



UGANDA BUREAU OF STATISTICS



ANNUAL AGRICULTURAL SURVEY 2019 REPORT



This report presents findings from the Uganda Agricultural Survey (AAS) undertaken by the Uganda Bureau of Statistics (UBOS)

Additional information about the Survey may be obtained from the Uganda Bureau of Statistics (UBOS), Plot 9 Colville Street, P.O. Box 7186, Kampala Uganda; Telephone: (256-414) 706000; Fax: (256-414) 237553/230370; Email: ubos@ubos.org; Website: www.ubos.org

Recommended citation:
Uganda Bureau of Statistics (UBOS), 2020. Uganda Annual Agricultural Survey 2018. Kampala, Uganda; UBOS



FOREWORD

The intent of the vision 2040 is to transform the Ugandan society from a peasant to a modern and prosperous country within 30 years. The majority of households (80%) in Uganda are engaged in agriculture with a total contribution to GDP of 24 percent in 2019/20.

The vision of the Strategic Plan for Agricultural Statistics (SPARS) 2018/19 – 2024/25 is to provide quality data generated from an integrated and coordinated agricultural and rural statistics system. The data is critical for measuring the transformative agenda of the various development frameworks. The Annual Agricultural Survey (AAS) is one of the initiatives towards the sustainable development and production of agricultural statistics that are essential to inform planning and decision-making on agriculture in the country.

The 2019 Annual Agricultural Survey (AAS 2019) is the third survey in a series since 2017 conducted by UBOS in close collaboration with MAAIF. However, similar surveys with different naming, were conducted after the 1963/65 Agriculture Census by the Ministry of Agriculture, followed by another two conducted after the 1990/91 National Census of Agriculture and Livestock also conducted by the Ministry of Agriculture.

The overall objective of the AAS is to provide high quality and timely current agricultural data on priority core macro and micro development indicators pertaining to the performance of agricultural sector as well as indicators on crop, livestock and environment interaction for better agricultural policy making in inter-censal periods.

The AAS 2018 and 2019 adopted the Agricultural Integrated Survey (AGRIS) methodology which recommends a Core module (Crop & Livestock production) and periodical rotating modules on thematic topics, such as the holding economy, labour input, production methods and environment, and machinery/equipment/assets. This survey was conducted by Uganda Bureau of Statistics (UBOS) in close collaboration with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and the Food and Agriculture Organization of the UN (FAO).

The Bureau would like to appreciate the continued cooperation of MAAIF with extremely gratitude to FAO and other development partners for the funding and the technical support during the project. Similarly, gratitude is extended to the national staff from UBOS, MAAIF, the

Local Governments and all the respondents for their support towards the development of this publication.

The Bureau welcomes comments from stakeholders that aim to enhance the quality of future publications. Copies of this publication are available at the Bureau's Head Office located at Statistics House, Plot 9, Colville Street, Kampala and the Official UBOS and FAO websites.

It is my sincere hope that the statistical information in this publication will be useful to make informed decisions.



Chris N. Mukiza (PhD)

EXECUTIVE DIRECTOR

ACKNOWLEDGEMENTS

The Annual Agricultural Survey 2019 report provides a comprehensive picture agricultural production and agricultural practices in the country. The report was produced following the standard/international guidelines outlined in the framework of the Global Strategy for Improving Agriculture and Rural Statistics (GSARS) and the Agricultural Integrated Survey (AGRIS) methodology.

UBOS would like to express its gratitude to all those who organisations that made this possible, particularly to the United Nations Food Agricultural Organisation (FAO) and the Ministry of Agriculture Animal Industry and Fisheries (MAAIF).

The FAO's *AGRISurvey Programme* received fundings from the United States Agency for International Development (USAID), the Bill & Melinda Gates Foundation and the Italian Agency for Cooperation and Development. AGRISurvey is now integrated in the *50x2030 Initiative to Close the Agricultural Data Gap*, a multi-partner programme that seeks to bridge the global agricultural data gap by transforming country data systems in 50 countries in Africa, Asia, the Middle East and Latin America by 2030.

