UGANDA BUREAU OF STATISTICS

UGANDA NATIONAL HOUSEHOLD SURVEY 1999/2000

REPORT ON THE

CROP SURVEY MODULE

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PREFACE

This is the report of the Crop Survey module of the Uganda National Household Survey 1999/2000 (UNHS 1999/2000) conducted by the Uganda Bureau of Statistics. The survey is the latest in a series of household surveys initiated in 1992/93 to collect a wide range of data at household and community levels. The UNHS 1999/2000 comprised of the Agriculture (crop) Survey as a core module, in addition to the main Socio-economic and Community components. It was a nation-wide sample survey intended to cover the entire country with about 10,700 households. However, due to the existence of some non-farming households in the sample, the survey obtained data for about 8,400 farming households. The survey was conducted from August 1999 to July 2000. The Bureau released some preliminary findings of the survey in an intermediate report in May 2000.

The purpose of this report is to present the UNHS 1999/00 Crop Survey results, the background of crop surveys in Uganda, characteristics of crop farming households, average plot size, total planted area and number of holdings. In addition, the report also presents findings on labour and non-labour inputs in crop farming such as number of persons engaged, payments made to them and usage of other inputs like fertilizers, pesticides and seeds. Information on estimated output of the major crops grown in all the regions of Uganda is also presented.

This report presents the main results and it is believed that it shall meet the requirements for planning and policy formulation. The information presented is only descriptive and is open to further analysis. The Bureau therefore encourages data users and analysts to do more definitive analysis on this wealth of data.

We are most grateful to the World Bank Consultants, Messrs. Klaus Deininger, Tim Marchant, Bart Minten, Rob Townsend and the Director, Economic Policy Research Centre (EPRC), Makerere University, Dr. John Okidi, for their technical advice at various stages during the survey. We also appreciate the services of the survey design Consultant, Mr. S. K. Gupta, and the Consultants from Statistics Denmark, Ms. Lisbeth Laursen and Carsten Torpe for their advice on data cleaning and dissemination. Special thanks are extended to the World Bank that provided a loan for funding the Survey and the government of Uganda for the counter-part funding. We would also like to express our gratitude to the staff of the Uganda Bureau of Statistics (UBOS) who worked tirelessly to plan and implement the survey and to the respondents for their co-operation.

J. B. Male-Mukasa
Executive Director **January, 2002**

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ACRONYMS

CV	Coefficient of Variation
EA	Enumeration Area
FAO	Food and Agricultural Organisation
FMS	First Monitoring Survey
HBS	Household Budget survey
HIS	Integrated Household Survey
LC	Local Council
PES	Post Enumeration Survey
SMS	Second Monitoring Survey
TMS	Third Monitoring Survey
UBOS	Uganda Bureau of Statistics
UNHS	Uganda National Household survey

EXECUTIVE SUMMARY

Introduction

The Uganda Bureau of Statistics (UBOS), formerly the Statistics Department of the Ministry of Finance, Planning and Economic Development has conducted large-scale surveys since 1988. The surveys have had a nation wide coverage with varying modules and objectives. These surveys include: The Household Budget Survey (HBS) of 1989/90, Integrated Household Survey (IHS) 1992/93, First Monitoring Survey (FMS) 1993/94, Second Monitoring Survey (SMS) 1994/95, Third Monitoring Survey (TMS) 1995/95, Uganda National Household Survey (UNHS) 1997 and UNHS 1999/2000.

The Uganda National Household Survey (UNHS) 1999/2000 Crop Survey module aimed at providing estimates of area and production of major crops and other characteristics of the crop enterprises at national and regional levels. The survey covered all districts except Kitgum (now Kitgum and Pader), Gulu, Kasese and Bundibugyo because of insecurity. The results therefore do not portray the situation prevailing in these districts.

Number of Holdings

The total number of holdings in the country was estimated to be 3,303,000. The estimate is higher than that of 1995/96 crop survey module by about 3%. Each crop farming household had only one holding.

Plots under cultivation

The total number of crop plots for the first season of 1999/2000 was estimated at 12,849,000. This figure is slightly lower than that of 1995/96 survey, by about 5%.

Average plot size is small

On aggregate, the average plot sizes for different crops grown are very small, which is characteristic of subsistence farming. The average plot size for each crop was estimated at about 0.23 hectares (which is slightly above half an acre). Rice was reported to have the biggest average plot size of 0.4 hectares, followed by matooke-food type with 0.3 hectares.

The majority of unpaid household members were children (52%)

The total number of persons that were engaged in crop farming activities at the beginning of the first season of the 1999/2000 agricultural year was estimated to be about 11,000,000 persons. Of the estimated number of persons engaged, 32% were male, 39% were female while 29% were children. Unpaid household members constituted the majority of persons engaged in crop farming of which 52% were children. This implies that child labour was still a major contributor to crop farming labour.

Average wage paid less for females than males

The average cash wage paid to employees (both regular and casual) engaged in land preparation, planting and weeding during the first season of the 1999/2000 agricultural year, was estimated at about 30,000 shillings. The average payment in kind for the same period was estimated at around 12,000 shillings. Males were better paid than females.

Output of Maize highest in Eastern Region

The total production of maize was estimated at 739,000 tons from an area of 665,000 hectares. The Eastern region had the highest production of maize and accounted for 55% of the total production with 408,000 tons.

Finger Millet is mainly produced in Western and Eastern Regions

The total production of finger millet was estimated at 184,000 tons from an area of about 328,000 hectares. At regional level, finger millet was predominant in the Western and Eastern regions. The production of finger millet in the Western region was 72,000 tons accounting for 39% and the Eastern region produced 66,000 tons accounting for 36% of the total production.

Sorghum

The total production of sorghum was estimated at 113,000 tons in 1999/2000 from an area of about 243,000 hectares. This is a decrease of about 44% (89,000 tons) from 203,000 tons estimated in 1995/1996

Beans

The estimated production of beans was 496,000 tons from an area of about 618,000 hectares. The Western region had the highest production of beans (195,000 tons), followed by the Central region with 150,000 tons. The estimated production of beans in 1999/2000 was higher by 94,000 tons than the figure quoted in the Statistical Abstract, 2000, for the production of 1999. The estimate from the 1995/1996 survey was 336,000 tons.

Ground Nuts

The total output for groundnuts was estimated at 126,000 tons from an area of about 282,000 hectares. Groundnuts are generally grown in all the regions of Uganda although Eastern region had and reported the highest production.

Matooke

The estimated production of matooke all types in 1999/2000 combined was 6,130,000 tons. The western region reported the highest production matooke food type (3,363,000 tons) accounting for 61% of the total output, Central region had 1,687,000 tons (30% of the total output), while Eastern region had 481,000 tons. Generally, growing of matooke was not common in the Northern region with only 14,000 tons of matooke-food type.

Sweet Potatoes

The total production of sweet potatoes was estimated at 2,620,000 tons However, in Eastern region production dropped from 1,475,000 tons in 1995/1996 to 1,029,000 tons in the year 1999/2000. In the year 1999/2000 sweet potatoes were mainly grown in Western region (1,034,000 tons), accounting for 39% of the total production. The Northern region had the lowest production of sweet potatoes (51,000 tons) accounting for only 2%. Central and Western regions depicted a rise in the production of sweet potatoes since 1995/96.

Cassava

The total production of cassava was 2,246,000 tons. This figure is slightly lower than the output reported in 1995/1996, of 2,746,000 tons. Cassava was largely produced in the Eastern region (1,213,000 tons) followed by the Northern region (457,000 tons). It was least produced in the Central region (195,000 tons) representing only 9% of the total output. It is quite possible that the Cassava Mosaic disease may have adversely affected the crop during the survey period.

CHAPTER ONE

INTRODUCTION

1.1: Background of Crop Surveys

Background

The Uganda Bureau of Statistics (UBOS), formerly the Statistics Department under the Ministry of Finance, Planning and Economic Development has conducted large-scale surveys since 1988. These surveys have had a nationwide coverage with varying core modules and objectives.

Crop surveys were conducted in the following National Household Surveys:

- The Integrated Household Survey (IHS) conducted from February 1992 to March 1993. All crop farming households from the selected sample of households were interviewed and a crop farming enterprise questionnaire was filled.

- The First Monitoring Survey (FMS) was undertaken from August 1993 to February 1994. Crop survey was also conducted among other enterprise surveys.

- The Second Monitoring Survey (SMS) from July 1994 to March 1995 had a diagnostic agriculture crop survey, as a separate module in addition to the socio-economic module. Sample households for the diagnostic crop survey were selected separately.

- The Third Monitoring Survey (TMS) done in September 1995 to June 1996 also had an agriculture crop survey component.

- The Uganda National Household Survey (UNHS), 1999/2000 had a crop survey component. Fieldwork was carried out from August 1999 to July 2000. The sample size and sampling method used allowed this survey data to be disaggregated to regional and down to some selected district level estimates.

1.2: Purpose of The 1999/2000 Crop Survey

Objectives

The main objective of the 1999/00 Agriculture Crop Survey was to plan, design and conduct a countrywide crop farming survey through the household approach.

Specifically, the objectives were to provide:

a) Estimates of area and production of major crops

b) Other characteristics of the agricultural enterprise at national and regional levels.

1.3: Coverage, Scope, and Survey Design

Coverage

The crop survey component of UNHS 1999/2000 covered all districts in the country, except the districts of the then Kitgum, Gulu, Kasese and Bundibugyo because of insecurity. The findings of the survey therefore exclude these four districts.

Scope

In this survey round, a Crop Survey was made the core module, and covered the following subjects:

- Holding characteristics;
- Labour and non-labour inputs during first and second seasons;
- Planted area during the first and second season; and
- Crop output, sales, and prices during first and second seasons.

The survey was designed such that agricultural households were visited twice, the first visit at the end of the first season and again during the end of the second season, to ascertain area planted and output for each season.

Sampling Design

The sampling design adopted for the survey is similar to what was used for earlier surveys. It was a stratified two-stage sampling design except in some districts where the sample was selected in three stages due to lack of Enumeration Area (EA) frame.

For districts with two-stage sampling design, the first stage sampling unit was the Enumeration Area (EA) obtained from the 1991 Population Census list of EAs while the household was the second stage sampling unit after listing households. For districts with a three stage design, the first stage sampling unit was the parish, while the second stage sampling unit was the LC 1 (village) and the third stage sampling unit was the household.

Stratification

Selection of sample households was done using stratification by crop farming categories. All households were divided into three classes namely: non-crop farming households, households cultivating 5 acres of land or less, and households cultivating more than 5 acres of land. A total number of 10 households were selected from the total number of households listed in an EA. Selection was done proportionally among the three classes. It should be noted, however, that this stratification was not intended for the purpose of producing reliable estimates for each stratum separately, but only to increase the precision of the rural estimates. A maximum of 10 households was interviewed if all households listed were engaged in crop farming activities.

Sample Size

The size required for a sample is determined by taking into consideration several factors, the three most important being: the degree of precision (reliability) that id

desired for the survey estimates, the cost and operational limitations, and the efficiency of the design.

In the case of UNHS 1999/00, cost and operational limitations allowed a maximum sample size of approximately 11,000 households. However a total of about 10,700 households were actually covered. The shortfall of about 300 households was mainly due to non-response.

Out of the total of about 10,700 households surveyed, about 8,400 households were surveyed for agricultural crop farming.

1.4: Constraints

- For proper coverage, crop farming households are supposed to be visited four times during the survey period i.e. during planting and harvesting of the first season, and similarly during the second season. All crop farming households were visited twice because of logistical constraints.

- Due to late procurement of field vehicles, the sample size was reduced proportionately to about 1,100 first stage sampling units. The adjusted sample comprised of about 518 panel EAs and 563 new EAs.

- Estimation of area planted and crop production became difficult especially when visits were made long after harvest. A sizeable number of respondents had the problem of memory lapse.

CHAPTER TWO

CHARACTERISTICS OF CROP FARMING HOUSEHOLDS

2.1 Introduction

This section highlights the results from the survey concerning general information that included the following;

- crop farming households that received advice from government extension services
- crop farming households that received market information
- proportion of planted area with improved varieties of staple food
- households that have storage facilities
- households that sold part of their output
- number of agricultural holdings and the average size
- number of plots, crop stand type and average plot size.

Where possible, comparisons have been made with the 1995/96 survey results.

2.1 General Information

2.1.1 Advice from Government Extension Services

Extension services have not gained ground

Information was asked on whether households received advice from government extension services in the years 1992, 1994, 1996, and 1998.

The results show that overall by 1998, the proportion of crop farming households that had received advice from government extension services was slightly above 10% as seen in Table 2.1. This however represents an increase in the proportion of households that received advice from government extension services of about 6 percentage points from 1992, up to 1998. There were minimal regional variations between those years.

Table 2.1: Proportion of Households that Received Advice from Government Extension Services

	1992	1994	1996	1998
Uganda	**5.4**	**5.7**	**7.5**	**11.4**
Central	3.8	4.3	6.2	9.5
East	5.7	6.0	8.2	12.7
North	5.6	6.3	7.1	10.9
West	6.3	6.1	8.3	11.9

2.2.2 Number of Times Advice was Received

Crop farming households received advice twice a year

Overall, between 1992 and 1998 crop farming households on average received advice from government extension staff twice in a year as reflected in Table 2.2. The trend is almost uniform across regions for the stated years.

