5	3.7	1.12	64.3	21.7	8.9	3.8	1.2	.59	56.1	17.2	11.5	9.6	5.7	.95
MAX-R.D.A.	23	41	18	9.8	8.2	1.41	67.2	18	8.2	4.9	1.6	.57	57.4	13.1	6.6	16.4	6.5	1.07
TOTAL	31.3	39.5	18.1	6	5.1	1.19	64.1	22.4	8.5	3.9	1.1	.57	53.4	16.7	11	12.1	6.9	1.06
LOWVELD																		
NON-R.D.A.	46.6	21.6	25	5.7	1.1	.94	62.5	17	14.8	4.5	1.1	.65	63.6	10.2	11.4	6.8	7.9	.89
MIN-R.D.A.	23.9	43.3	20.9	6	6	1.36	56.7	26.9	11.9	4.5	0	.64	53.7	13.4	10.4	9	13.5	1.25
MAX-R.D.A.	33.3	41.7	25	0	0	.92	50	50	0	0	0	.50	66.7	25	8.3	0	0	.42
TOTAL	36.5	31.7	23.4	5.4	3.0	1.11	59.3	23.4	12.6	4.2	.6	.64	59.9	12.6	10.8	7.2	9.6	1.00
LUBOMBO	45.3	39	9.8	2.4	2.4	.78	63.4	34.1	0	2.4	0	.47	68.3	17.1	4.9	4.9	4.9	0.53
SWAZILAND	32.8	37.3	19.3	6	4.7	1.17	60.6	23.7	9.2	5.1	1.5	.64	54.1	15.8	11.6	10.8	7.7	1.08

TABLE 5

FARM LABOUR PRODUCTION UNITS

	% of Households by No. of production units						Mean Units	% of Households by production units per ha. arable land						Mean Units/ha.
	< 2	-4	-6	-8	8+	< 1		-2	-4	-6	-8	8+		
<u>HIGHVELD</u>														
NON-R.D.A.	14.6	53.7	12.2	17.1	2.4	3.7	4.8	22.0	29.3	26.8	7.3	9.8	4.1	
MIN-R.D.A.	0	52.2	39.1	4.3	4.3	4.2	0	9.1	18.2	27.3	9.1	36.4	7.9	
MAX-R.D.A.	10.1	27.8	27.8	17.7	16.5	5.2	6.3	13.9	29.1	12.7	10.1	27.8	6.1	
TOTAL	9.8	39.2	25.2	15.4	10.5	4.6	4.9	15.5	27.5	19.0	9.2	23.9	5.8	
<u>MIDDLEVELD</u>														
NON-R.D.A.	17.7	52.4	27.0	4.8	3.2	3.4	0	16.7	21.7	23.3	10.0	28.3	6.8	
MIN-R.D.A.	19.1	46.5	22.9	5.1	6.4	3.7	10.3	17.3	41.0	11.5	10.9	9.0	4.1	
MAX-R.D.A.	6.5	42.6	31.1	14.8	4.9	4.3	1.7	6.9	25.9	12.1	12.1	41.4	9.1	
TOTAL	15.0	47.0	25.6	7.1	5.3	3.8	6.2	15.0	33.6	14.2	10.9	20.1	5.7	
<u>LOWVELD</u>														
NON-R.D.A.	22.7	47.7	19.3	6.8	3.4	3.2	40.0	21.3	20.0	6.7	4.0	8.0	2.7	
MIN-R.D.A.	13.5	34.3	38.8	11.9	1.5	3.9	9.4	28.1	28.1	10.9	9.4	14.1	4.2	
MAX-R.D.A.	33.3	41.2	25.0	0	0	3.0	16.7	41.7	16.7	16.7	0	8.3	2.6	
TOTAL	19.8	41.9	27.5	8.4	2.4	3.4	25.1	25.8	23.2	9.3	6.0	10.6	3.3	
<u>LUBOMBO</u>														
	21.9	41.5	24.4	7.3	4.9	3.4	13.2	5.3	23.7	18.4	10.5	28.9	6.8	
<u>SWAZILAND</u>														
	15.5	43.5	25.9	9.3	5.7	3.8	11.0	17.2	28.9	14.4	9.3	19.2	5.2	

* production units: fulltime adults + 1/2 fulltime children + 1/2 part time irregular adults + 1/4 part time irregular children

TABLE 6

HOUSEHOLD CONTRIBUTIONS BY WAGE-EARNERS

	Wage Earners Contributing % of Households with						Mean Amount contributed (for those reporting)	Mean amount for all households, including those lacking contributions
	0	1	2	3	4+	Mean		
HIGHVELD								
NON-R.D.A.	46.3	22	22	7.3	2.4	.98	574	294
MIN-R.D.A.	4.3	43.5	39.1	4.3	8.6	2.13	902	863
MAX-R.D.A.	12.7	36.7	22.8	17.7	10.1	1.82	868	747
TOTAL	21.0	33.6	25.2	12.6	7.7	1.63	819	636
MIDDLEVELD								
NON-R.D.A.	31.7	49.2	11.1	1.6	6.4	1.05	722	493
MIN-R.D.A.	30.6	49	14.6	1.9	3.8	1.08	771	574
MAX-R.D.A.	39.5	37.7	8.2	6.6	8.2	1.08	1080	602
TOTAL	32.7	46.6	12.5	2.8	5.3	1.07	814	562
LOWVELD								
NON-R.D.A.	46.6	35.2	13.6	4.5	0	0.76	613	320
MIN-R.D.A.	28.4	47.8	17.9	3	3	1.09	795	570
MAX-R.D.A.	58.3	16.7	25	0	0	0.67	1453	605
TOTAL	40.1	38.9	16.2	3.6	1.2	0.89	763	441
LUBOMBO								
	26.8	46.3	19.5	2.4	4.9	1.15	811	594
SWAZILAND								
	31.6	41.6	16.8	5.2	4.7	1.15	799	549

TABLE 7

AREA OF ARABLE LAND (INCLUDING FALLOW)