At Bureau level, the compilation process has been handled by a dedicated Technical Working Group with leadership provided by Mr. Patrick Okello, the Head¹ of Department for Production and Environment at UBOS. Other members of the Team are presented below. UBOS would like to extend its sincere thanks to the Team members, as well as to all other stakeholders who have been consulted to provide basic data and input to the process.

¹ At the time of the survey, the department was called the Directorate of Agriculture and Environmental Statistics (DAES)

CONTRIBUTORS TO THE ANNUAL AGRICULTURAL SURVEY 2019

MANAGEMENT COMMITTEE

CHRIS N. MUKIZA (PhD)	EXECUTIVE DIRECTOR
IMELDA ATAI MUSANA (PhD)	DEPUTY EXECUTIVE DIRECTOR-STATISTICAL PRODUCTION AND DEVELOPMENT
VITUS MULINDWA KATO	DIRECTOR-CORPORATE SERVICES ²
PATRICK OKELLO	HEAD ³ OF DEPARTMENT – PRODUCTION AND ENVIRONMENT STATISTICS

SAMPLING AND METHODOLOGY

PATRICK OKELLO	UBOS
VINCENT SSENNO	UBOS
EMMANUEL MENYHA	UBOS

AUTHORS

FLAVIA N. OUMO	UBOS
DIANA NABUKALU	UBOS
CONSTANCE NAKIYEMBA	UBOS
INNOCENT OTIM	UBOS
GEORGE OMIAT	FAO
CHIARA BRUNELLI	FAO

DATA ANALYSTS

FLAVIA N.OUMO	UBOS
DIANA NABUKALU	UBOS
CONSTANCE NAKIYEMBA	UBOS
INNOCENT OTIM	UBOS
CHIARA BRUNELLI	FAO
GEORGE OMIAT	FAO

PROGRAMMERS

FRANCIS KAYONDO	UBOS
INNOCENT OTIM	UBOS

FORMATTING

FLAVIA OUMO	UBOS
-------------	------

² At the time of the survey the position was Deputy Executive Director-Corporate Services

³ At the time of the survey the position was Director, Agriculture and Environment Statistics (D/DAES)

CHIARA BRUNELLI FAO
CHIARA GNETTI FAO

TECHNICAL SUPPORT

CHIARA BRUNELLI FAO

EDITORS

ABEL ACHENG UBOS
GABRIEL ELIGU UBOS
MOLLY MUKYALA UBOS
IAN TUMWEBAZE UBOS

REVIEWERS

RONALD SSOMBWE UBOS

FIELD STAFF

NORTH BUGANDA

BAKER MAWEJJE
EMILY ATUHAIRE
PADRE PIO SSEMWOGERERE
MOLLY MUKYALA
SAMSON WAMWANGU

ANKOLE

WARREN ASIIMA
DUNCAN RUBAASA
RONALD NKWASIBWE
ALEX MUJUNI
IAN TUMWEBAZE

TOORO

MICHAEL TIBAZIMANYA
BYRON NGABIRANO
GODFREY MUMBERE
BUSINGYE NYONGIRE
JOHNSON BALUKU

WEST NILE

DANIEL OPIIMA
DORCAS T. BAKO
GEORGE ASINDUA
PATRICK BUNI

SOUTH BUGANDA

NAZARIO SEMPUUMA
REBECCA NAMEMBWA
ELIZABETH KYASIIMIRE
KIZITO KATONGOLE
ROGERS MIWANDA

KIGEZI

STEPHEN MWEBESA
AARON MUHUMUZA
MAUREEN KICONCO
SHARON UWAMAHORO
RICHARD BAMUTURAKI

BUNYORO

JULIET KYAKUWA
FRANCIS BALYEBUGA
STELLA KAHUBIRE
CATHERINE NYAKATO
MARTIN BALUKU

ACHOLI

BRENDA ACAN
FAITH EBONY
JESSE P. OGWANGA
ACIDRI N. KARAMAZA

LANGO

GABRIEL ELIGU
ISAAC OTIM
ANDREW CULA
ROBERT OCHERO

TESO

MICHAEL ONABA
WILLIAM AMUKA
PAUL EMWANU
LEVITE ECAKU

BUKEDI

NAOMI BABIRYE
JOEL ABUTANULA
ESTHER NAMBUYA
OLWALA NELSON

TRANSPORT STAFF

MUKURASI JULIUS
DAVID KASIBO
DDUNGU MORRIS
EMMANUEL MWANJE
GIDEON OKIA
HANNINGTON KAGESERA
MATOVU PATRICK
MUSOKE S. PETER
OCAYA BENJAMIN
PETERSON KASUNSUNI
SSENYONGA PETER
SSERWAMBALA MARK
TONNY LUTAYA