Table 2.2: Average Number of Times Advice was Received From Government Extension Services

	1992	1994	1996	1998
Uganda	**2.0**	**1.9**	**2.1**	**2.1**
Central	2.4	2.3	2.5	2.4
East	2.0	2.0	2.2	2.2
North	2.0	1.8	2.0	2.1
West	1.7	1.7	1.8	1.8

2.2.3 Crop Farming Households that Received Market Information

Only one-quarter of crop farming households received market information

Sometimes, the farmers do not have information on prices of produce and the prevailing outlets to enable them to compete favourably in the markets. Overall between 1992 and 1998, about three-quarters of crop farming households did not receive market information as depicted in Table 2.3. However, the proportion that did not receive market information has been reducing though at a very low rate between the same periods.

Of the households that received market information, a majority received it from private sources. The proportion increased from 15.5 in 1992 to 17.1 in 1998. The second major source of market information of crop farming households is from government only (5.7%) as opposed to 4.4% that received market information from both government and private, while the least number of households received market information from other sources.

Table 2.3: Proportion of Households that Received Market Information

	1992	1994	1996	1998
Total	**100**	**100**	**100**	**100**
Did not receive	76.4	75.9	74.3	72.7
From government only	4.7	4.8	5.1	5.7
Private sources	15.5	15.8	16.3	17.1
Government and private	3.3	3.5	4.2	4.4
Others	0.1	0.1	0.1	0.1

2.2.4 Area Planted with Improved Seed Varieties for Staple Food Crops

An increase in the area planted with improved varieties for staple food crops

Between 1992 and 1998 there was an increase in the proportion of area planted with improved varieties for staple food crops as shown in Table 2.4. The biggest increase in the proportion of area planted with improved varieties for staple food crops was between 1996 and 1998, an increase of about 5 percentage points during that period. However, despite the increasing proportion of area planted with improved varieties for staple food crops, the proportion of area planted with improved varieties for staple food crops is very low i.e. just about 10% by 1998.

At regional level, the trend was uniform i.e. an increase in area planted with improved varieties for staple food crops throughout all regions during the same period. Eastern region had the highest proportion of area planted with improved varieties for staple food crops (above 15%), and had the highest increase of slightly above 6 percentage points between 1996 and 1998. The Western region had the least proportion of area planted with improved varieties for staple food crops of less than 4% by 1998.

Table 2.4: Percentage Distribution of Area Planted with Improved Varieties for Staple Food Crops

	1992	1994	1996	1998
Uganda	**3.2**	**3.7**	**5.4**	**10.2**
Central	2.5	2.3	4.2	11.3
East	6.2	7.4	10.2	16.7
North	2.1	2.4	3.9	8.6
West	1.6	1.8	2.7	3.6

2.2.5 Availability of Storage Facilities

Less than half of crop farming households have storage facilities

Information was collected on the availability of storage materials for produce, which includes granaries, stores that are used exclusively for agricultural produce, etc.

By 1998 about 40% of the crop farming households reported having storage facilities for the output. There has been a slight increase in the number of households reporting the use of storage facilities over the years as shown in Table 2.5 below.

Whereas Central region had the least proportion of households (below 20%) reporting possession of any storage facility, the Northern region had the highest proportion with over 60% by 1998. Between 1992 and 1998 Central region had the least increase in the proportion of households reporting possession of storage facilities of just 3 percentage points while the Northern region had the biggest increase of above 10 percentage points during the same period. This could be explained by persistent droughts in the North unlike the South that generally experiences more favourable weather patterns. Secondary the North grows more of cereal crops that require reasonable storage facilities than the South which grows less cereal crops.

Table 2.5: Percentage Distribution Of Crop Farming Households Reporting Possession Of Storage Facilities

	1992	1994	1996	1998
Uganda	**35.4**	**36.7**	**38.7**	**40.0**
Central	13.6	14.2	15.7	17.0
East	36.5	37.6	38.4	40.0
North	55.0	57.4	61.1	63.6
West	37.6	39.0	41.3	41.6

2.2.6 Sale of Crop Farming Output

Increase in proportion of households that sold part of the output

Uganda is basically an agricultural country where a large proportion of the population is engaged in subsistence farming. Some farmers sell part of the output to meet basic household needs while others sell the surplus output. By 1998, about three-quarters of crop farming households sold part of the output as depicted in Table 2.6. There was a slight increase in the proportion of households that sold part of their produce between 1992 and 1998 of less than 5%.

At regional level, the range is almost uniform for the proportion of households that sold part of their produce of about 80% apart from the north whereby about 60% of crop farming households sold part of their produce.

Table 2.6: Percentage Distribution of Households Reporting Sale of Part of the Produce

	1992	1994	1996	1998
Uganda	**70.4**	**71.9**	**74.5**	**75.3**
Central	74.4	75.6	78.3	80.1
Eastern	74.4	75.9	79.2	81.1
Northern	55.4	58.1	60.5	59.2
Western	75.0	75.7	77.8	78.2

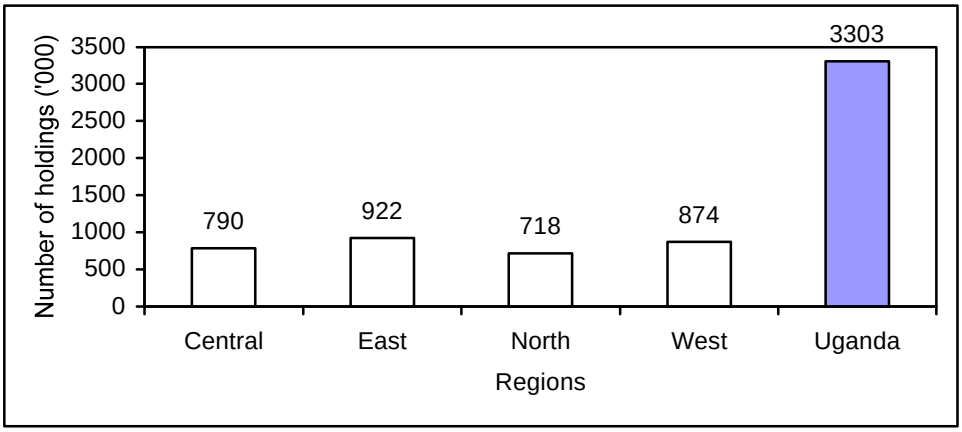
2.3 Characteristics of Crop Farming Households

2.3.1 Number of Holdings

An Agricultural Holding is an economic unit of agricultural production under single management comprising all land used wholly or partly for agricultural production purposes and all livestock kept, without regard to title, legal form or size.

The total number of holdings for the country was estimated to be about 3.3 million. The estimate is higher than that of the 1995/96 Crop Survey by about 3%. The number of holdings was found to be the same as the number of households carrying out crop farming. Thus each crop-farming household had only one holding. Eastern region had the highest number of holdings of 922,000 (slightly less than 30% of the total number of holdings in Uganda), whereas Northern region had the least number of holdings of 718,000 (just above 20%) as depicted in Figure 2.1.

Figure 2.1: Total Number of Holdings by Region

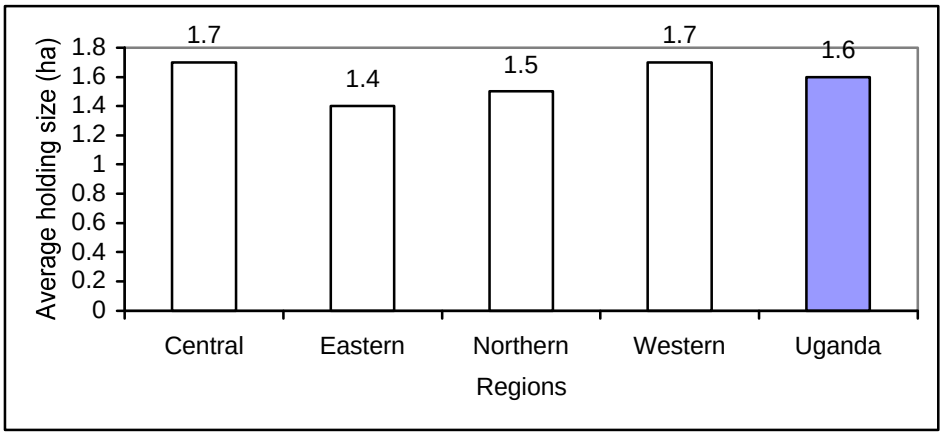


2.3.2 Average Holding Size

Holding size is the ratio of total land area owned and leased-in, minus land leased out, to the number of households practicing crop farming. The average holding size was estimated to be 1.6 hectares as seen in Figure 2.2. This estimate is the same as that of the 1995/96 Crop Survey. This could be due to the fact that there has been a lot of un-cultivated land and therefore population increase has not had an impact on holding sizes.

Central region had the highest holding size of 1.7 hectares whereas Eastern region had the lowest of 1.4 hectares.

Figure 2.2: Average Holding Size by region



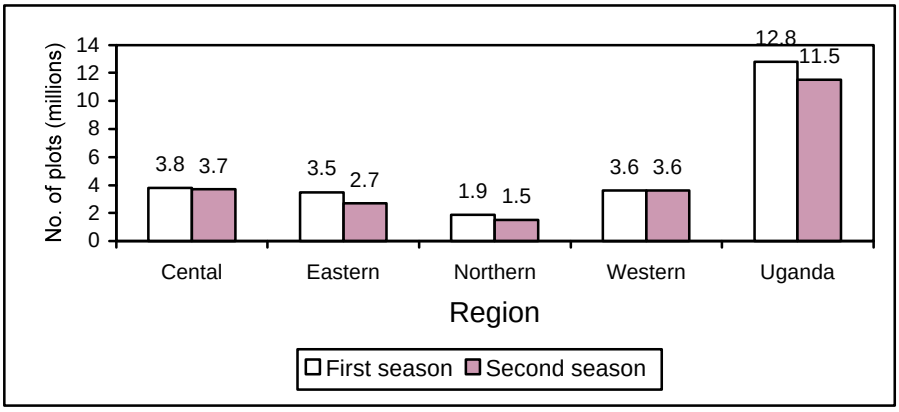
2.3.3 Total Number of Plots

The total number of plots during the first season was estimated to be about 12.8 million. This estimate is slightly lower than that of 1995/96 Crop Survey by just below 5%. The total number of plots in all regions is about the same except in the Northern region as shown in Figure 2.3.

The total number of plots during the second season was estimated to be about 11.5 million. This is about 10% less than the total number of plots cultivated during the first season.

The Central region (with 3.7 million plots) and Western region (with 3.6 million plots) each had more than 30% of the total number of plots planted during the second season. The eastern region (with 2.7 million plots) had about 25% of the total number of plots planted during the second season, while the northern region (with 1.5 million plots) had about 10% of the total number of plots. This might be due to the fact that some areas in the northern region (especially Kotido and Moroto districts) have one major cropping season because of prolonged dry season.

Figure 2.3: Number of Plots by Region

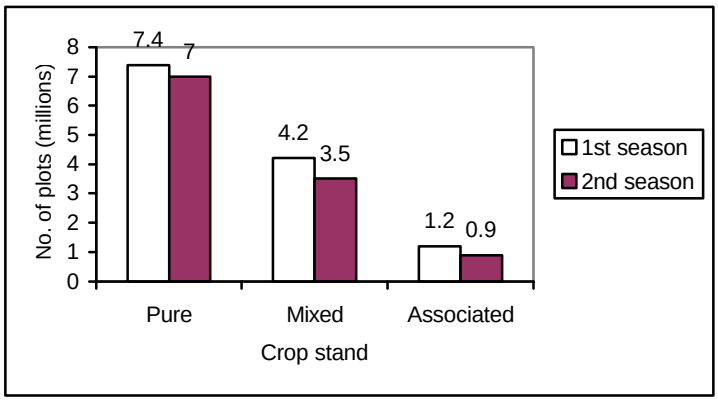


A pure stand refers to a plot where only one temporary or permanent crop is grown. A mixed stand is one whereby more than one crop that is either temporary or permanent is grown. An associated stand is one where by temporary and permanent crops are planted together in a single plot.

Of the estimated number of plots (about 12.8 million) during the first season, 7,473,000 (58%) were in pure stand, 4,151,000 (32%) plots were in mixed stand, while 1,224,000 (10%) were in associated stand. The results are depicted in Figure 2.4.

Of the 11.5 million plots during the second season, 7.05 (61%) were in pure stand, 3.5 (31%) were in mixed stand, while 945,000 (8%) were in associated stand, representing above 60%, slightly above 30%, and below 10% respectively. The results are revealed in Figure 2.4.

Figure 2.4: Number of Plots by Crop Stand



2.3.4 Average Plot Size

The average plot sizes for different crops are small which is a characteristic of subsistence farming, as depicted in Table 2.7. For the selected major crops, the average plot size for crops is less than 0.4 hectares. Overall, the average plot size is 0.24 hectares or about half an acre. Rice has the biggest plot average size of almost 0.4 hectares or about an acre, followed by Matooke (beer type) and maize with almost 0.3 hectares each, while matooke (sweet type) has the smallest plot average size of 0.15 hectares or about one third of an acre.