	X of Households by Hectares Arable Land										Mean ha for households with land	Mean ha per homestead
	0	-0.25	-0.5	-1	-1.5	-2	-2.5	-3	-5	5+		
<u>HIGHVELD</u>												
NON-R.D.A.	0	9.8	4.9	26.8	36.6	14.6	2.4	2.4	2.4	0	1.19	1.36
MIN-R.D.A.	4.3	13.0	26.1	30.4	8.7	4.3	4.3	0	8.6	0	1.03	1.18
MAX-R.D.A.	0	3.8	10.1	32.9	15.2	16.5	11.4	5.1	3.8	1.3	1.33	1.52
TOTAL	0.7	7.0	11.2	30.8	20.3	14.0	7.7	3.5	4.2	0.7	1.24	1.42
<u>MIDDLEVELD</u>												
NON-R.D.A.	0	23.8	19.0	27.0	9.5	9.5	1.6	7.9	1.6	0	0.91	1.01
MIN-R.D.A.	0.6	5.1	12.1	30.6	19.1	8.3	10.8	3.8	6.3	3.2	1.48	1.66
MAX-R.D.A.	1.6	13.1	29.5	27.9	13.1	9.8	1.6	0	3.2	0	0.81	0.84
TOTAL	0.7	11.0	17.4	29.2	15.7	8.9	6.8	3.9	4.6	1.8	1.21	1.33
<u>LOWVELD</u>												
NON-R.D.A.	13.6	3.4	4.5	13.6	25.9	9.1	9.1	2.3	14.8	13.6	2.73	3.12
MIN-R.D.A.	4.5	6.0	14.9	16.4	6.0	23.9	7.5	9.0	7.0	6.0	2.09	2.37
MAX-R.D.A.	0	0	16.7	16.7	16.7	8.3	8.3	8.3	25.0	0	1.93	2.31
TOTAL	9.0	4.2	9.6	15.0	12.0	15.0	8.4	5.4	12.0	9.6	2.40	2.75
<u>LUBOMBO</u>												
	2.4	29.3	22.0	17.1	9.8	2.4	2.4	4.9	9.7	0	1.04	1.07
<u>SWAZILAND</u>												
	3.0	9.5	14.2	25.0	15.3	11.2	7.1	4.3	6.8	3.5	1.50	1.67

TABLE 8

AREA OF LAND UNDER CROPS (EXCLUDING FALLOW)

	% of Households by Hectares under crops										Mean ha. for households having land under crops
	0	-0.25	-0.5	-1	-1.5	-2	-2.5	-3	-5	5+	
HIGHVELD											
NON-R.D.A.	0	12.2	7.3	31.7	29.3	12.2	2.4	2.4	2.4	0	1.11
MIN-R.D.A.	4.3	17.4	30.4	26.1	4.3	4.3	8.7	0	4.3	0	0.92
MAX-R.D.A.	1.3	6.3	7.6	35.4	19.0	11.4	11.4	3.8	3.8	0	1.22
TOTAL	1.4	9.8	11.2	32.9	19.6	10.5	8.4	2.8	3.5	0	1.14
MIDDLEVELD											
NON-R.D.A.	0	28.6	22.2	28.6	6.3	4.8	3.2	4.8	1.6	0	0.76
MIN-R.D.A.	1.3	8.9	14.6	33.8	15.9	11.5	5.7	2.5	3.2	2.5	1.20
MAX-R.D.A.	1.6	18.0	32.8	27.9	11.5	4.9	0	0	3.2	0	0.69
TOTAL	1.1	15.3	20.3	31.3	12.8	8.5	3.9	2.5	2.8	1.4	0.99
LOWVELD											
NON-R.D.A.	15.9	4.5	9.1	17.0	13.6	8.0	11.4	3.4	10.2	6.8	2.06
MIN-R.D.A.	9.0	10.4	14.9	14.9	13.4	17.9	6.0	3.0	9.0	1.5	1.60
MAX-R.D.A.	0	0	16.7	16.7	16.7	8.3	8.3	16.7	16.7	0	1.80
TOTAL	12.0	6.6	12.0	16.2	13.8	12.0	9.0	4.2	10.2	4.2	1.85
LUBONBO											
	2.4	29.3	22.0	19.5	9.8	0	2.4	4.9	9.7	0	1.02
SWAZILAND											
	4.1	12.7	16.1	26.9	14.4	9.3	6.2	3.2	5.4	1.7	1.23

TABLE 9

AREA OF FALLOW* LAND

	% of all Households by Hectares Fallow Land								Mean hectares for household with Fallow	
	0	-25	-5	-75	-1	-1.5	-2	2+		
<u>HIGHVELD</u>										
NON-R.D.A.	65.9	22	9.8	2.4					.234	* "Fallow" land by common Swaziland
MIN-R.D.A.	65.2	21.7	8.7	0	0	4.3			.304	usage means areas of allocated land which could be cultivated
MAX-R.D.A.	68.4	13.9	10.1	3.8	1.3	1.3			.397	but, in the reporting season, were not planted to crops.
TOTAL	67.1	17.5	9.8	2.8	.7	1.4	.7		.332	
<u>MIDDLEVELD</u>										
NON-R.D.A.	65.7	12.7	9.5	3.2	4.8	1.6	1.6		.472	** Mean hectares of fallow land for all households surveyed is .272
MIN-R.D.A.	51	18.5	15.3	5.1	3.2	2.5	1.3	3.2	.588	Mean hectares for those with fallow is .722
MAX-R.D.A.	73.8	9.8	3.3	11.5	0	1.6			.436	
TOTAL	59.4	15.3	11.4	6	2.8	2.1	1.1	1.8	.545	
<u>LOWVELD</u>										
NON-R.D.A.	55.7	8	8	4.5	5.7	6.8	1.1	10.2	1.418	
MIN-R.D.A.	55.2	13.4	10.4	4.5	3	3	1.5	9	1.216	
MAX-R.D.A.	66.7	16.7	8.3	0	8.3				.367	
TOTAL	56.3	10.8	9	4.2	4.8	4.8	1.2	9	1.277	
<u>LUBOMBO</u>										
	90.2	7.3	0	2.4					.236	
<u>SWAZILAND</u>										
	62.3	14.1	9.7	4.6	2.7	2.5	.9	3.1	** .272	
		37.4	25.6	12.2	7.1	6.7	2.5	8.4	.722	