KARAMOJA

WILLIAM ERIAKU
ABURA BENJAMIN
LOKOL VITALIS
SILVER OLEGA

BUGISU

DORCAS MUKHOLI
SANDRA MUHONDE
JOSHUA MADOI
ELLY MAHULO

BUSOGA

MICHAEL M. KALABA
DAVID ISABIRYE
MUTALE MEDARD
ROBERT BOGERE
TOM WALUJJO

FRED KIRAGGA
MUSASIZI JAMES
KIBUUKA ROBERT
DEO MIVULE
ROBERT MUKENYE
OUMA MOSES
ROGERS SSEKIRANDA
KIZZA DAVID
AKWESIGA MICHEAL
MICHAEL KATUMBA
SIMON OMIAT
MICHAEL SENGENDO
NUUME DENNIS

TABLE OF CONTENTS

-----	3
FOREWORD -----	3
ACKNOWLEDGEMENTS -----	5
List of tables-----	14
List of figures-----	18
List of annex tables-----	21
Acronyms and abbreviations-----	27
EXECUTIVE SUMMARY -----	28
CHAPTER 1: INTRODUCTION -----	32
1.1 Background-----	32
1.2 Objectives-----	33
1.3 Scope and coverage-----	33
1.4 Survey methodology-----	36
1.4.1 Survey organization and data collection-----	36
1.4.2 Sampling design-----	37
1.4.3 Sample size-----	37
1.4.4 Response rate-----	37
1.4.5 Questionnaire design and other instruments-----	38
1.4.6 Training and fieldwork-----	39
1.4.7 Data processing and management-----	39
1.4.8 Sampling error estimates-----	40
1.5 Structure of the report-----	40
CHAPTER 2: AGRICULTURAL HOUSEHOLDS AND HOLDING CHARACTERISTICS -----	41
2.1 Introduction-----	41
2.2 Distribution of Ag HHs by ZARDI-----	41

2.3 Number and percentage of Ag HHs, by sex of the head and ZARDI	42
2.4 Literacy among Ag HH heads	43
2.5 Education level attained by Ag HH heads by sex and ZARDI	44
2.6 Age distribution of Ag HH heads	46
2.7 Dependency ratio	47
2.8 Main activity for Ag HH heads	47
2.9 Membership to a farmer group	49
2.10 Training in agriculture for Ag HHs	50
2.11 Adults trained in agriculture, by sex and ZARDI	52
2.12 Distribution of Ag HHs engaged in crop production	52
2.13 Distribution of Ag HHs raising livestock	54
2.14 Ag HHs practicing apiculture	56
2.15 Types of agricultural enterprises	58
2.16 Main purpose Ag HHs enterprise	58
2.17 Ag HHs members involved in production by type of enterprise	59
CHAPTER 3: AGRICULTURAL LAND	60
3.1 Introduction	60
3.2 Agricultural land	60
3.1.1 Number and size of parcels	60
3.1.2 Holding size	61
3.1.3 Parcels use rights	62
3.1.4 Parcel tenure system	62
3.1.5 Presence of legal document for parcel	63
3.1.6 Gender-based disparities over the land (SDG 5.a.1)	64

CHAPTER 4: AGRICULTURAL PRACTICES AND INPUTS	67
4.1 Introduction	67
4.2 Agricultural practices	67
4.2.1 Plot managers	67
4.2.2 Cropping system and land preparation	68
4.2.3 Irrigation	71
4.3 Agricultural inputs	72
4.3.1 Seeds	72
4.3.2 Fertilisers	74
4.3.3 Pesticides	81
4.3.4 Labour	83
4.3.5 Land and overhead farm costs	88
4.4 Labour productivity and income	89
CHAPTER 5: AGRICULTURAL SERVICES	93
5.1 Introduction	93
5.2 Agricultural extension services received by Ag HHs	93
5.3 Farmer training	94
CHAPTER 6: HOUSEHOLD FOOD SECURITY	102
6.1 Introduction	102
6.2 Presence of shocks and food shortage	102
6.2.1 Shocks	102
6.2.2 Food shortage	104
6.2.3 Reasons for the food shortage	106
6.2.4 Timing of food shortage	106
6.3 Immediate response to food shortage	107
6.3.1 Changing eating patterns	109