Table 2.7: Average Plot Size By Crop

	Crop area (Hectares)	Number of plots	Average plot size (Hectares)
Matooke (food type)	449,600	1,754,000	0.26
Matooke (beer type)	110,800	374,000	0.29
Matooke (sweet type)	11,500	76,000	0.15
Maize	406,300	1,413,000	0.29
Finger millet	235,800	730,000	0.32
Sorghum	171,800	634,000	0.27
Rice	35,900	92,000	0.39
Beans	334,000	1,586,000	0.21
Field peas	24,600	90,000	0.27
Cow peas	17,500	92,000	0.19
Pigeon peas	6,700	27,000	0.24
Ground nuts	197,600	805,000	0.25
Soya beans	10,000	45,000	0.25
Simsim	27,200	91,000	0.30
Irish potatoes	40,600	248,000	0.16
Sweet potatoes	298,300	1,846,000	0.16
Cassava	396,000	1,511,000	0.26
Total	**2,774,200**	**11,414,000**	**0.24**

2.4 Conclusion

By 1998, only about 10% of the crop farming households had received advice from government extension services.

The average plot size was only 0.23 hectares (about half an acre), which is characteristic of subsistence type of farming in Uganda.

CHAPTER THREE

LAND OWNERSHIP AND UTILISATION

3.1 Land Ownership

Total land owned has increased since 1992

It is important to know total land available and how much is being utilised for farming activities. During the 1999/2000 Crop Survey, information relating to land characteristics was collected for the 1999/2000 as well as for 1992. The results showed that an estimated total of about 5,130,000 hectares of land were owned by individual household members in 1999/2000, i.e. all land owned legally, traditionally or conventionally by members of the household singly or jointly with other members of the same household or other households whether agricultural or non-agricultural. Western region had the biggest share of 1,437,000 hectares, which represented 28% of total land as compared to 1,019,000 hectares from Northern region, which is nearly 20% of total available land. In 1992 an estimate of 4,280,000 hectares were reported as total land owned.

Table 3.1 below shows the regional breakdown of total land owned in hectares.

Table 3.1: Land Ownership by Region

Region	Total land owned (1999/2000)	Percentage of total	Estimated land owned in 1992	Percentage of total
Central	1,360,000	26.5	1,079, 000	25.2
Eastern	1,312,000	25.6	1,033,000	24.0
Northern	1,019,000	19.9	917, 000	21.4
Western	1,437,000	28.0	1,250, 000	29.2
Total	5,130,000	100.0	4,280,000	100.0

3.2: Cultivable Land

Cultivable land refers to the land that can be put to use for crop farming purposes. This excludes land under permanent pasture, wood or forest and all other non-agricultural land put under residential use or for other enterprise activities.

Of the estimated 5,130,000 hectares owned in the first season, 4,420,000 hectares was cultivable land, which represents about 86% of the total.

Table 3.2: Cultivable Land by Region (First Season 1999/00)

Region	Total Land Owned (Ha)	Total cultivable land (Ha)	Percentage land that is cultivable
Central	1,360,000	1,116, 000	82.0
Eastern	1,312, 000	1,222, 000	93.2
Northern	1,019, 000	894, 000	87.7
Western	1,437, 000	1,186, 000	82.6
Total	5,130, 000	4,420, 000	86.2

From Table 3.2 above, Eastern region has the biggest percentage of cultivable land i.e. 93.2% as compared to Central region with 82.0%. The status did not change much in the second season.

3.3: Cultivated Land

About 57% of the cultivable land was cultivated

Cultivated land relates to the total land under crops. About 58% of the total cultivable land was actually under crops during the first season. This varied from region to region, with 64% of Western region's cultivable land under crops and only 45% of Northern region's land reported to be under cultivation. The percentage of cultivated land decreased considerably in the second season for all the four regions with less than 50% cultivated. (See Table 3.3.)

Table 3.3: Cultivated Land by Region

Region	Total Cultivable Land (Ha)	First Season		Second Season	
		Total cultivated land (Ha)	percentage cultivated	Total cultivated Land (Ha)	percentage cultivated
Central	1,116,000	650,000	58.2	556,000	49.9
Eastern	1,222,000	747,000	61.1	605,000	49.5
Northern	894,000	401,000	44.9	444,000	49.7
Western	1,186,000	764,000	64.4	573,000	48.3
Total	4,420,000	2,563,000	58.0	2,180,000	49.3

3.4: Land Leased for Cultivation

Less land leased during the second season.

A total of 916,546 hectares were leased for cultivation in the first season, which was about 17% of the total land owned. Of this land, 712,700 hectares of land were leased-in whereas 203,800 hectares were leased-out. Regional distribution shows that Eastern region was more likely to lease-out land as compared to all other regions. Generally, Northern region tended to lease-in more land than all the other regions whereas Western region was more likely not to lease land both in and out, see Table 3.4.

During the second season, only 464,600 hectares of land was leased with 350,830 hectares of land leased-in and 113,800 hectares leased-out. Again during this period, Western region was less likely to lease land.

Table 3.4: Land Leased for Cultivation by Region

Region	First Season		Second Season	
	Total Leased in Land (Ha)	Total Leased out (Ha)	Total Leased in Land (Ha)	Total Leased out (Ha)
Central	118,400	40,500	111,400	40,400
Eastern	223,400	116,100	130,500	51,300
Northern	284,800	25,100	71,400	17,100
Western	86,200	21,900	37,400	4,900
Total	712,800	203,700	350,800	113,800

3.5 Land Under Fallow

Slightly over one million hectares of land was estimated to be under fallow during the first season. Over a third (34%) of the total land under fallow was contributed by Northern region whereas the other three regions contributed the remaining 65.9%. The Table 3.5 shows the regional distribution of fallow land.

Table 3.5 Land Under Fallow

Region	Total Land under fallow (Ha)	Land under fallow contribution by region
Central	305,700	21.7
Eastern	302,000	21.5
Northern	479,500	34.1
Western	319,400	22.7
Total	**1,406,700**	**100.0**

3.6 Parcels of Land Owned

A total of about 4.8 million parcels of land were estimated to be owned during the first season. Of these, the Northern region had the smallest number (922,827) while Western had the biggest number totaling to 1.5 million. The total estimate for the number of parcels for 1992 was reported as 3,752,495. On regional basis, there seemed to be significant changes in the number of parcels owned from the estimates of 1992 and 1999/2000, for the other three regions except for Northern region. (See Table 3.6).

Table 3.6: Parcels of Land

Region	1992	1999/2000
Central	773,747	1,092,904
Eastern	951,120	1,279,332
Northern	918,334	922,827
Western	1,109,294	1,529,900
Total	**3,752,495**	**4,824,963**

3.7 Conclusion

Nationally, total cultivable land constituted 86.2% implying that the biggest percentage of the land was potential for agricultural use. During the first and second seasons, only 58% and 49% of all cultivable land was cultivated or was under crops respectively. This means that it was possible to bring more land under cultivation in an effort to increase production.

Land leasers (especially out) and land under fallow are both indicators of land available for further cultivation.

CHAPTER FOUR

LABOUR AND NON-LABOUR INPUTS

4.1: Introduction

This section presents information on labour and non-labour inputs used in both the first and second seasons of the 1999/2000 agricultural year. The labour inputs include the number of persons engaged in crop farming activities and payments made to them for each season. The payments made to persons engaged in crop farming are either in cash or in kind. The non-labour inputs include, among others, fertilizers, pesticides, seeds and costs for soil preparation.

4.2: Number of Persons Engaged in Crop Farming

11m of Uganda's population is engaged in crop farming and about 30% were children

The total number of persons that were engaged in crop farming activities at the beginning of the first season of the 1999/2000 agricultural year was estimated to be about 11,000,000 persons. It can be seen from Table 4.1 that of the estimated number of persons engaged in crop farming activities in Uganda, 32% were adult male, 39% were adult female while about 30% were children. In addition, out of the total unpaid household workers, 52% were children.

Table 4.1: Number of Persons Engaged in Crop Farming During the First Season by Gender

	%	%	%	%
Working proprietors	59.6	38.1	2.3	100
Paid employees	71.4	24.1	4.5	100
Unpaid household members	9.9	37.8	52.2	100
Other unpaid workers	44.1	48.5	7.4	100
Total	31.8	38.7	29.5	100

Note: percentages have been calculated using the totals on the right-hand side as denominator.

About 97% of the children engaged in crop farming were unpaid workers

Out of the estimated persons engaged, 36% were reported as *working proprietors*, i.e. owners of the holdings who normally work on them but do not get any salary or wage, apart from a share of the profits and losses. One percent was reported as *regular paid workers,* i.e. all salary and wage earners; 53% were *unpaid family members,* while 9% were *other unpaid workers.* The information is shown in Table 4.2.

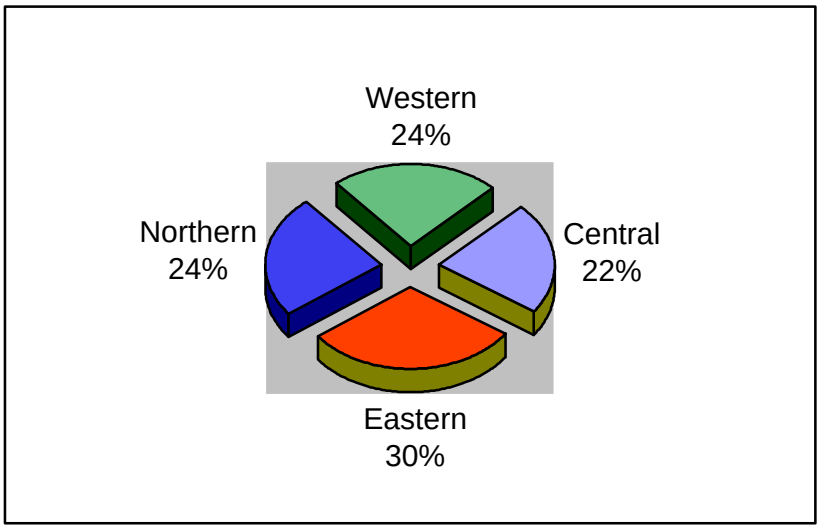
Table 4.2: Number of Persons Engaged in Crop Farming During the First Season by Category

	Number of persons engaged ('000)							
	No. and percentage							
	Adult				Children		Total	
	Male		Female					
	Number	%	Number	%	Number	%	Number	%
Working proprietors	2,307	67.3	1,476	35.4	90	2.83	3,873	35.9
Paid regular employees	107	3.1	36	0.9	7	0.2	150	1.4
Unpaid household members	571	16.7	2,179	52.2	3,007	94.6	5,757	53.4
Other unpaid workers	441	12.9	484	11.6	74	2.3	999	9.3
Total	3,426	**100**	4,175	**100**	3,178	**100**	10,779	**100**

Note: percentages have been calculated using the totals on the bottom of the table as denominator.

Eastern region reported the largest proportion of persons engaged in crop farming activities accounting for 30%, as shown in Figure 4.1. The other regions contribute almost equal proportions.

Figure 4.1: Percentage of Persons Engaged in Crop Farming by Region



ess persons ere engaged in op farming uring second eason

The total number of persons engaged in crop farming activities like land preparation, planting, and weeding during the second season was estimated at about 9.3 million persons as depicted in Table 4.3. The sex ratio is almost the same as that of the first season. Over one half of the unpaid household members were children and over 70% of the paid employees were males. Children contributed slightly less than a third of the total number of persons engaged in crop farming during the second season.

Table 4.3: Number of Persons Engaged in Crop Farming during the Second Season by Gender

	Number of persons engaged ('000)							
	No. and percentage							
	Adult				Children		Total	
	Male		Female					
	Number	%	Number	%	Number	%	Number	%
Working proprietors	2,123	63.2	1,211	36.1	25	0.7	3,873	100
Paid regular employees	53	72.0	20	27.0	1	1.0	150	100
Unpaid household members	423	8.2	2,029	39.6	2,679	52.2	5,757	100
Other unpaid workers	297	40.3	364	49.4	76	10.3	999	100
Total	2,896	31.1	3,624	39.0	2,780	29.9	10,779	100

Note: percentages have been calculated using the totals on the right-hand side as denominator.

4.3: Payments made to Persons Engaged in Crop Farming

Male employees engaged in crop farming activities earn more than females

Information relating to wages (in cash and kind) paid to both regular as well as casual employees, was collected for both the planting and harvesting seasons. The average cash wage paid to employees (both regular and casual) engaged in land preparation, planting and weeding during the first season was estimated at approximately 30,000 shillings. The average payment in kind for the same period was estimated at around 12,000 shillings. During harvesting for the first season, average cash wage reduced to 19,000 shillings, whereas payment in kind remained at an average of 12,000 shillings. Cash payment made to regular employees during the planting period of the first season was an average of about 41,000 shillings, while payment in kind averaged 13,000 shillings. Cash payment to casual workers during planting period was about 30,000 shillings compared to payment in kind of 11,000 shillings. During harvesting period for the first season however, cash payment for both regular employees as well as casual workers reduced to 29,000 thousand and 18,000 respectively. This information is contained in Table 4.4. It can further be observed that payment made to males is greater than payment made to females, in all cases.

Table 4.4: Payments made to Persons Engaged in Crop Farming during first season, 1999/2000

Land preparation, planting and weeding	**Payments made (shs) – 1999/00 Prices**					
	Value					
	Male		Female		Total	
	Cash	Kind	Cash	Kind	Cash	Kind
Paid regular employees	44,000	17,000	20,000	5,000	41,000	13,000
Paid casual workers	35,000	12,000	17,000	11,000	30,000	11,000
Total	36,000	12,000	18,000	11,000	30,000	12,000
Harvesting						
Paid regular employees	33,000	15,000	15,000	9,000	29,000	13,000
Paid casual workers	21,000	14,000	14,000	11,000	18,000	12,000
Total	23,000	14,000	14,000	11,000	19,000	12,000

Note: Figures have been rounded-off to the nearest thousand.