TABLE 10

Land/person ratio - Hectares of Total Arable Land per Consumption Unit*

	% of Households by hectares per unit					Mean ha. per unit	
	0.25	-0.50	-1	-2	2+		
<u>HIGHVELD</u>							
NON-R.D.A.	50.0	37.5	12.5	0	0	0.27	
MIN-R.D.A.	69.5	21.7	4.3	4.3	0	0.22	
MAX-R.D.A.	50.6	32.9	15.2	0	1.3	0.31	
TOTAL	53.5	32.4	12.7	0.7	0.7	0.29	
<u>MIDDLEVELD</u>							
NON-R.D.A.	69.8	25.4	3.2	1.6	0	0.22	* Consumption unit:
MIN-R.D.A.	52.8	26.8	15.9	3.8	0.6	0.37	Resident Adult = 1
MAX-R.D.A.	78.6	11.5	9.8	0	0	0.19	Resident Child (0-14) = 0.5
TOTAL	62.3	23.1	11.7	2.5	0.4	0.29	
<u>LOWVELD</u>							
NON-R.D.A.	42.0	21.6	18.2	17.0	1.1	0.49	
MIN-R.D.A.	38.2	39.4	19.7	1.5	1.5	0.37	
MAX-R.D.A.	33.3	25.0	41.7	0	0	0.40	
TOTAL	39.7	28.9	20.5	9.6	1.2	0.44	
<u>LUBOMBO</u>							
	70.7	19.5	7.3	2.4	0	0.25	
<u>SWAZILAND</u>							
	54.9	26.5	14.0	4.0	0.6	0.33	

TABLE 11

AREA: HYBRID MAIZE

	Hybrid Maize - Pure Stand % of Households by hectares grown										Mean ha of those growing	Hybrid Maize - intercropped % of Households by hectares grown										Mean area of those growing
	0	-0.25	-0.5	-0.75	-1	-1.5	-2	-3	-5	5+		0	-0.25	-0.5	-0.75	-1	-1.5	-2	-3	-5	5+	
HIGHVELD																						
NON-R.D.A.	36.8	12.2	12.2	12.2	12.2	12.2	2.4	0	0	0	.684	48.8	17.1	17.1	4.9	4.9	4.9	0	2.4	0	0	.576
MIN-R.D.A.	34.8	34.8	13	8.7	0	8.7	0	0	0	0	.383	30.4	13	21.7	17.4	4.3	4.3	4.3	0	4.3	0	.762
MAX-R.D.A.	32.9	15.2	10.1	16.5	13.9	7.6	2.5	1.3	0	0	.66	57	17.7	7.6	10.1	2.5	3.8	1.3	0	0	0	.470
TOTAL	34.3	17.5	11.2	14	11.2	9.1	2.1	.7	0	0	.623	50.3	16.6	12.6	9.8	3.5	4.2	1.4	.7	.7	0	.559
MIDDLEVELD																						
NON-R.D.A.	41.3	27	7.9	7.9	6.3	6.3	0	3.2	0	0	.539	61.9	19	3.2	7.9	1.6	6.3	0	0	0	0	.456
MIN-R.D.A.	40.1	12.7	19.1	11.5	4.5	3.8	3.2	1.9	2.5	.6	.833	60.5	9.6	12.1	9.6	3.2	2.5	.6	1.3	.6	0	.609
MAX-R.D.A.	45.9	13.1	24.6	6.6	6.6	1.5	0	1.6	0	0	.490	68.9	18	8.2	4.9	0	0	0	0	0	0	.271
TOTAL	41.6	16	17.8	9.6	5.3	3.9	1.8	2.1	1.4	.4	.698	62.6	13.5	9.3	8.2	2.1	2.8	.4	.7	.4	0	.513
LOWVELD																						
NON-R.D.A.	69.3	6.8	4.5	5.7	2.3	5.7	1.1	3.4	1.1	0	.977	65.9	8	8	5.7	3.4	4.5	3.4	1.1	0	0	.718
MIN-R.D.A.	32.8	17.9	14.9	7.5	6	13.4	1.5	4.5	0	1.5	.850	55.2	17.9	14.9	1.5	3	4.5	0	0	3	0	.625
MAX-R.D.A.	91.7	0	8.3	0	0	0	0	0	0	0	.430	66.7	0	0	0	8.3	16.7	0	0	8.3	0	1.536
TOTAL	56.3	10.8	9	6	3.6	8.4	1.2	3.6	.6	.6	.891	61.7	11.4	10.2	3.6	3.6	5.4	1.8	.6	1.8	0	.726
LUBOMBO																						
	82.9	2.4	0	2.4	4.9	0	2.4	2.4	2.4	0	1.387	56.1	12.2	12.2	4.9	0	7.3	2.4	2.4	2.4	0	.863
SWAZILAND																						
	46.5	11.1	12.8	9.2	6.2	6	1.7	2.2	.9	.3	.733	59.2	13.6	10.4	7.1	2.7	4.1	1.1	.8	.9	0	.605