6.3.2 Skipping Meals-----	110
6.3.3 Eating less preferred food-----	111
6.3.4 Reduced size of a meal-----	112
CHAPTER 7: AREA, PRODUCTION AND DISPOSITION OF MAJOR CROPS --	114
7.1 Introduction -----	114
7.2 Maize-----	115
7.3 Millet -----	120
7.4 Sorghum-----	124
7.5 Rice -----	128
7.6 Beans-----	132
7.7 Soya Beans-----	136
7.8 Sweet potatoes-----	140
7.9 Irish Potatoes -----	144
7.10 Simsim -----	148
7.11 Groundnuts-----	152
7.12 Banana-food-----	156
7.13 Cassava-----	160
7.14 Coffee robusta -----	164
7.15 Coffee arabica -----	167
Annexes -----	171
Annex 1 -----	172
Annex 2 -----	175
Annex 3 -----	208
Annex 4 -----	221

Annex 5	321
Annex 6	330
Annex 7	347
List of references	414

List of tables

Table 1.1: Response rate, by visit and ZARDI*	37
Table 2.1: Distribution of Agricultural Households, by ZARDI	42
Table 2.2: Percentage distribution of Ag HHs by sex of the head and ZARDI*	43
Table 2.3: Percentage distribution of Ag HH heads by literacy, sex and ZARDI *	44
Table 2.4: Distribution of Ag HH heads by highest educational level attained, by sex and ZARDI*	45
Table 2.5: Percent distribution of Ag HH heads, by age and ZARDI*	46
Table 2.6: Dependency rate by ZARDI*	47
Table 2.7: Percent distribution of Ag HH heads by main economic activity and ZARDI*	48
Table 2.8: Distribution of Ag HHs with at least one member trained on agriculture, by ZARDI*	51
Table 2.9: Distribution of adult members who were trained in agriculture, by sex and ZARDI*	52
Table 2.10: Distribution of Ag HHs engaged in crop production* by sex of the head and ZARDI*	53
Table 2.11: Distribution of Ag HHs raising livestock*, by sex of the head and ZARDI*	55
Table 2.12: Distribution of Ag HHs practicing apiculture, by sex of the head and ZARDI	57
Table 2.13: Percent distribution of Ag HHs, by type of enterprise and main purpose*	58
Table 2.14: Percent distribution of Ag HHs, by type of enterprise and sex of members involved in production*	59
Table 3.1: Physical characteristics of the holdings*	61
Table 3.2: Physical characteristics of the holdings* by holding size and planted area	61
Table 3.3: Percent distribution of owned parcels by tenure of parcel*	63
Table 3.4: Adults (18+) with ownership or tenure rights over agricultural land, by sex and share (%) of women among the owners/rights holder over agricultural land	65
Table 3.5: Distribution of adult (18+) agricultural population with a land document in their name by sex	66