Less pay for employees in the second season

Payments made to employees engaged in crop farming activities during the second season are slightly lower than the payments during the first season. From Table 4.5, it can be seen that the total average for cash payment made to all paid employees during the planting period is about 24,000 shillings compared to 30,000 in the first season. Similarly, payment in kind during the planting period of the second visit was estimated at about 11,000 shillings compared to 12,000 shillings for the same period of the first season.

Table 4.5: Payments made to Persons Engaged in Crop Farming During the Second Season

Land preparation, planting and weeding	**Payments made (shs) – 1999/00 Prices**					
	Value					
	Male		Female		Total	
	Cash	Kind	Cash	Kind	Cash	Kind
Paid regular employees	41,000	20,000	21,000	10,000	37,000	18,000
Paid casual workers	26,000	11,000	15,000	10,000	23,000	11,000
Total	27,000	12,000	15,000	10,000	24,000	11,000
Harvesting						
Paid regular employees	34,000	27,000	18,000	6,000	30,000	17,000
Paid casual workers	19,000	9,000	12,000	8,000	16,000	8,000
Total	21,000	11,000	12,000	8,000	18,000	9,000

Note: Figures have been rounded-off to the nearest thousand.

Generally, lower wages were paid in the second season compared to the first season.

4.4: Use of Non-labor Inputs

Usage of improved seeds is still low

The non-labour inputs on which data were collected included manure fertilizers, inorganic fertilizers, pesticides and seeds. The proportion of households reporting use of these non-labour inputs varies from region to region. Table 4.6 shows that generally there was poor usage of improved varieties. For example, during the first season 9% of the households used improved seeds and 3% used hybrid seeds. On the other hand, about 95% of the households reported using local seeds. Comparing across regions, farming households in the central and eastern region are more likely to use improved seeds.

The proportion of households using non-labour inputs seems to fall between the first and second seasons. This is consistent with the decreased output in the second season (See Appendix II).

Table 4.6: Percentage Distribution of Households by Usage of Non-Labour Inputs

	Proportion of households using selected inputs				
	1st Season				
	C	E	N	W	U
Local Seeds	88.5	96.3	94.0	98.1	94.6
Improved Seeds	12.0	12.4	9.0	3.3	9.1
Hybrid Seeds	1.3	8.4	1.3	1.0	3.2
Manure fertilizers	13.0	1.6	0.3	6.2	5.2
Inorganic fertilizers	2.6	2.3	4.4	1.3	2.5
Pesticides	10.4	9.2	2.5	3.3	6.4
	2nd Season				
Local Seeds	85.8	74.5	66.7	81.3	77.4
Improved Seeds	7.1	7.2	4.2	1.5	5.0
Hybrid Seeds	1.2	0.9	0.6	0.2	0.7
Manure fertilizers	7.7	0.2	.	1.6	2.4
Inorganic fertilizers	0.7	0.5	0.1	0.1	0.4
Pesticides	5.7	4.6	1.0	1.0	3.1

The value of the non-labour inputs used during the first season varies by input and by region, as illustrated in Table 4.7. On the aggregate however, the value of land preparation was the highest, followed by the value of inorganic fertilizers.

Table 4.7: Average Value of Non-Labour Inputs used in Crop Farming During the First Season

	Average value of inputs (shs) – 1999/00 Prices				
	Value				
	Central	Eastern	Northern	Western	Uganda
Manure fertilizers	34,000	11,000	11,000	14,000	29,000
Inorganic fertilizers	23,000	18,000	35,000	19,000	23,000
Pesticides	27,000	11,000	9,000	14,000	16,000
Local seeds	7,000	9,000	8,000	12,000	7,000
Improved seeds	8,000	13,000	11,000	7,000	8,000
Hybrid seeds	10,000	16,000	7,000	8,000	7,000

The reported values of non-labour inputs during the second season are generally lower than the values reported for the first season. The highest value reported was for manure fertilizers. Central region recorded the highest input value while northern still recorded the lowest. The information is contained in Table 4.8.

Table 4.8: Average Value of Non-Labour Inputs used in Crop Farming During the Second Season

	Average value of inputs (shs) – 1999/00 Prices				
	Value				
	Central	Eastern	Northern	Western	Uganda
Manure fertilizers	32,000	7,000	-	20,000	29,000
Inorganic fertilizers	26,000	16,000	5,000	57,000	23,000
Pesticides	21,000	11,000	9,000	21,000	16,000
Local seeds	6,000	5,000	7,000	10,000	7,000
Improved seeds	7,000	10,000	5,000	7,000	8,000
Hybrid seeds	6,000	10,000	2,000	8,000	7,000

4.5: Conclusion

The survey findings indicate that about 11 million persons were engaged in crop farming activities. Females constituted the highest percentage of the persons engaged, with 39% followed by males at 32%.

The majority of the persons engaged in crop farming were unpaid household members, accounting for 53% of all persons engaged, of whom 52% were children. Furthermore, a larger percentage of people are engaged during the planting season than during the harvesting period. More males than females were engaged in crop farming activities and the payments made to them were higher.

Usage of other non-labour inputs such as manure, fertilizers, seeds and cost of preparing land were reported higher during the first season than in the second season. The value of these non-labour inputs also tended to be higher in the first season and lower in the second season.

CHAPTER FIVE

PRODUCTION OF MAJOR CROPS

5.1: Introduction

The survey collected information on output of major crops and their area in the years 1999 and 2000. The information on crops was collected on production of frequently harvested crops which included matooke (all types i.e. food, beer and sweet type), sweet potatoes, cassava, and on seasonal crops like maize, finger millet, sorghum, rice, beans, field peas, cow peas, pigeon peas, groundnut, soya bean and Irish potatoes.

Though this chapter presents the findings, information on yields will not be presented because of the technicalities involved to arrive at yield figures and problems related to mixed and associated stands.

The report on the food supply situation and prospects in Sub-Saharan Africa by FAO, No.1, April 2000, indicated that in Uganda the output of main seasonal crops harvested from the middle of 2000 was below average due to drought and erratic rains in various parts of the country. Cereal crop production in 2000 was estimated to be about 12% below average.

5.2: Seasonal Crops

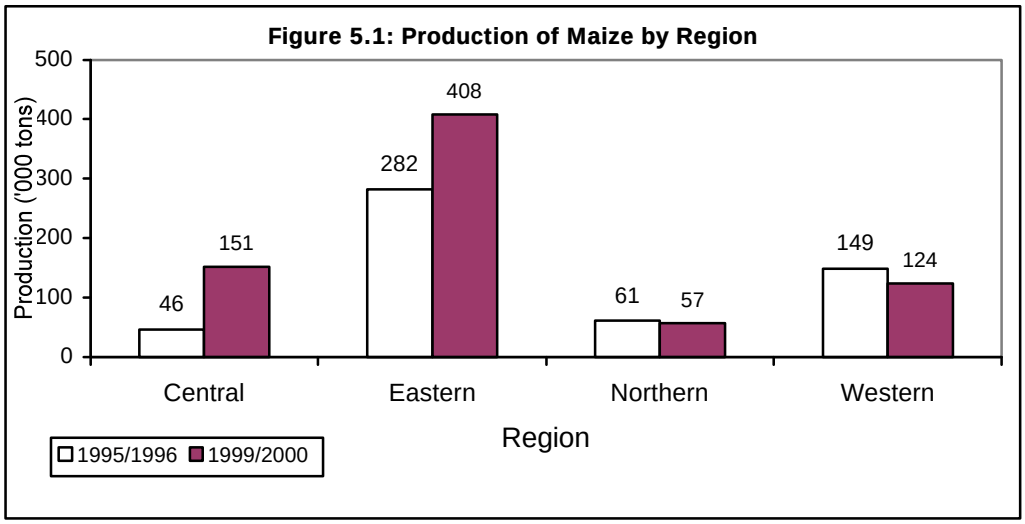
The seasonal crops referred to, are those that have specific seasons and on average they are two seasons in a year. Tables relating to the information given in this sub-section have been presented in Appendix II, Output of Major Seasonal Crops.

5.2.1: Maize

Eastern Region was reported with the highest production of maize

The total production of maize was estimated at 739,000 tons from an area of 665,000 hectares. It can be noted from Figure 5.1 that the Eastern region had the highest production of maize and accounted for 55% of the total production (408,000 tons). The Northern region was reported with the lowest production of maize (57,000 tons) accounting for only 8% of the total production of maize.

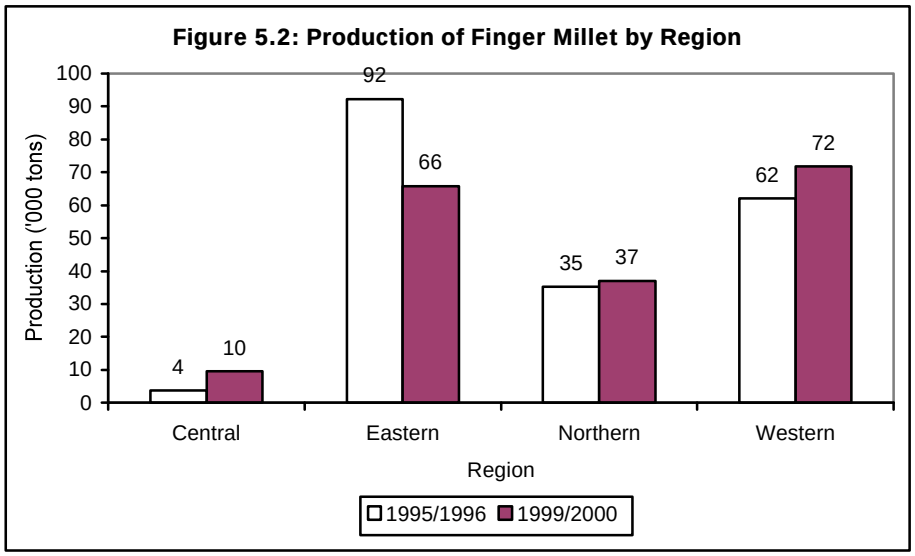
There has been a marked increase in the production of maize between 1995/1996 and 1999/2000. Production of maize in Eastern region increased by about 45%.



5.2.2: Finger Millet

Growing of finger millet was not common in the Central region

The total production of finger millet was 184,000 tons from an area of about 328,000 hectares. At regional level, finger millet was predominant in the Western and Eastern regions of Uganda, see Figure 5.2. The production of finger millet in the Western region was 72,000 tons accounting for 39% of the total production and the Eastern region produced 66,000 tons accounting for 36% of the total production. Only 8,000 tons of finger millet was produced in the Central region accounting for just 5% of the total production.



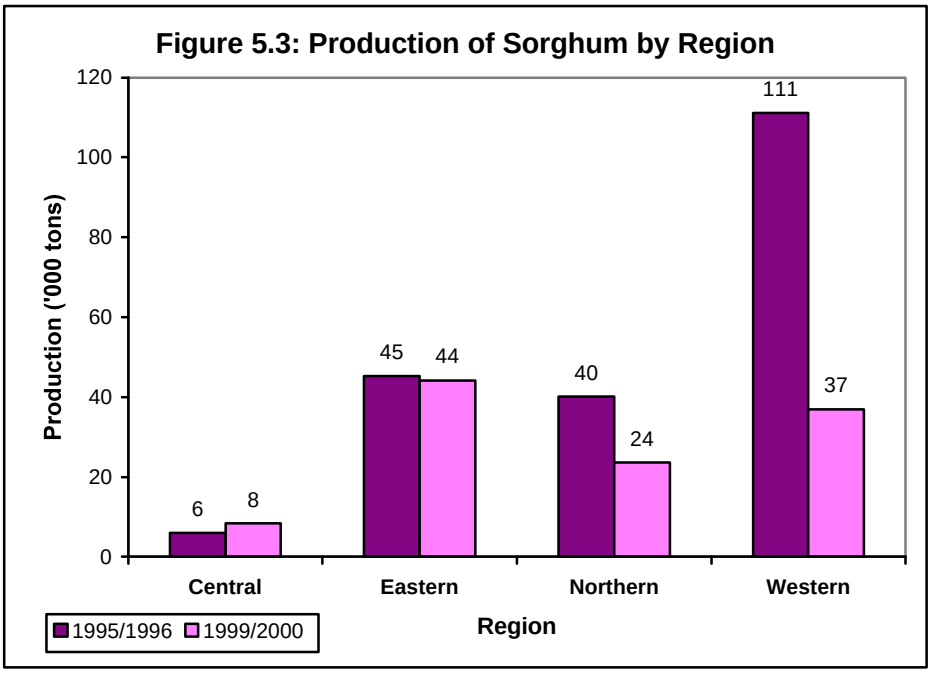
The Eastern region which was the main producer of finger millet in the year 1995/1996 registered a fall in production of about 28% (26,000 tons) from 92,000 tons to 66,000 tons. However, production in the Western region increased from 62,000 tons to 72,000 tons during the reference period as shown in Figure 5.2.