TABLE 12

AREA: LOCAL MAIZE

	Local Maize - Pure Stand % of Households by hectares grown										Mean ha of those grow- ing	Local Maize - Intercropped % of households by hectares grown										Mean ha of those being
	0	-.25	-.5	-.75	-1	-1.5	-2	-3	-5	5+		0	-.25	-.5	-.75	-1	-1.5	-2	-3	-5	5+	
<u>HIGHVELD</u>																						
NON-R.D.A.	73.2	17.1	4.9	0	2.4	2.4	0	0	0	0	.343	70.7	12.2	7.3	7.3	2.4	0	0	0	0	0	.419
MIN-R.D.A.	100										0	100										0
MAX-R.D.A.	62	5.1	12.7	8.9	5.1	2.5	2.5	1.3	0	0	.664	68.4	6.3	13.9	5.1	0	3.8	1.3	1.3	0	0	.597
TOTAL	71.3	7.7	8.4	4.9	3.5	2.1	1.4	.7	0	0	.578	74.1	7	9.8	4.9	.7	2.1	.7	.7	0	0	.539
<u>MIDDLEVELD</u>																						
NON-R.D.A.	76.2	9.5	6.3	4.8	1.6	0	0	1.6	0	0	.501	81	9.5	3.2	1.6	16	0	3.2	0	0	0	.542
MIN-R.D.A.	58	15.9	12.7	5.7	3.8	3.2	.6	0	0	0	.440	70.7	9.6	11.5	2.5	1.9	3.2	.6	0	0	0	.451
MAX-R.D.A.	63.9	16.4	9.8	6.6	1.6	16	0	0	0	0	.346	77	9.8	6.6	1.6	1.6	0	1.6	1.6	0	0	.583
TOTAL	63.3	14.6	10.7	5.7	2.8	2.1	.4	.4	0	0	.429	74.4	9.6	8.5	2.1	1.8	1.8	1.4	.4			
<u>LOWVELD</u>																						
NON-R.D.A.	81.8	4.5	3.4	1.1	2.3	3.4	2.3	0	1.1	0	.971	77.3	3.4	6.8	4.5	2.3	3.4	1.1	1.1	0	0	.726
MIN-R.D.A.	86.6	3	3	0	3	1.5	3	0	0	0	.830	83.6	3	6	3	1.5	3	0	0	0	0	.589
MAX-R.D.A.	83.3	16.7	0	0	0	0	0	0	0	0	.130	41.7	16.7	8.3	0	16.7	0	0	16.7	0	0	1.032
TOTAL	38.8	4.8	3	.6	2.4	2.4	2.4	0	.6	0	.862	77.2	4.2	6.6	3.6	3	3	.6	1.8	0	0	.743
<u>LUBOMBO</u>																						
	75.6	17.1	4.9	2.4	0	0	0	0	0	0	.206	39	36.6	12.2	4.9	2.4	2.4	2.4	0	0	0	.357
<u>SWAZILAND</u>																						
	71.4	10.6	7.8	4	2.7	2.1	1.1	.3	.2	0	.515	72.8	9.3	6.5	3.3	1.9	2.2	1.1	1.8	0	0	.538

TABLE 13

TOTAL MAIZE

	Total Maize % of Households by hectares grown											Mean ha of growers	Growers Maize					
	0	-0.25	-0.5	-0.75	-1	-1.5	-2	-3	-5	5+	Local No.		%	Hybrid No.	%			
<u>HIGHVELD</u>																		
NON-R.D.A.	0	14.6	4.9	19.5	2.2	29.3	4.9	2.4	2.4	0	.944	13	31.7	33	80.5			
MIN-R.D.A.	4.3	17.4	30.4	17.4	8.7	8.7	4.3	4.3	4.3	0	.815	0	0	23	100			
MAX-R.D.A.	1.3	8.9	11.4	21.5	10.1	20.3	11.4	13.9	1.3	0	1.100	37	5.8	61	77.2			
TOTAL	1.4	11.9	12.6	20.3	13.3	21	8.4	9.1	2.1	0	1.010	50	35	117	81.8			
<u>MIDDLEVELD</u>																		
NON-R.D.A.	1.6	27	22.2	17.5	11.1	7.9	3.2	7.9	1.6	0	.724	18	28.6	46	73			
MIN-R.D.A.	.6	9.6	18.5	23.6	10.2	17.2	8.9	5.7	4.5	1.3	1.063	73	46.5	117	74.5			
MAX-R.D.A.	1.6	18	34.4	23	6.6	9.8	3.3	1.6	1.6	0	.618	28	45.9	37	60.7			
TOTAL	1.1	15.3	22.8	22.1	9.6	13.5	6.4	5.3	3.2	.7	.892	119	42.3	200	71.2			
<u>LOWVELD</u>																		
NON-R.D.A.	19.3	10.2	14.8	12.5	8	14.8	8	9.1	3.4	0	1.098	30	34	48	54.5			
MIN-R.D.A.	9	11.9	19.4	13.4	4.5	19.4	10.4	6	4.5	1.5	1.164	18	26.8	51	76			
MAX-R.D.A.	0	16.7	16.7	25	16.7	0	16.7	8.3	0	0	1.17	7	58.3	5	41.7			
TOTAL	13.8	11.4	16.8	12	7.8	16.8	8.4	8.4	4.2	.6	1.132	55	32.9	104	62.3			
<u>LUBOMBO</u>																		
	2.4	31.7	24.4	7.3	7.3	98	4.9	4.9	7.3	0	.906	29	70.7	20	48.8			
<u>SWAZILAND</u>																		
	4.6	14.6	19	18	9.8	15.8	7.3	7	3.5	.5	.978	253	40	441	69.8			

TABLE 14 SWAZILAND MAIZE PRODUCTION

CROP ASSOCIATION	HYBRID		LOCAL		ALL MAIZE	
	Mean area per household ha.	% of all maize	Mean area per household ha.	% of all maize	Mean area per household ha.	% of all maize
PURE STAND	.392	42	.147	16	.539	58
INTERCROPPED	.247	26	.146	16	.393	42
TOTAL	.639	68	.293	32	.932	100

TABLE 15

AREA: COTTON, TOBACCO

	Cotton % of Households by hectares grown										Mean area planted by growers	Tobacco % of Households by hectares grown								Mean area planted by growers
	0	-0.25	-.5	-.75	-1	-1.5	-2	-3	-5	5+		0	-.05	-.1	-.2	-.3	-.4	-.5	5+	
<u>HIGHVELD</u>																				
NON-R.D.A.	87.8	0	4.9	2.4	2.4	0	2.4	0	0	0	.848*		2.4						.051	
MIN-R.D.A.	100											100	0							
MAX-R.D.A.	100											85.6	0	3.8	3.8	2.5	0	1.3	.643	
TOTAL												93	0	2.8	2.1	1.4	0	.7		
<u>MIDDLEVELD</u>																				
NON-R.D.A.	100											98.4	1.6						.030	
MIN-R.D.A.	94.9	2.5	1.3	1.3							.3127	100								
MAX-R.D.A.	98.4	0	0	0	1.6						.767	100								
TOTAL	96.8	1.4	.7	.7	.4						.363	99.6	.4						.030	
<u>LOWVELD</u>																				
NON-R.D.A.	67	3.4	2.3	1.1	2.3	6.8	6.8	2.3	4.5	3.4	2.248	98.9	0	0	1.1				.180	
MIN-R.D.A.	83.6	3	1.5	3	0	4.5	0	1.5	1.5	1.5	1.657	100								
MAX-R.D.A.	33.3	0	25	25	0	8.3	0	0	8.3	0	.948	100								
TOTAL	71.3	3	3.6	3.6	1.2	6	3.6	1.8	3.6	2.4	1.896	98.4		.6					.180	
<u>LUBOMBO</u>																				
	95.1	0	2.4	0	0	0	2.4	0	0	0	0.985	97.6	2.4						.005	
<u>SWAZILAND</u>																				
	89.9	1.4	1.7	1.4	.6	1.6	1.3	.5	.9	.6	1.57	97.9	.3	.6	.6	.3	0	.3	.140	