5.2.3: Sorghum

Production of sorghum decreased by 67% in the Western region

The total production of sorghum was estimated at 113,000 tons in 1999/2000 from an area of about 243,000 hectares. This shows a decrease of about 44% (89,000 tons) from 203,000 tons in 1995/1996 to 113,000 tons in 1999/2000. In the year 1999/2000, the Eastern region produced the highest tonnage on sorghum (44,000 tons). Production of sorghum dropped tremendously in the Western by 74,000 tons a drop of about 67% between 1995/1996 and 1999/2000, see Figure 5.3. This is because of the introduction of Kasese, sorghum is no longer a major ingredient to alcohol production.

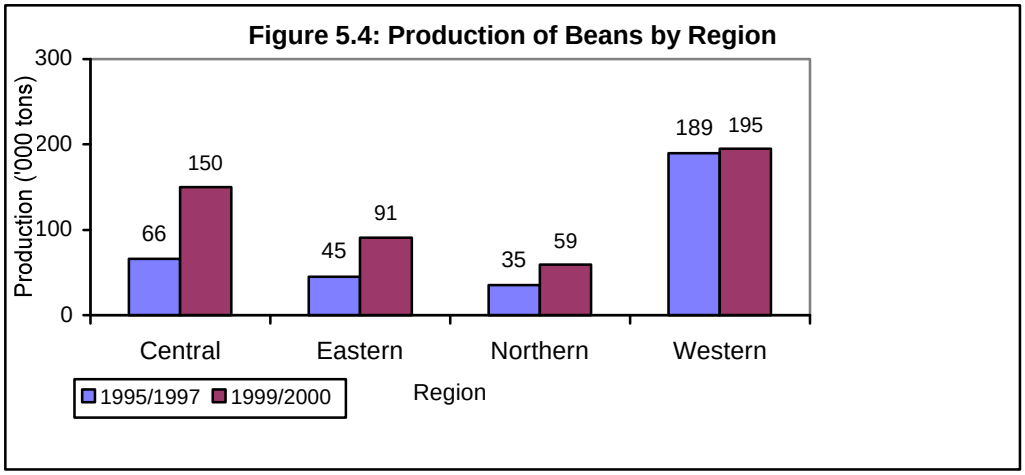
Figure 5.3: Production of Sorghum by Region



5.2.4: Beans

Western region had the highest production of beans followed by central region

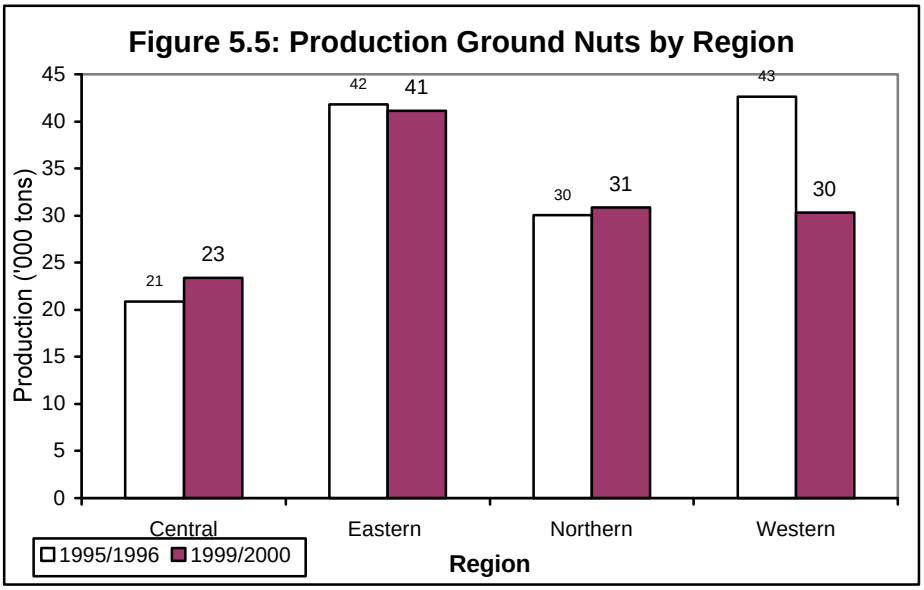
The estimated production of beans was 496,000 tons on an area of about 618,000 hectares. The Western region (195,000 tons) had highest production of beans followed by the Central region (150,000 tons), see Figure 5.4. The production of beans in Western region accounted for 39% and Central region 30%. However, production of beans between 1995/1996 and 1999/2000 registered an increase of 48% from 336,000 tons to 496,000 tons. Generally, production of beans increased in all regions with Central and Eastern regions registering an increase of more than double.



5.2.5: Ground Nuts

Growing of ground nuts declined by 30% in the Western region

The total output for groundnuts was 126,000 tons on an area of about 282,000 hectares. Groundnuts are generally grown in all the regions of Uganda though Eastern region had an upper hand in the production of ground nuts (41,000 tons) as shown in Figure 5.5. Production of groundnuts declined in the Western region by about 30% from 43,000 tons to 30,000 tons between 1995/1996 and 1999/2000.



5.3 Frequently Harvested Crops

Crops considered as frequently harvested include matooke, cassava and sweet potatoes. The nature of their harvesting does not follow specific seasons. Tables relating to the information given in this sub-section have been presented in Appendix II, Output of Frequently Harvested Crops.

5.3.1: Matooke

Western region accounts for 61% of the total production of matooke - food type

There are three types of matooke grown namely, matooke - food type, matooke - beer type and matooke - sweet type. As expected matooke - food type was the most important among the three types of matooke.

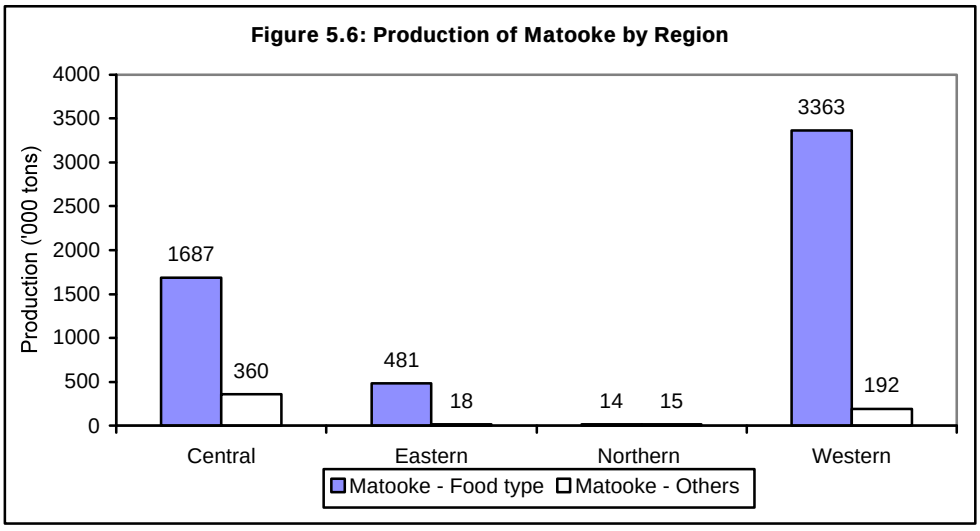
The production of matooke dropped between the years 1995/1996 and 1999/2000 as shown in Table 5.1. The fall in production could be attributed to the drought and dynamics in the producer markets.

Table 5.1: Production of Matooke

	1995/1996	1999/2000
Crop Type	Tons	
Matooke food type	7,908,984	5,545,134
Matooke beer type	1,164,887	538,304
Matooke sweet type	383,949	46,286

Figure 5.6 presents the production by region, the western region was reported with the highest production matooke food type (3,363,000 tons) accounting for 61% of the total output, Central region with 1,687,000 tons (30% of the total output). Generally, growing of matooke was not common in the Northern region with only 14,000 tons of matooke food type.

Figure 5.6: Production of Matooke by Region



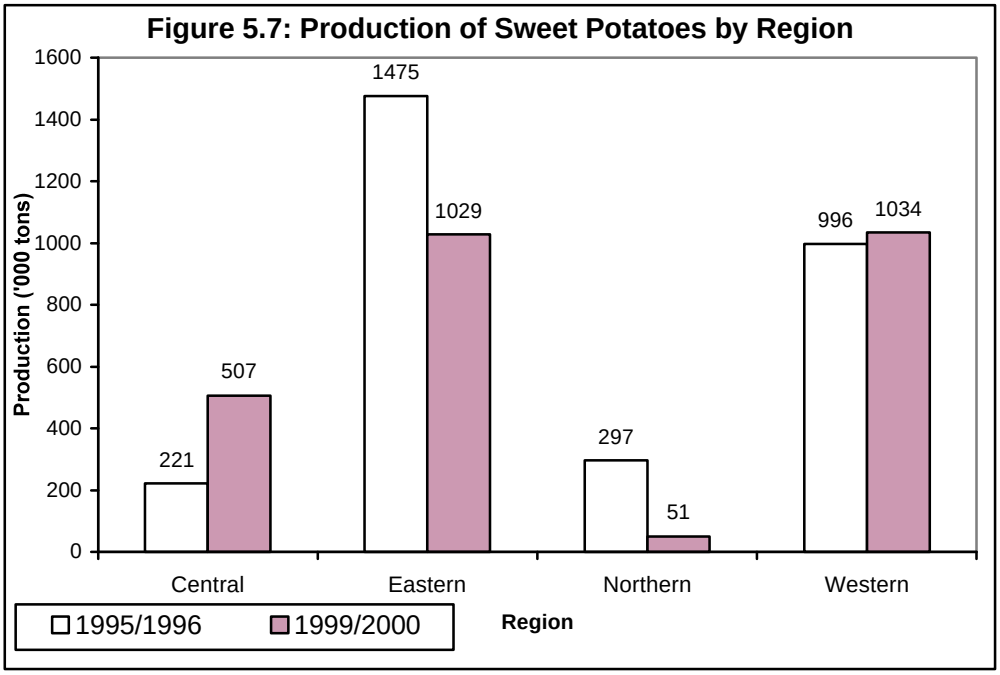
The Central region reported with the highest production of matooke - other types (360,000 tons) compared to 192,000 tons in the Western region and only 18,000 tons for the Eastern region.

5.3.2 Sweet Potatoes

Production of Sweet Potatoes declined by 30% in the Eastern Region

The total production of sweet potatoes in 1999/2000 was estimated to be 2,620,000 tons. Production of sweet potatoes has dropped in the Eastern region from 1,475,000 tons in 1995/1996 to 1,029,000 tons in the year 1999/2000 a fall of about 30% during the reference period. In the year 1999/2000 sweet potatoes were mainly grown in Western region (1,034,000 tons) this accounted for 39% of the total production. The Northern region had the lowest production of sweet potatoes (51,000 tons) accounting for only 2% of the total production, see Figure 5.7. Central and Western regions depicted a rise in the production of sweet potatoes.

Figure 5.7: Production of Sweet Potatoes by Region



The total production of sweet potatoes fell from 2,990,000 tons (Crop Survey 1995/1996) to 2,620,000 tons in the year 1999/2000.

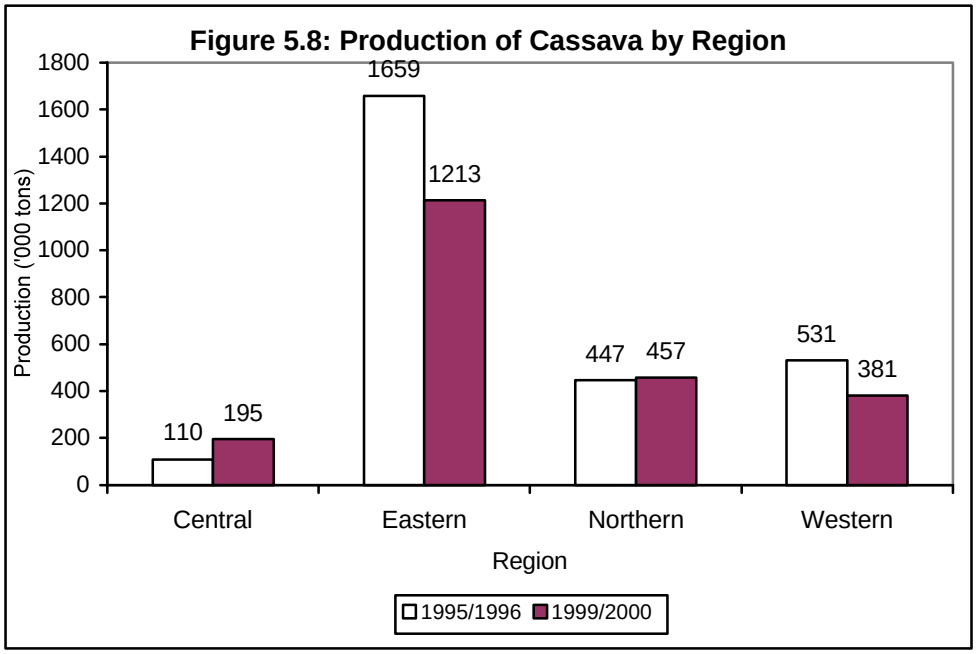
5.3.3 Cassava

Cassava production in the northern region has not changed

The total production of cassava for the 1999/00 period was estimated at 2,246,000 tons 1999/2000, which is slightly lower than the output reported in 1995/1996, of 2,746,000 tons. Cassava was largely produced in the Eastern region (1,213,000 tons) followed by the Northern region (457,000 tons) as shown in Figure 5.8. Cassava was least produced in the Central region (195,000 tons) representing only 9% of the total output whereas 54% of cassava produced was from the Eastern region.

Production of cassava in the Eastern region fell from 1,659,000 tons in 1995/1996 to 1,213,000 tons in 1999/2000. The output of cassava almost remained the same between those years in the Northern region. Cassava Mosaic could have been responsible for the downward trend.

Figure 5.8: Production of Cassava by Region



5.4: Sales

Information relating to sales of crops produced was collected. Table 5.2 shows matooke - food type, cassava, sweet potatoes and finger millet are generally for household consumption as opposed to the 1995/1996 findings where 44% of matooke, 25% of sweet potatoes and 61% of Cassava were being sold. There was a marked increase in sales of non-traditional cash crops like Soya Beans, Irish Potatoes, Matooke - beer type and others.

,Table 5.2: Proportion of Sales to Output

Crop Type	1999/2000	1995/1996
Matooke - Food type	17	44
Matooke - Beer type	55	15
Matooke - Sweet type	40	41
Sweet Potatoes	6	25
Cassava	16	61
Maize	44	14
Finger Millet	18	4
Sorghum	23	6
Beans	31	9
Field Peas	31	-
Cow Peas	21	-
Pigeon Peas	19	-
Groundnuts	21	-
Soya beans	60	-
Irish potatoes	48	-

5.5: Conclusion

The major food crops grown were matooke - food type, sweet potatoes, cassava, and maize. The Western and Eastern regions took the lead in the production of the major food crops. Maize was mainly grown in the Eastern region accounting for 55% of the total production. The Western region excelled in the production of matooke by 61% of the overall output.

With regard to sweet potatoes the Western and Eastern regions were reported to be the main producers each contributing 39% to the total output. Cassava was mainly produced in Eastern region contributing 54% to the total output.

The Northern region was reported with the lowest production of the above mentioned food crops with the exception of cassava where it was reported second to the Eastern region contributing 20% to the total output.

Appendix I

RELIABILITY OF THE DATA

Data quality is usually evaluated in terms of reliability obtained as may be indicated by the coefficients of variation[1]. As a general rule, CVs higher than 20% are unattractive. However, it is still important to analyze each case individually. CVs could be used to estimate sample sizes requred in future surveys based on the level of reliability obtained in the current or past survey.

Coefficients of variation were computed at national and regional levels for selected crops. The estimates are given it Tables 1 to 4. At the national level coeffients of variation are generally low indicating that the estimates were precise. However, Matooke - beer type and sweet type had higher cofficients of varation compared to other crops. The reason could be that they are not widely grown as evidenced by the sample size (number of observations).

Table 1: Coefficients of Variation at National Level for Frequently Harvested Crops

Category	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
CROP							
Matooke - Food	5,545,134	227,243	4.1	5,099,738	5,990,530	2.3	4,236
Matooke - Beer	538,304	57,138	10.6	426,314	650,294	1.7	1,676
Matooke - Sweet	46,286	4,205	9.1	38,045	54,527	1.5	662
Sweet potatoes	2,620,065	130,258	5.0	2,364,759	2,875,371	1.4	5,406
Cassava	2,245,882	103,205	4.6	2,043,601	2,448,163	2.1	4,846

Table 2: Coefficients of Variation at National Level for Seasonal Crops

CROP	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
Maize	739,197	33,798	4.57	672,952	805,441	2.13	9,414
Finger millet	184,199	10,270	5.58	164,069	204,329	2.55	2,924
Sorghum	113,254	7,070	6.24	99,397	127,111	2.23	2,406
Beans	495,673	16,262	3.28	463,799	527,546	3.38	11,379
Ground nuts	125,626	7,592	6.04	110,746	140,507	3.33	3,283

[1] Coefficient of Variation is the percentage ratio of the standard deviation to the mean. It is a measure of relative variability.

At the regional level, matooke (all types) was not common in the Northern region as indicated in Table 3. Sorghum and Finger Millet were also not common in the Central region as shown in Table 4.

Table 3: Coefficients of Variation by Region Level for Frequently Harvested Crops

Region	Estimate	Standard Error	C.V. (%)	95% Confidence Interval		Design Effect	Number of Observations
				Lower	Upper		
	Matooke - Food type						
Central	1,686,640	114,598	6.8	1,462,028	1,911,251	1.9	1,669
Eastern	481,167	43,387	9.0	396,130	566,205	2.95	838
Northern	13,875	4,626	33.3	4,809	22,941	2.07	29
Western	3,363,452	191,319	5.7	2,988,467	3,738,437	2.34	1,700
	Matooke - Beer type						
Central	342,812	52,905	15.4	239,119	446,505	1.68	689
Eastern	9,021	1,224	13.6	6,621	11,420	1.6	310
Northern	4,178	927	22.2	2,360	5,996	1.6	56
Western	182,294	21,529	11.8	140,097	224,490	2.11	621
	Matooke - Sweet Type						
Central	16,911	2,104	12.4	12,788	21,035	1.05	241
Eastern	9,006	1,236	13.7	6,584	11,429	1.92	266
Northern	11,067	2,623	23.7	5,925	16,208	2.38	91
Western	9,302	2,201	23.7	4,988	13,615	1.21	64
	Sweet Potatoes						
Central	506,804	27,242	5.4	453,411	560,198	1.79	1,775
Eastern	1,028,771	61,276	6.0	908,669	1,148,873	2.06	1,523
Northern	50,704	5,194	10.2	40,524	60,885	2.2	437
Western	1,033,786	111,550	10.8	815,149	1,252,423	1.21	1,671
	Cassava						
Central	194,691	13,208	6.8	168,803	220,579	1.66	1,386
Eastern	1,213,310	91,753	7.6	1,033,474	1,393,146	1.89	1,174
Northern	457,018	37,515	8.2	383,489	530,547	2.78	1,008
Western	380,862	25,510	6.7	330,863	430,862	2.05	1,278

Table 4: Coefficients of Variation by Region for Seasonal Crops

Region	Estimate	Standard Error	C.V. (%)	95% Confidence Interval Lower	Upper	Design Effect	Number of Observations
	Maize						
Central	151,088	10,019	6.6	131,450	170,726	2.52	2,977
Eastern	407,672	30,244	7.4	348,395	466,950	1.99	2,826
Northern	56,832	6,926	12.2	43,256	70,408	4.06	931
Western	123,604	8,904	7.2	106,153	141,056	2.21	2,680
	Finger millet						
Central	9,571	2,537	26.5	4,599	14,543	3.02	149
Eastern	65,865	5,304	8.1	55,468	76,261	1.83	1,041
Northern	37,000	6,012	16.3	25,216	48,784	2.99	514
Western	71,763	5,896	8.2	60,207	83,320	2.79	1,220
	Sorghum						
Central	8,434	2,226	26.4	4,070	12,798	3.03	176
Eastern	44,215	4,273	9.7	35,839	52,590	2.19	981
Northern	23,622	3,641	15.4	16,486	30,759	5.82	509
Western	36,983	3,676	9.9	29,779	44,187	1.3	740
	Beans						
Central	150,135	8,865	5.9	132,759	167,511	3.4	3,426
Eastern	91,141	6,049	6.6	79,284	102,998	3.65	2,303
Northern	59,480	5,935	10.0	47,847	71,113	5.87	1,168
Western	194,917	10,679	5.5	173,987	215,847	2.57	4,482
	Ground nuts						
Central	23,357	2,312	9.9	18,827	27,888	2.1	810
Eastern	41,116	3,864	9.4	33,543	48,690	1.65	805
Northern	30,825	5,263	17.1	20,509	41,142	7.77	545
Western	30,327	3,108	10.3	24,235	36,419	3.81	1,123

Appendix II

BASIC TABLES

TABLE A1: AREA BY STAND IN THE FIRST SEASON (UGANDA)

Crop Type	Stand			
	Pure	Mixed	Associated	Total
Matooke food type	161,854	138,669	149,092	449,615
Matooke beer type	82,026	17,098	11,657	110,781
Matooke sweet type	6,172	3,251	2,069	11,492
Maize	149,181	241,123	16,024	406,328
Finger Millet	112,000	122,849	930	235,779
Sorghum	126,484	43,791	1,523	171,797
Rice	31,223	4,146	578	35,948
Beans	107,654	199,686	26,678	334,018
Field Peas	19,420	5,024	132	24,576
Cow Peas	13,024	4,078	392	17,494
Pigeon Peas	3,251	3,409	2	6,662
Groundnuts	103,408	90,161	4,018	197,587
Soya beans	6,327	4,375	103	10,804
Simsim	15,880	11,290	28	27,198
Cotton	7,475	3,578	16	11,070
Irish potatoes	30,458	8,198	1,896	40,552
Sweet potatoes	256,338	37,103	4,842	298,283
Cassava	254,719	128,390	12,886	395,995
Others	220,707	99,805	40,371	360,882
Total	1,707,600	1,166,023	273,238	3,146,861

Note: The main or first season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June.

TABLE A3: CROP AREA BY STAND IN THE SECOND SEASON (UGANDA)

	Stand			
Crop Type	**Pure**	**Mixed**	**Associated**	**Total**
Matooke food type	158,371	135,311	129,325	423,007
Matooke beer type	77,826	14,727	7,473	100,026
Matooke sweet type	4,775	3,039	1,190	9,004
Maize	100,149	151,813	6,966	258,928
Finger Millet	60,255	32,025	193	92,474
Sorghum	54,331	16,929	210	71,469
Rice	9,047	298	114	9,459
Beans	90,349	179,092	14,943	284,384
Field Peas	15,191	4,072	49	19,311
Cow Peas	8,188	2,066	.	10,254
Pigeon Peas	3,047	986	33	4,065
Groundnuts	42,486	39,070	2,970	84,526
Soya beans	3,429	1,510	67	5,005
Simsim	42,578	21,356	301	64,235
Cotton	47,082	22,960	280	70,322
Irish potatoes	28,484	6,644	2,134	37,261
Sweet potatoes	230,208	23,701	3,121	257,029
Cassava	242,057	85,369	7,734	335,160
Others all	170,621	100,659	34,556	305,836
Total	1,388,471	841,626	211,659	2,441,756

Note: The second season is generally the period between July and December.

TABLE A4: CROP AREA BY STAND IN THE FIRST SEASON (CENTRAL REGION)

Crop Type	Stand			
	Pure	Mixed	Associated	Total
Matooke food type	75,110	73,798	50,842	199,750
Matooke beer type	44,700	8,511	5,852	59,063
Matooke sweet type	1,981	1,495	1,116	4,591
Maize	18,302	35,539	6,034	59,874
Finger Millet	5,653	2,449	302	8,404
Sorghum	3,520	1,030	206	4,755
Rice	131 .		128	259
Beans	17,726	64,643	12,219	94,588
Field Peas	87	30 .		118
Cow Peas	1,093	355	58	1,506
Pigeon Peas	308 .	.		308
Groundnuts	10,123	11,237	2,174	23,535
Soya beans	284	267 .		550
Simsim	97 .	.		97
Cotton	332 .		16	348
Irish potatoes	7,606	1,841	12	9,460
Sweet potatoes	79,941	15,732	2,767	98,440
Cassava	27,405	25,535	6,493	59,432
Others all	95,153	61,771	21,634	178,558
Total	389,552	304,232	109,853	803,637

Note: The main or first season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June.

TABLE A5: CROP AREA BY STAND IN THE SECOND SEASON (CENTRAL REGION)

	Stand			
Crop Type	**Pure**	**Mixed**	**Associated**	**Total**
Matooke food type	73,301	60,114	45,441	178,855
Matooke beer type	39,646	8,897	4,911	53,454
Matooke sweet type	1,354	1,397	878	3,629
Maize	17,071	32,010	1,949	51,030
Finger Millet	4,567	2,771	.	7,339
Sorghum	4,938	747	137	5,822
Rice	36	39	111	185
Beans	13,595	48,149	4,790	66,534
Field Peas	.	87	49	136
Cow Peas	340	84	.	423
Pigeon Peas	91	37	.	128
Groundnuts	6,481	6,352	1,150	13,984
Soya beans	152	218	.	370
Simsim	94	.	.	94
Cotton	1,488	739	211	2,438
Irish potatoes	6,262	1,245	701	8,208
Sweet potatoes	81,329	11,896	2,233	95,458
Cassava	29,658	26,675	4,042	60,375
Others all	83,302	64,257	19,289	166,848
Total	363,703	265,712	85,894	715,309

Note: The second season is generally the period between July and December.

TABLE A6: CROP AREA BY STAND IN THE FIRST SEASON (EASTERN REGION)

	Stand			
Crop Type	**Pure**	**Mixed**	**Associated**	**Total**
Matooke food type	16,107	15,452	29,898	61,457
Matooke beer type	5,762	4,965	791	11,519
Matooke sweet type	1,401	1,509	782	3,691
Maize	68,297	131,873	7,901	208,070
Finger Millet	67,967	60,913	482	129,363
Sorghum	37,722	8,427	44	46,192
Rice	25,164	3,173	450	28,788
Beans	13,363	19,352	4,800	37,514
Field Peas	10,114	2,335	63	12,512
Cow Peas	3,948	957 .		4,905
Pigeon Peas	1,409	818 .		2,227
Groundnuts	47,859	25,417	390	73,666
Soya beans	3,482	2,728	103	6,312
Simsim	2,543	1,795	28	4,366
Cotton	5,648	1,860 .		7,507
Irish potatoes	2,784 .		11	2,795
Sweet potatoes	95,418	13,856	1,650	110,924
Cassava	103,792	22,914	1,980	128,686
Others all	44,973	26,568	14,117	85,659
Total	557,752	344,912	63,490	966,153

Note: The main or first season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June.