* This cotton production takes place in two EA's in the southern part of the Highveld, very close to the Middleveld and even partly classified as Middleveld.

TABLE 16 AREA: GROUNDNUT, LEGUMES*

	Groundnut % of Households by ha. grown									Mean	Legumes** % of Households by ha. grown									Mean
	0	-.05	-.1	-.2	-.3	-.4	-.5	.5+	0		-.05	-.1	-.2	-.3	-.4	-.5	.5+			
<u>HIGHVELD</u>																				
NON-R.D.A.	95.1	2.4	2.4						.037	80.5	4.9	2.4	2.4	4.9	2.4	0	2.4	.235		
MIN-R.D.A.	95.7	0	4.3						.095	73.9	8.7	0	4.3	4.3	4.3	0	4.3	.221		
MAX-R.D.A.	93.7	3.8	0	2.5	0	0	0	0	.077	82.3	1.3	2.5	5.1	5.1	2.5	0	1.3	.286		
TOTAL	94.4	2.8	1.4	1.4					.069	80.4	3.5	2.1	4.2	4.9	2.8	0	2.1	.258		
<u>MIDDLEVELD</u>																				
NON-R.D.A.	92.1	1.6	1.6	1.6	1.6	0	0	1.6	.217	82.5	3.2	6.3	4.8	1.6	1.6	0	0	.111		
MIN-R.D.A.	90.4	3.8	1.9	.6	1.3				.273	82.2	4.5	2.5	3.2	1.9	1.9	2.5	1.3	.241		
MAX-R.D.A.	95.1	0	3.3	0	0	0	0	1.6	.442	90.2	1.6	1.6	3.3	0	0	1.6	1.6	.343		
TOTAL	91.8	2.5	2.1	.7	1.1	0	0	1.8	.283	84	3.6	3.2	3.6	1.4	1.4	1.8	1.1	.223		
<u>LOWVELD</u>																				
NON-R.D.A.	96.6	0	0	0	0	2.3	0	1.1	.587	90.9	1.1	1.1	2.3	3.4	1.1	0	0	.183		
MIN-R.D.A.	98.5	0	1.5	0	0	0	0	0	.084	86.6	1.5	4.5	1.5	0	1.5	1.5	3	.360		
MAX-R.D.A.	100								0	100								0		
TOTAL	97.6	0	.6	0	0	1.2	0	.6	.461	89.8	1.2	2.4	1.8	1.8	1.2	.6	1.2	.277		
<u>LUBOMBO</u>																				
	97.6	0	0	0	2.4				.247	90.2	2.4	0	0	0	2.4	0	4.9	.560		
<u>SWAZILAND</u>																				
	94.3	1.7	1.4	.6	.6	.3	0	.9	.254	85.1	2.8	2.5	3	2.2	1.7	.9	1.6	.257		

* Pure stands

** Legumes include beans, mungbeans and jujo beans

TABLE 17

AREA: SORGHUM, OTHER CROPS

	SORGHUM % of Households by ha. grown								Mean of growers	OTHER CROPS % of Households by ha grown								Mean of Growers
	0	-.1	-.2	-.4	-.6	-.8	-1	1+		0	-.05	-.1	-.2	-.3	-.4	-.5	.5+	
<u>HIGHVELD</u>																		
NON-R.D.A.	95.1	2.4			2.4				.240	90.2	4.9	2.4	2.4	0	0	0	0	.062
MIN-R.D.A.	91.3		4.3			4.3			.391	95.7	4.3							.024
MAX-R.D.A.	92.4	1.3	5.1				1.3		.232	83.5	3.8	2.5	7.6	0	1.3	1.3	0	.144
TOTAL	93	1.4	3.5	0	.7	.7	.7		.265	87.4	4.2	2.1	4.9	0	.7	.7	0	.119
<u>MIDDLEVELD</u>																		
NON-R.D.A.	95.2	1.6	3.2						.107	93.7	6.3							.016
MIN-R.D.A.	94.3	1.3	1.9	1.3	.6	.6			.284	84.7	1.9	6.4	2.5	1.9	1.3	0	1.3	.193
MAX-R.D.A.	100									90.2	6.6	1.6	1.6					.049
TOTAL	95.7	1.1	1.8	.7	.4	.4			.240	87.9	3.9	3.9	1.8	1.1	.7	0	.7	.147
<u>LOWVELD</u>																		
NON-R.D.A.	92	0	1.1	3.4	0	1.1	2.3	0	.489	93.2	2.3	0	0	0	2.3	0	2.3	.406
MIN-R.D.A.	91	0	3	0	0	3	1.5	1.5	.622	88.1	3	3	4.5	0	0	0	1.5	.139
MAX-R.D.A.	100									100								
TOTAL	92.2	0	1.8	1.8	0	1.8	1.8	.6	.550	91.6	2.4	1.2	1.8	0	1.2	0	1.8	.253
<u>LUBOMBO</u>																		
	100									100								
<u>SWAZILAND</u>																		
	94.5	.8	2.1	.8	.4	.8	.6	.2	.362	89.6	3.3	2.5	2.4	.5	.8	.2	.8	.162

Own oxen = 1 Hired Oxen = 2 Own Tractor = 3 Hired Tractor = 4 Own donkey = 5 Hand = 7 Other = 8

TABLE 18

METHOD OF PLOUGHING

Other = 8

	% of household by method of Ploughing																					
	LOCAL MAIZE								HYBRID MAIZE							COTTON						
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	1	2	3	4	5	6	7
HIGHVELD																						
NON-R.D.A.	64.3	7.1	-	7.1	-	-	21.4	63.6	6.1	3.0	24.2	-	-	3.0	75.0	-	-	25.0	-	-	-	
MIN-R.D.A.	-	-	-	-	-	-	-	56.5	4.4	-	39.1	-	-	-	-	-	-	-	-	-	-	
MAX-R.D.A.	60.5	10.5	-	28.9	-	-	-	41.7	8.3	5.0	43.3	-	-	1.7	-	-	-	-	-	-	-	
TOTAL	61.5	9.6	-	23.1	-	-	5.8	50.9	6.9	3.5	37.1	-	-	1.7	75.0	-	-	25.0	-	-	-	
MIDDLEVELD																						
NON-R.D.A.	36.8	42.1	-	10.5	-	-	10.5	38.3	23.4	-	34.0	-	-	4.3	-	-	-	-	-	-	-	
MIN-R.D.A.	69.7	18.4	-	5.3	1.3	1.3	2.6	1.3	64.7	15.5	0.9	16.4	2.6	-	-	62.5	12.5	-	25.0	-	-	-
MAX-R.D.A.	46.4	39.3	-	7.1	-	-	7.1	-	21.6	37.8	10.8	27.0	2.7	-	-	100	-	-	-	-	-	-
TOTAL	59.4	26.8	-	6.5	0.8	0.8	4.9	0.8	50.5	21.5	2.5	22.5	2.0	-	1.0	70.0	10.0	-	20.0	-	-	-
LOWVELD																						
NON-R.D.A.	58.6	17.2	3.4	13.8	6.9	-	-	39.6	14.6	16.7	25.0	2.1	-	2.1	31.0	3.5	24.1	41.4	-	-	-	
MIN-R.D.A.	72.2	27.8	-	-	-	-	-	64.7	11.8	7.8	13.7	-	-	2.0	62.5	25.0	-	12.5	-	-	-	
MAX-R.D.A.	57.1	14.3	14.3	14.3	-	-	-	60.0	-	20.0	-	-	-	20.0	83.3	-	-	16.7	-	-	-	
TOTAL	63.0	20.4	3.7	9.3	3.7	-	-	52.9	12.5	12.5	18.3	1.0	-	2.9	44.2	7.0	16.3	32.6	-	-	-	
LUBOMBO																						
	26.9	57.7	3.9	11.5	-	-	-	19.1	47.6	4.8	28.6	-	-	-	50	-	50	-	-	-	-	
SWAZILAND																						
	57.3	25.1	1.2	11.0	1.2	0.4	3.5	0.4	49.7	16.8	5.2	25.6	1.1	-	1.6	50.8	6.8	13.6	28.8	-	-	-

TABLE 19

METHOD OF PLANTING

hand in row = 1 own oxplanter = 2 hired oxplanter = 3 own tractor planter = 4 hired tractor pl = 5
sown = 6 Broadcast = 7 other = 8 don't know = 9

	% of households by method of Planting																							
	LOCAL MAIZE								HYBRID MAIZE								COTTON							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
HIGHVELD																								
NON-R.D.A.	69.2	7.7	-	-	-	-	23.1	63.1	12.1	15.2	6.1	-	-	-	3.0	100	-	-	-	-	-	-	-	-
MIN-R.D.A.	-	-	-	-	-	-	-	21.7	21.7	13.0	8.7	-	-	13.0	21.7	-	-	-	-	-	-	-	-	-
MAX-R.D.A.	24.3	62.2	10.8	-	2.7	-	-	14.8	63.9	18.0	1.6	1.6	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	36.0	48.0	8.0	-	2.0	-	6.0	29.9	41.0	16.2	4.3	0.9	-	2.6	5.2	100	-	-	-	-	-	-	-	-
MIDDLEVELD																								
NON-R.D.A.	72.2	27.8	-	-	-	-	-	63.0	21.7	8.7	-	2.3	-	2.3	2.3	-	-	-	-	-	-	-	-	-
MIN-R.D.A.	76.7	8.2	1.4	1.4	-	2.7	9.6	70.9	20.5	4.3	-	0.9	-	3.4	-	57.1	14.3	14.3	-	-	-	14.3	-	-
MAX-R.D.A.	67.9	10.7	3.6	-	2.6	-	14.3	64.9	8.1	5.4	2.7	8.1	-	8.1	2.7	-	100	-	-	-	-	-	-	-
TOTAL	73.9	11.8	1.7	0.8	0.8	1.7	9.2	68.0	18.5	5.5	0.5	2.5	-	4.0	1.0	44.4	33.3	11.1	-	-	-	11.1	-	-
LOWVELD																								
NON-R.D.A.	66.7	3.3	3.3	-	3.3	3.3	20.0	60.4	10.4	6.3	4.2	10.4	-	8.3	-	39.3	14.3	-	14.3	28.6	-	3.6	-	-
MIN-R.D.A.	22.2	5.5	-	-	-	-	72.2	51.0	19.6	5.9	9.8	2.0	-	11.8	-	33.3	33.3	16.7	16.7	-	-	-	-	-
MAX-R.D.A.	100	-	-	-	-	-	-	80.0	-	-	-	-	-	20.0	-	100	-	-	-	-	-	-	-	-
TOTAL	56.4	3.6	1.8	-	1.8	1.8	34.6	56.7	14.4	5.8	6.7	5.8	-	10.8	-	52.3	13.6	2.3	11.4	18.2	-	2.3	-	-
LUBOMBO																								
	58.6	10.3	3.5	3.5	-	-	24.1	55.0	5.0	10.0	15.0	-	-	15.0	-	100	-	-	-	-	-	-	-	-
SWAZILAND																								
	60.9	17.0	3.2	0.8	1.2	1.2	15.8	54.7	22.9	8.7	3.6	2.7	-	5.7	1.9	56.7	15.0	3.3	8.3	13.3	1.7	1.7	-	-