TABLE A7: CROP AREA BY STAND IN THE SECOND SEASON (EASTERN REGION)

	Stand			
Crop Type	**Pure**	**Mixed**	**Associated**	**Total**
Matooke food type	18,487	25,549	24,684	68,719
Matooke beer type	10,424	2,711	675	13,810
Matooke sweet type	962	1,256	196	2,415
Maize	48,591	75,436	3,432	127,459
Finger Millet	2,976	2,144	.	5,120
Sorghum	33,514	5,352	40	38,905
Rice	3,615	79	.	3,695
Beans	20,677	12,272	2,738	35,688
Field Peas	9,437	2,111	.	11,548
Cow Peas	2,072	953	.	3,025
Pigeon Peas	1,082	.	.	1,082
Groundnuts	7,694	2,929	109	10,732
Soya beans	1,509	870	67	2,446
Simsim	2,434	582	154	3,170
Cotton	30,294	11,505	69	41,869
Irish potatoes	2,537	.	.	2,537
Sweet potatoes	72,222	3,432	473	76,127
Cassava	82,990	17,373	1,076	101,439
Others all	35,558	28,376	10,867	74,801
Total	387,077	192,930	44,580	624,586

Note: The second season is generally the period between July and December.

TABLE A8: CROP AREA BY STAND IN THE FIRST SEASON (NORTHERN REGION)

Crop Type	Stand			
	Pure	Mixed	Associated	Total
Matooke food type	743	1,174	897	2,814
Matooke beer type	936	1,263	92	2,291
Matooke sweet type	2,458	248	172	2,877
Maize	44,821	39,369	213	84,403
Finger Millet	26,394	53,795 .		80,188
Sorghum	59,324	27,235	473	87,031
Rice	4,602	882 .		5,484
Beans	28,969	31,494	965	61,428
Field Peas	8,749	2,559 .		11,308
Cow Peas	756	2,343 .		3,099
Pigeon Peas	1,280	2,347 .		3,627
Groundnuts	21,694	30,388 .		52,081
Soya beans	1,612	1,240 .		2,852
Simsim	13,004	9,384 .		22,388
Cotton	1,241	1,610 .		2,851
Irish potatoes	135 .	.		135
Sweet potatoes	15,609	292 .		15,901
Cassava	88,693	54,687	1,754	145,134
Others all	28,925	5,131	543	34,600
Total	349,944	265,440	5,108	620,493

Note: The main or first season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June.

TABLE A9: CROP AREA BY STAND IN THE SECOND SEASON (NORTHERN REGION)

	Stand			
Crop Type	**Pure**	**Mixed**	**Associated**	**Total**
Matooke food type	1,666	903	.	2,568
Matooke beer type	688	758	387	1,833
Matooke sweet type	2,283	387	.	2,669
Maize	17,093	14,429	.	31,522
Finger Millet	10,407	9,183	.	19,590
Sorghum	9,014	8,562	.	17,576
Rice	4,326	3	.	4,329
Beans	23,086	42,728	604	66,418
Field Peas	5,685	1,874	.	7,559
Cow Peas	181	.	.	181
Pigeon Peas	1,666	684	.	2,350
Groundnuts	11,832	14,559	131	26,523
Soya beans	721	297	.	1,019
Simsim	39,571	20,670	121	60,362
Cotton	14,422	10,716	.	25,138
Irish potatoes	171	.	.	171
Sweet potatoes	14,199	192	65	14,456
Cassava	86,446	22,788	212	109,445
Others all	8,518	1,903	.	10,421
Total	251,977	150,634	1,520	404,131

Note: The second season is generally the period between July and December.

TABLE A10: CROP AREA BY STAND IN THE FIRST SEASON (WESTERN REGION)

Crop Type	Stand			
	Pure	Mixed	Associated	Total
Matooke food type	69,894	48,245	67,455	185,594
Matooke beer type	30,628	2,359	4,922	37,909
Matooke sweet type	333	.	.	333
Maize	17,761	34,342	1,877	53,981
Finger Millet	11,986	5,692	145	17,823
Sorghum	25,918	7,099	800	33,818
Rice	1,327	91	.	1,418
Beans	47,596	84,197	8,694	140,487
Field Peas	470	100	69	638
Cow Peas	7,227	423	333	7,984
Pigeon Peas	254	244	2	499
Groundnuts	23,732	23,119	1,454	48,304
Soya beans	950	140	.	1,090
Simsim	235	112	.	347
Cotton	254	109	.	363
Irish potatoes	19,933	6,357	1,872	28,162
Sweet potatoes	65,370	7,222	426	73,019
Cassava	34,828	25,255	2,660	62,742
Others all	51,655	6,334	4,076	62,066
Total	410,353	251,439	94,786	756,577

Note: The main or first season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June.

TABLE A11: CROP AREA BY STAND IN THE SECOND SEASON (WESTERN REGION)

	Stand			
Crop Type	**Pure**	**Mixed**	**Associated**	**Total**
Matooke food type	64,918	48,746	59,200	172,864
Matooke beer type	27,069	2,362	1,499	30,930
Matooke sweet type	176	.	115	291
Maize	17,393	29,938	1,585	48,917
Finger Millet	42,305	17,927	193	60,426
Sorghum	6,865	2,268	33	9,166
Rice	1,070	177	3	1,250
Beans	32,992	75,943	6,810	115,744
Field Peas	68	.	.	68
Cow Peas	5,595	1,029	.	6,624
Pigeon Peas	208	265	33	505
Groundnuts	16,478	15,230	1,580	33,288
Soya beans	1,046	125	.	1,171
Simsim	479	104	27	610
Cotton	877	.	.	877
Irish potatoes	19,514	5,399	1,433	26,346
Sweet potatoes	62,458	8,181	349	70,988
Cassava	42,963	18,533	2,404	63,900
Others all	43,242	6,123	4,400	53,766
Total	385,714	232,351	79,665	697,730

Note: The second season is generally the period between July and December.

TABLE A12: OUTPUT OF MAJOR SEASONAL CROPS (METRIC TONS) FIRST SEASON 1999/2000

Crop	Central	Eastern	Western	Northern	Total
Maize	71,465	274,539	41,843	31,207	419,053
Finger Millet	4,247	61,203	8,509	28,601	102,560
Sorghum	3,616	29,813	24,184	12,184	69,798
Rice	164	27,306	617	3,954	32,041
Beans	79,568	53,148	84,745	22,834	240,294
Field Peas	72	3,758	271	2,710	6,812
Cow Peas	792	4,620	2,508	1,707	9,627
Pigeon Peas	42	881	44	2,057	3,025
Groundnuts	14,536	34,185	14,772	17,918	81,411
Soya beans	61	3,215	815	1,204	5,295
Irish potatoes	17,511	24,022	67,373	285	109,190

Note: The main or first season normally refers to the growing cycle of temporary crops that are planted and harvested in the first half of the year, occasionally extending up to the end of June.

TABLE A13: OUTPUT OF MAJOR SEASONAL CROPS (METRIC TONS) SECOND SEASON 1999/2000

Crop	Central	Eastern	Western	Northern	Total
Maize	79,613	133,134	81,756	25,621	320,124
Finger Millet	5,324	4,661	63,253	8,400	81,638
Sorghum	4,817	14,398	12,794	11,433	43,442
Rice	12	4,334	1,331	4,176	9,854
Beans	70,561	37,988	110,166	36,643	255,358
Field Peas	41	5,529	107	2,418	8,094
Cow Peas	147	748	4,595	161	5,650
Pigeon Peas	431	428	173	1,213	2,246
Groundnuts	8,820	6,930	15,549	12,907	44,206
Soya beans	197	835	1,779	805	3,616
Irish potatoes	15,869	12,858	70,248	195	99,169

Note: The second season is generally the period between July and December.

TABLE A14: OUTPUT OF MAJOR SEASONAL CROPS (METRIC TONS) UGANDA TOTAL 1999/2000

Central	Central	Eastern	Western	Northern	Total
Maize	151,078	407,672	123,599	56,828	739,177
Finger Millet	9,571	65,864	71,762	37,001	184,197
Sorghum	8,434	44,211	36,978	23,617	113,240
Rice	176	31,640	1,949	8,130	41,896
Beans	150,129	91,136	194,911	59,477	495,652
Field Peas	113	9,287	379	5,128	14,906
Cow Peas	939	5,368	7,103	1,867	15,278
Pigeon Peas	473	1,310	217	3,271	5,271
Groundnuts	23,355	41,115	30,322	30,825	125,617
Soya beans	258	4,050	2,594	2,009	8,911
Irish potatoes	33,379	36,879	137,621	479	208,359

TABLE A15: OUTPUT OF FREQUENTLY HARVESTED CROPS IN METRIC TONS

Crop	Central	Eastern	Western	Northern	Total
Matooke (Food type)	1,686,640	481,167	3,363,452	13,875	5,545,134
Matooke (Others)	359,723	18,027	191,596	15,245	584,590
Sweet Potatoes	506,804	1,028,771	1,033,786	50,704	2,620,065
Cassava	194,691	1,213,310	380,862	457,018	2,245,882

Appendix III

CORRECTION FACTORS

Initial tabulation of output of frequently harvested crop production namely: Matooke, Cassava and Sweet Potatoes had shown great variations as compared to figures from the 1995/96 survey as well as other sources. Consequently therefore, a Post Enumeration Survey (PES) was carried out to cross check information related to these crops that seemed to have been under estimated in the UNHS1999/2000.

Field Work

The PES was carried out in 16 districts which included Masaka, Mubende, Mukono and Rakai in Central Region, Iganga, Jinja, Mbale and Kapchorwa in Eastern Region, Apac, Arua, Lira and Nebbi in the Northern Region, Kabale, Kisoro, Masindi, and Mbarara in the Western Region. Fieldwork for the PES commenced on August 6, 2001 and completed on August 21, 2001 covering a total of 127 Enumeration Areas and about 1200 households.

Subject Coverage

Data was collected from a sample of the same households that were interviewed during the 1999/2000 main fieldwork. Data was collected on the output for the frequently harvested crops i.e. Matooke, Sweet potatoes and Cassava only.

Selection of Enumeration Areas (EAs) and Households

The selection of EAs was based on the frequency of households that reported low/no output in crop farming for frequently harvested crops during the UNHS1999/2000 main survey.

Adjustment in the Questionnaire

While collecting output data, a reference period of the last 30 days instead of a fixed calendar month was adopted. In addition, the questionnaire was modified to collect information for the last 30 days categorized into sales, household consumption, wages, others (to other enterprises, gifts etc.), quantity wasted and closing stock on the survey date.

Computation of Adjustments

The computation was based on the assumption that production trends observed in 1999/2000 are similar to the production trends in the year 2001. This presupposing that;

- The climatic conditions have largely remained the same,
- The output of matooke, cassava and sweet potatoes has over the 2 reference periods remained almost the same,

Based on this assumption; adjusted weights were determined and ratios derived for each crop. At regional level, an appropriate ratio was computed for each crop. This was done in such a way that output of crops in all EAs covered in a region

during PES was divided by the same sample covered during UNHS1999/2000. Then the overall output was obtained by aggregating output from all regions.

Other Possible Causes of Low Output Figures

1. For proper coverage, crop farming households are supposed to be visited at least four times during the survey period i.e. during planting and harvesting of the first season, and during planting and harvesting periods of the second season. This would reduce recall errors as the reference periods would be shorter. In the 1999/2000 crop survey, however, the households were visited only twice, and in some cases, the reference period were more than 6 months. This was subject to large recall errors.

2. It was realized during the PES exercise that the low output figures reported during the main survey (UNHSI) could have been partly attributed to respondents' fatigue. The questionnaires especially the socio-economic questionnaire that was administered first was quite lengthy, and by the time the crop questionnaire was administered, the respondent would already be too tired and possibly avoiding answers that would prolong the interview.

3. The Northern team reported that Yumbe district (formerly part of Arua district) and the northern part of Arua district (Koboko) were experiencing a prolonged drought, which greatly affected the output of cassava and sweet potatoes during the survey period. Otuke county in Lira district was invaded by the Karamajong who grazed their animals in the gardens because of prolonged drought in their area, this greatly affected the production of sweet potatoes and cassava in this area.