TABLE 20 USE OF FERTILIZER, KRAAL MANURE, PESTICIDE

VARIABLE	Fertilizer: % of households use on Maize		Kraal manure: % of households use on maize		Pesticide: % use on Maize		Kraal Manure on Cotton % use	Pesticide Cotton
	Hybrid	Local	Hybrid	Local	Hybrid	Local		
<u>HIGHVELD</u>								
NON-R.D.A.	84.3	64.3	24.2	35.7	45.5	21.4		
MIN-R.D.A.	77.3	not grown	22.7	0	27.3	-		
MAX-R.D.A.	96.7	84.2	34.4	28.9	82.0	71.1		
TOTAL	89.7	78.6	29.5	30.8	61.2	57.7		
<u>MIDDLEVELD</u>								
NON-R.D.A.	78.7	47.4	17.0	31.6	8.5	5.3		
MIN-R.D.A.	46.6	20.3	36.1	25.7	14.4	5.4		
MAX-R.D.A.	73.7	22.2	23.7	44.4	28.2	11.1		
TOTAL	59.1	25.0	30.5	30.8	15.8	6.7		
<u>LOWVELD</u>								
NON-R.D.A.	29.8	10.7	21.3	7.1	4.3	0	13.8	55.2
MIN-R.D.A.	62.7	7.7	27.0	61.5	10.8	0	0	36.4
MAX-R.D.A.	0	14.3	0	0	0	0	0	100
TOTAL	44.7	10.4	22.5	20.8	6.7	0	8.3	58.3
<u>LUBOMBO</u>								
	35.0	21.4	5.0	3.6	10	3.6		
<u>SWAZILAND</u>								
	62.7	33.1	28.3	25.8	25.8	15.7	9.4	56.3

TABLE 21

CATTLE OWNERSHIP

	% of households by number of cattle owned missing data	% of households by number of cattle owned										Mean herd size
		0	-5	-10	-15	-20	-30	-40	-50	-75	75+	
<u>HIGHVELD</u>												
NON-R.D.A.	14.6	36.6	2.4	7.3	19.5	7.3	4.9	2.4	2.4	2.4	0	18.5
MIN-R.D.A.	21.7	47.9	0	0.7	0.7	0	4.3	8.7	0	0	0	17.9
MAX-R.D.A.	6.3	29.1	5.1	15.2	25.3	10.1	7.6	1.3	0	0	0	12.8
TOTAL	11.2	34.3	3.5	11.9	21.0	7.7	6.3	2.8	0.7	0.7	0	14.7
<u>MIDDLEVELD</u>												
NON-R.D.A.	19.0	41.3	3.2	11.1	6.3	7.9	9.5	1.6	0	0	0	14.2
MIN-R.D.A.	0.6	38.9	7.6	19.1	15.9	8.3	5.1	3.8	0	0	0.6	13.0
MAX-R.D.A.	0	67.2	1.6	4.9	8.2	4.9	11.5	0	0	0	1.6	19.4
TOTAL	4.6	45.6	5.3	14.2	12.1	7.5	7.5	2.5	0	0	0.7	14.1
<u>LOWVELD</u>												
NON-R.D.A.	0	50.0	4.5	8.0	6.8	5.7	13.6	6.8	2.3	2.3	0	20.6
MIN-R.D.A.	3.0	38.8	1.5	11.9	13.4	10.4	11.9	4.5	3.0	1.5	0	18.5
MAX-R.D.A.	0	41.7	0	8.3	8.3	16.7	8.3	0	0	16.7	0	28.1
TOTAL	1.2	44.9	3.0	9.6	9.6	8.4	12.6	5.4	2.4	3.0	0	20.3
<u>LURONBO</u>												
	2.4	61.0	4.9	9.8	7.3	2.4	7.3	2.4	0	2.4	0	16.7
<u>SWAZILAND</u>												
	5.1	43.8	4.3	12.2	13.1	7.4	8.5	3.3	0.8	1.1	0.3	16.1

TABLE 22

LIVESTOCK OWNERSHIP

	GOATS		MULES/DONKEYS		PIGS	
	% of households owning	Mean for Those owning	% of households owning	mean for those owning	% of households owning	mean for those owning
<u>HIGHVELD</u>						
NON-R.D.A.	7.3	10.3	9.8	2.8	12.2	2.0
MIN-R.D.A.	13.0	16.0	4.3	2.0	4.3	7.0
MAX-R.D.A.	22.8	14.3	2.5	5.0	24.1	2.0
TOTAL	16.8	14.0	4.9	3.3	17.5	2.1
<u>MIDDLEVELD</u>						
NON-R.D.A.	20.6	16.1	0	0	6.3	2.3
MIN-R.D.A.	38.2	10.2	10.2	4.8	22.3	1.7
MAX-R.D.A.	16.4	15.7	13.3	4.5	6.6	2.0
TOTAL	29.5	11.8	6.4	4.8	15.3	1.8
<u>LOWVELD</u>						
NON-R.D.A.	37.5	16.3	4.5	4.8	15.9	4.1
MIN-R.D.A.	32.8	11.8	0	-	0	-
MAX-R.D.A.	25.0	24.0	0	-	0	-
TOTAL	34.7	15.0	2.4	4.8	8.4	4.1
<u>LUBOMBO</u>						
	26.8	11.8	7.3	8.3	2.4	2.0
<u>SWAZILAND</u>						
	27.9	13.1	5.1	4.8	13.1	2.3

TABLE 23

EXPECTED 1982/83 MAIZE PRODUCTION - BAGS PER HOMESTED

	% of Homesteads by bags of maize							total mean	mean for those with expected yields	total number	number with expected yield
	0	-2	-4	-6	-10	-25	25+				
<u>HIGHVELD</u>											
NON-R.D.A.	11.4	22.9	25.7	20.0	8.6	8.6	2.9	4.5	5.1	35	31
MIN-R.D.A.	6.3	12.5	25.0	12.5	18.8	18.8	6.3	7.9	8.5	16	15
MAX-R.D.A.	2.9	16.2	20.6	17.6	20.6	19.1	2.4	6.9	7.1	68	66
TOTAL	5.9	17.6	22.7	17.6	16.8	16.0	3.4	6.3	6.7	119	112
<u>MIDDLEVELD</u>											
NON-R.D.A.	26.1	23.9	15.2	15.2	13.0	6.5	0	3.0	4.0	46	34
MIN-R.D.A.	28.1	24.8	20.7	8.3	11.5	5.8	0.8	2.9	4.0	121	87
MAX-R.D.A.	8.7	17.4	37.0	13.0	10.8	10.9	2.2	4.8	5.3	46	42
TOTAL	23.5	23.0	23.0	10.8	11.8	7.0	0.9	3.3	4.3	213	163
<u>LOWVELD</u>											
NON-R.D.A.	57.1	26.8	8.9	3.6	1.8	0	1.8	1.3	3.0	56	24
MIN-R.D.A.	28.9	33.3	17.8	6.7	8.8	0	4.4	3.2	4.4	45	32
MAX-R.D.A.	10.0	20.0	10.0	30.0	0	20.0	10.0	7.4	8.2	10	9
TOTAL	41.4	28.8	12.6	7.2	4.5	1.8	3.6	2.6	4.4	111	65
<u>LUBOMBO</u>											
	26.3	26.3	18.4	7.9	5.2	10.6	5.3	11.1	15.1	38	28
<u>SWAZILAND</u>											
	23.5	21.3	20.2	11.4	10.8	8.3	2.5	4.5	5.9	431	368

TABLE 24 MAIZE PURCHASES Kg of Maize purchased per Consumption Unit*

	% of Households by Kg Maize purchased per consumption unit								Mean per unit	% of hh. buying less than 50 kg/cu.
	0	-50	-100	-150	-200	-250	-500	500+		
<u>HIGHVELD</u>										
NON-R.D.A.	22.5	30.0	17.5	17.5	7.5	2.5	2.5	0	69	52.5
MIN-R.D.A.	52.2	26.1	8.7	8.7	0	4.3	0	0	36	78.3
MAX-R.D.A.	36.7	26.6	19.0	10.1	2.5	1.3	3.8	0	52	63.3
TOTAL	35.2	27.5	16.9	12.0	3.5	2.1	2.8	0	54	62.7
<u>MIDDLEVELD</u>										
NON-R.D.A.	61.9	6.3	12.7	11.1	3.2	0	4.8	0	47	68.2
MIN-R.D.A.	11.5	10.8	22.9	19.1	16.6	5.7	12.7	0.6	123	22.3
MAX-R.D.A.	32.8	23.0	26.2	8.2	6.6	0	3.3	0	54	55.8
TOTAL	27.4	12.5	21.4	14.9	11.4	3.2	8.9	0.4	91	39.9
<u>LOWVELD</u>										
NON-R.D.A.	13.6	6.8	13.6	14.8	10.2	8.0	25.0	8.0	201	20.4
MIN-R.D.A.	15.2	16.7	19.7	10.6	13.5	10.6	7.6	6.1	134	31.9
MAX-R.D.A.	0	16.7	8.3	41.7	0	0	25.0	8.3	180	16.7
TOTAL	13.3	11.4	15.7	15.1	10.8	3.4	18.0	7.2	177	24.7
<u>LUBOMBO</u>										
	12.2	9.8	19.5	22.0	7.3	14.6	14.6	0	139	22.0
<u>SWAZILAND</u>										
	24.4	15.4	18.7	14.8	9.2	5.1	10.3	2.1	110	39.8

*Consumption Unit: Resident Adult = 1, Resident Child (0-14 yrs.) = 0.5

TABLE 25 CROP, LIVESTOCK SALES

	0 or not filled in	CROP SALES E.							Mean Per Seller	0 or not filled in	LIVESTOCK SALES E.							Mean Per seller
		% of total Households by Sales Value									% of Total Households by Sales Value							
		-50	-100	-250	-500	-1000	-2000	-10000			-50	-100	-250	-500	-1000	-2000	-10000	
<u>HIGHVELD</u>																		
NON-R.D.A.	78	12.2	2.4	2.4	0	2.4	0	2.4	351	92.7	2.4	2.4	2.4	0	0	0	0	93
MIN-R.D.A.	87	4.3	0	0	0	0	8.7	0	813	95.7	0	0	0	0	0	4.3	0	1240
MAX-R.D.A.	67.1	5.1	7.6	12.7	7.6	0	0	0	158	87.3	6.3	1.3	0	3.8	1.3	0	0	195
TOTAL	73.4	7	4.9	7.7	4.2	.7	1.4	.7	255	90.2	4.2	1.4	.7	2.1	.7	.7	0	247
<u>MIDDLEVELD</u>																		
NON-R.D.A.	85.7	7.9	3.2	3.2	0	0	0	0	72	96.8	3.2	0	0	0	0	0	0	33
MIN-R.D.A.	84.7	6.4	3.2	4.5	0	.6	.6	0	151	61.8	18.5	1.9	6.4	8.3	1.3	1.9	0	189
MAX-R.D.A.	83.6	8.2	0	8.2	0	0	0	0	70	85.2	11.5	0	1.6	0	1.6	0	0	80
TOTAL	84.7	7.1	2.5	5	0	.4	.4	0	116	74.7	13.5	1.1	3.9	4.6	1.1	1.1	0	170
<u>LOWVELD</u>																		
NON-R.D.A.	72.7	0	2.3	9.1	6.8	5.7	3.4	0	440	48.9	21.6	2.3	12.5	8	5.7	1.1	0	201
MIN-R.D.A.	73.1	10.4	6	4.5	3	3	0	0	172	73.1	10.4	0	7.5	1.5	4.5	1.5	1.5	550
MAX-R.D.A.	50	0	0	0	25	16.7	8.3	0	615	58.3	0	0	25	0	8.3	8.3	0	493
TOTAL	71.3	4.2	3.6	6.6	6.6	5.4	2.4	0	361	59.3	15.6	1.2	11.4	4.8	5.4	1.8	.6	315
<u>LUBOMBO</u>																		
	95.1	0	0	0	2.4	0	2.4	0	778	82.9	4.9	0	2.4	2.4	7.3	0	0	258
<u>SWAZILAND</u>																		
	79.3	5.9	3.2	3.7	2.8	1.7	1.3	0.2	256	74.7	11.4	1.1	5.1	4	2.5	1.1	.2	246