STRICTLY CONFIDENTIAL

UGANDA NATIONAL HOUSEHOLD SURVEY 1999/2000

CROP SURVEY QUESTIONNAIRE

SECTION 1A: HOUSEHOLD IDENTIFICATION PARTICULARS

1. STRATUM: _____
2. COUNTY: _____ 3. SUB-COUNTY: _____
4. PARISH: _____
5. EA/ LC1: _____
6. HOUSEHOLD SR. NO.: _____
7. SUB-STRATUM:
8. SAMPLE NO.:
9. HOUSEHOLD CODE:
10. NAME OF HEAD: _____
11. NAME(S) OF IN-CHARGE: _____
12. LOCATION ADDRESS: _____

Codes for item 5 and 8 (first box)

Old EA/LC1/household..... 1

New EA/LC1/household..... 2

13. First vist ☐ 14. Second visit ☐

First visit..... 1 Second Visit..... 2

15. LC1 Name and code _____

SECTION 1B: STAFF DETAILS AND SURVEY TIME

1. NAME OF ENUMERATOR _____

DD MM YYYY

2. DATE OF INTERVIEW/FIRST VISIT
3. DATE OF INTERVIEW/SECOND VISIT
4. NAME OF SUPERVISOR _____
5. NAME OF EDITOR/SCRUTINIZER _____
6. DATE(S) OF INSPECTION
7. STARTING TIME (First visit) 8. STOPPING TIME (First visit)
9. STARTING TIME (Second visit) 10. STOPPING TIME (Second visit)

11. RESPONSE CODE:

First visit	Second visit

12. DATA ENTRY OPERATOR _____

Response Details

Codes for Item 11 in Section2 :

1. Completed
2. No household memmber at home or no competent respondent at home at the time of visit
3. Entire household absent for extended period
4. Postponed
5. Refused
6. Dwelling vacant
7. Dwelling destroyed or not found
9. Others (specify)

SECTION 2: GENERAL INFORMATION

Sr. No.	Item description	1992	1994	1996	1998
(1)	(2)	(3)	(4)	(5)	(6)
1	How many times did you receive advice from gov't extension services?				
2	How many times did you find this advice useful?				
3	Did you receive market information (Code)				
4	Was the market information satisfactory (rank 1 - 3)				
5	What percentage of staple food crop area was planted with Improved Varieties?				
6	Did you have any storage facilities (yes/no)				
7	Did you sell part of your output? (Yes=1 No=2)				

Yes/No

Yes..... 1

No..... 2

Code for ser. no. 3

No..... 1

From government only..... 2

From private sources only..... 3

From government and private sources..... 4

Others..... 9

Rankings for ser. no. 4

Not usefal /satisfactory..... 1

Some what usefal/satisfactory..... 2

Usefal/satisfactory..... 3

Note: If the respondent does not remember, put code 0 for do not remember.

SECTION 3: LABOR, NON-LABOR INPUTS AND LAND CHARACTERISTICS

FIRST SEASON/ FIRST VISIT FOR BOTH SEASONAL AND PERENNIAL CROPS

SECTION 3A: PERSONS ENGAGED AND PAYMENTS MADE TO THEM DURING SOIL PREPARATION, PLANTING AND WEEDING IN THE FIRST SEASON

Item No.	Description	Male			Female			Children
			Payment (value)			Payment (value)		
		Number	Cash	Kind	Number	Cash	Kind	Number
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Working proprietors							
2	Paid regular employees							
3	Paid casual workers							
4	Unpaid household members							
5	Other unpaid workers							

SECTION 3B: PERSONS ENGAGED AND PAYMENTS MADE TO THEM DURING HARVESTING IN THE FIRST SEASON

Item No.	Description	Male			Female			Children
			Payment (value)			Payment (value)		
		Number	Cash	Kind	Number	Cash	Kind	Number
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Working proprietors							
2	Paid regular employees							
3	Paid casual workers							
4	Unpaid household members							
5	Other unpaid workers							

SECOND SEASON/ SECOND VISIT FOR BOTH SEASONAL AND PERENNIAL CROPS

SECTION 3C: PERSONS ENGAGED AND PAYMENTS MADE TO THEM DURING SOIL PREPARATION, PLANTING AND WEEDING IN THE SECOND SEASON

Item No.	Description	Male			Female			Children
			Payment (value)			Payment (value)		
		Number	Cash	Kind	Number	Cash	Kind	Number
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Working proprietors							
2	Paid regular employees							
3	Paid casual workers							
4	Unpaid household members							
5	Other unpaid workers							

SECTION 3D: PERSONS ENGAGED AND PAYMENTS MADE TO THEM DURING HARVESTING IN THE SECOND SEASON

Item No.	Description	Male			Female			Children
			Payment (value)			Payment (value)		
		Number	Cash	Kind	Number	Cash	Kind	Number
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	Working proprietors							
2	Paid regular employees							
3	Paid casual workers							
4	Unpaid household members							
5	Other unpaid workers							

SECTION 3E: NON - LABOR INPUTS

Sr. No.	Item Description	First season/ visit (Value)	Second season/ visit (Value)
(1)	(2)	(3)	(4)
1	Manure fertilizers		
2	Inorganic fertilizers		
3	Pesticides		
4	Traditional seeds from own harvest		
5	Traditional seeds purchased		
6	Improved seeds		
7	Hybrid seeds		
8	Costs for soil preparation (e.g Oxen, Tractor, etc.)		
9	Others		

SECTION 3F: LAND CHARACTERISTICS

Sr. No.	Type of land	During the 1st season (record on first visit)		uring the 2nd season rd on second/last visit)		During 1992
		Quantity	Value of Rent paid/received	Quantity	Value of Rent paid/received	(Quantity)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Total land owned (acres)					
2	Cultivable land owned (acres)					
3	Cultivated land owned (acres)					
4	Land under fallow (acres)					
5	Land for cultivation leased in, taken on rent or obtained free etc. (acres)					
6	Land for cultivation leased out, given on rent or given free etc. (acres)					
7	Total number of parcels of land owned					

SECTION 4A: CROP PLOT AREAS (in acres) BY EYE-ESTIMATES DURING THE FIRST SEASON, 1999/2000

Parcel No.	Time taken from Homestead (in minutes)	Plot No.	Stand Pure..... 1 Mixed..... 2 Associated.... 3	Area estimated : By Holder	Area estimated : By Enum-erator	Crop 1 Name	Crop 1 Code	Crop 1 Used hybrid/ improved seeds Yes.....1 No.....2	Crop 2 Name	Crop 2 Code	Crop 2 Used hybrid/ improved seeds Yes.....1 No.....2	Crop 3 Name	Crop 3 Code	Crop 3 Used hybrid/ improved seeds Yes.....1 No.....2	Use of fertilizers Manure Yes...1 No....2	Use of fertilizers Inorganic Yes....1 No.....2	Who normally works on this plot	Land characteristics When was the plot/land acquired	Land characteristics How was it acq-uired	Land characteristics Value of the parcel	Land characteristics Type of land tenure
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)

Crops and their codes

Matooke - Food type 01	Cow Peas 10	Coffee 19	Pawpaws 28
Matooke - Beer type 02	Pigeon Peas 11	Tea 20	Other fruits 29
Matooke - Sweet type 03	Ground nuts 12	Tobacco 21	Onions 30
Maize 04	Soya beans 13	Trees 22	Cabbages 31
Finger millet 05	Sim-sim 14	Flowers 23	Dodo 32
Sorghum 06	Cotton 15	Oranges 24	Tomatoes 33
Rice 07	Irish potatoes 16	Passion fruits 25	Carrots 34
Beans 08	Sweet potatoes 17	Pineapples 26	Other vegetabales 35
Field Peas 09	Cassava 18	Mangoes 27	Other crops 39

Codes for Column (18)

Husband and wife (family) jointly 1
Wife more than husband 2
Husband more than wife 3
Wife only 4
Husband only 5
Others 9

How was it acquired? col(20)

Purchased 1
Rented 2
Leased 3
Inherited 4
Provided free other than inheritence 5
Others (Specify) 9

Type of land tenure Col(22)

Registered freehold mailo 1
Unregistered freehold mailo (Kibanja) 2
Leasehold 3
Customary 4
Public 5
Squatter (mailo) 6
Squatter (other specify) 7
Not known 8
Others (Specify) 9

SECTION 4B: CROP PLOT AREAS (in acres) BY EYE-ESTIMATES DURING THE SECOND SEASON, 1999/2000

Parcel No.	Time taken from Homestead (in minutes)	Plot No.	Stand Pure.....1 Mixed.....2 Associated....3	Area estimated : By Holder	By Enum-erator	Crop 1 Name	Crop 1 Code	Crop 1 Used hybrid/ improved seeds Yes.....1 No.....2	Crop 2 Name	Crop 2 Code	Crop 2 Used hybrid/ improved seeds Yes.....1 No.....2	Crop 3 Name	Crop 3 Code	Crop 3 Used hybrid/ improved seeds Yes.....1 No.....2	Use of fertilizers Manure Yes...1 No....2	Use of fertilizers Inorganic Yes....1 No.....2	Who normally works on this plot	Land characteristics When was the plot/land acquired	Land characteristics How was it acq-uired	Land characteristics Value of the parcel	Land characteristics Type of land tenure
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)

Crops and their codes

Matooke - Food type....01	Cow Peas....10	Coffee....19	Pawpaws....28
Matooke - Beer type....02	Pigeon Peas....11	Tea....20	Other fruits....29
Matooke - Sweet type....03	Ground nuts....12	Tobacco....21	Onions....30
Maize....04	Soya beans....13	Trees....22	Cabbages....31
Finger millet....05	Sim-sim....14	Flowers....23	Dodo....32
Sorghum....06	Cotton....15	Oranges....24	Tomatoes....33
Rice....07	Irish potatoes....16	Passion fruits....25	Carrots....34
Beans....08	Sweet potatoes....17	Pineapples....26	Other vegetabales....35
Field Peas....09	Cassava....18	Mangoes....27	Other crops....39

Codes for Column (18)

Husband and wife (family) jointly....1
Wife more than husband....2
Husband more than wife....3
Wife only....4
Husband only....5
Others....9

How was it acquired? col(20)

Purchased....1
Rented....2
Leased....3
Inherited....4
Provided free other than inheritence....5
Others (Specify)....9

Type of land tenure Col(22)

Registered freehold mailo....1
Unregistered freehold mailo (Kibanja)....2
Leasehold....3
Customary....4
Public....5
Squatter (mailo)....6
Squatter (other specify)....7
Not known....8
Others (Specify)....9

SECTION 5A **SECTION 6A: OUTPUT, STOCKS AND SALES FOR BANANAS, SWEET POTATOES, CASSAVA , FRUITS, VEGETABLES AND OTHER FREQUENTLY HARVESTED CROPS FOR THE FIRST SIX MONTHS**

Sr. No.	D	Sr. No.	Crop Description	Crop Code	Unit of Quantity	Stocks as on the begining of March	March 1999 Output Qty	March 1999 Sales Qty	March 1999 Sales Value	April 1999 Output Qty	April 1999 Sales Qty	April 1999 Sales Value	May 1999 Output Qty	May 1999 Sales Qty	May 1999 Sales Value	June 1999 Output Qty	June 1999 Sales Qty	June 1999 Sales Value	July 1999 Output Qty	July 1999 Sales Qty	July 1999 Sales Value	August 1999 Output Qty	August 1999 Sales Qty	August 1999 Sales Value
(1)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)

SECTION 6B: OUTPUT, STOCKS AND SALES FOR BANANAS, SWEET POTATOES, CASSAVA, FRUITS, VEGETABLES AND OTHER FREQUENTLY HARVESTED CROPS FOR THE NEXT SIX MONTHS

SECTION 5B

Sr. No.	D	Sr. No.	Crop Description	Crop Code	Unit of Quantity	Stocks as on date of last visit	September 1999 Output Qty	September 1999 Sales Qty	September 1999 Sales Value	October 1999 Output Qty	October 1999 Sales Qty	October 1999 Sales Value	November 1999 Output Qty	November 1999 Sales Qty	November 1999 Sales Value	December 1999 Output Qty	December 1999 Sales Qty	December 1999 Sales Value	January 2000 Output Qty	January 2000 Sales Qty	January 2000 Sales Value	February 2000 Output Qty	February 2000 Sales Qty	February 2000 Sales Value
(1)		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)

codes

e..... 01
..... 02
e..... 03
..... 04
..... 05
..... 06
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..... 39

Crops and their codes

Matooke - Food type	01	Cow Peas	10	Coffee	19	Pawpaws	28
Matooke - Beer type	02	Pigeon Peas	11	Tea	20	Other fruits	29
Matooke - Sweet type	03	Ground nuts	12	Tobacco	21	Onions	30
Maize	04	Soya beans	13	Trees	22	Cabbages	31
Finger millet	05	Sim-sim	14	Flowers	23	Dodo	32
Sorghum	06	Cotton	15	Oranges	24	Tomatoes	33
Rice	07	Irish potatoes	16	Passion fruits	25	Carrots	34
Beans	08	Sweet potatoes	17	Pineapples	26	Other vegetabales	35
Field Peas	09	Cassava	18	Mangoes	27	Other crops	39

Note: **Remember to inclnde transfers in the output**
Household consumption
Seeds
Wages
Others

SECTION 7 : OPERATIONAL PROBLEMS AND INFORMATION

FIRST VISIT :

1. Remarks by Enumerator during first visit

Name of Enumerator _____ DD MM YYYY

Signature _____ Date

2. Remarks by Supervisor during first visit

Name of Supervisor _____ DD MM YYYY

Signature _____ Date

3. Name of Editor _____ DD MM YYYY

Signature _____ Date

SECOND VISIT/ LAST VISIT:

1. Remarks by Enumerator during second visit

Name of Enumerator _____ DD MM YYYY

Signature _____ Date

2. Remarks by Supervisor during second visit

Name of Supervisor _____ DD MM YYYY

Signature _____ Date

3. Name of Editor _____ DD MM YYYY

Signature _____ Date

Appendix V

AUTHORS OF CHAPTERS

Chapter	Author	Institution
Preface	James Muwonge	UBOS
Executive Summary	James Muwonge	UBOS
Chapter One	Bylon Twesigye	UBOS
Chapter Two	Simon Kyewalyanga	UBOS
Chapter Three	Stephen Baryahirwa	UBOS
Chapter Four	Bylon Twesigye	UBOS
Chapter Five	Julius Ssegirinya	UBOS

Appendix VI

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