Table 4.1: Percent distribution of crop plots by sex of the plot manager, by ZARDI*	68
Table 4.2: Plot area in swampland, by ZARDI	69
Table 4.3: Plot area by cropping system, by ZARDI.....	70
Table 4.4: Distribution of land area (Ha), by land preparation method, by ZARDI*	70
Table 4.5: Percentage of Ag HHs using irrigation in at least one plot, by ZARDI	71
Table 4.6: Irrigated area (Ha), by ZARDI	72
Table 4.7: Percent distribution of Ag HHs by type of seeds used, by ZARDI	73
Table 4.8: Average quantity of seeds applied*	74
Table 4.9: Average seed expenditure and seed value*	74
Table 4.10: Percentage of Ag HHs using fertilisers, by ZARDI	75
Table 4.11: Percentage of Ag HHs using fertilisers, by type of fertiliser used and by ZARDI.....	75
Table 4.12: Percentage of Ag HHs using fertilisers by type of fertilisers used	76
Table 4.13: Average quantity of inorganic fertiliser applied (Kg) among Ag HHs using inorganic fertilisers, by ZARDI	77
Table 4.14: Average quantity of nutrients per unit of land (Kg/Acre) among Ag HHs using inorganic fertilisers, by ZARDI.....	78
Table 4.15: Median expenditure on inorganic fertilisers among HHs using inorganic fertilisers, by ZARDI ...	79
Table 4.16: Average quantity of inorganic fertilisers and nutrients per unit of land (Kg/Acre) in the total land planted, by ZARDI.....	80
Table 4.17: Percentage distribution of Ag HHs not using inorganic fertilisers by reason	81
Table 4.18: Percentage of Ag HHs using pesticides, by ZARDI.....	82
Table 4.19: Percent distribution of Ag HHs using pesticides in 2019, by type of pesticide and ZARDI.....	82
Table 4.20: Percent distribution of Ag HHs by type of labour used for crop cultivation, by ZARDI – First Season	83
Table 4.21: Percent distribution of Ag HHs by type of labour used for crop cultivation, by ZARDI – Second Season	84
Table 4.22: Percent distribution of Ag HHs, by type of labour and activities	84
Table 4.23: Labour input for crop production activities, by ZARDI – First Season	85
Table 4.24: Labour input for crop production activities, by ZARDI – Second Season	86
Table 4.25: Cost and value of labour on crop cultivation, by ZARDI – First Season	87
Table 4.26: Cost and value of labour on crop cultivation, ZARDI – Second Season.....	88

Table 4.27: Land and overhead costs*	89
Table 4.28: Profile of small and large holders in 2019	90
Table 6.1: Percentage of Ag HHs that experienced a shock, by type of shock and ZARDI*	103
Table 6.2: Percentage of Ag HHs that experienced shock, by extent of damage*	104
Table 6.3: Percentage distribution of Ag HHs, by reason of food shortage*	106
Table 6.4: Percentage distribution of Ag HHs that changed eating patterns, by age group and sex, by ZARDI	110
Table 6.5: Percentage distribution of Ag HHs that skipped meals, by age group and sex, by ZARDI*	111
Table 6.6: Percentage distribution of Ag HHs that eat less preferred meals, by age group and sex, by ZARDI*	112
Table 6.7: Percentage distribution of Ag HHs that reduced the meal size, by age group and sex, by ZARDI*	113
Table 7.1: Area and production of maize, by sub-region.....	117
Table 7.2: Area and production of maize, by ZARDI	118
Table 7.3: Area and production of millet, by sub-region	121
Table 7.4: Area and production of millet, by ZARDI	122
Table 7.5: Area and production of sorghum, by sub-region	125
Table 7.6: Area and production of sorghum, by ZARDI.....	126
Table 7.7: Area and production of rice, by sub-region.....	129
Table 7.8: Area and production of rice, by ZARDI.....	130
Table 7.9: Area and production of beans, by sub-region.....	133
Table 7.10: Area and production of beans, by ZARDI.....	134
Table 7.11: Area and production of soya beans, by sub-region	137
Table 7.12: Area and production of soya beans, by ZARDI	138
Table 7.13: Area and production of sweet potatoes, by sub-region	141
Table 7.14: Area and production of sweet potatoes, by ZARDI	142
Table 7.15: Area and production of Irish potatoes, by sub-region	145
Table 7.16: Area and production of Irish potatoes, by ZARDI	146
Table 7.17: Area and production of simsim, by sub-region	149

Table 7.18: Area and production of simsim, by ZARDI	150
Table 7.19: Area and production of groundnuts, by sub-region	153
Table 7.20: Area and production of groundnuts, by ZARDI.....	154
Table 7.21: Area and production of banana-food, by sub-region	157
Table 7.22: Area and production of banana-food, by ZARDI	158
Table 7.23: Area and production of cassava, by sub-region	161
Table 7.24: Area and production of cassava, by ZARDI	162
Table 7.25: Area and production of coffee robusta, by sub-region.....	165
Table 7.26: Area and production of coffee robusta, by ZARDI.....	166
Table 7.27: Area and production of coffee arabica, by sub-region	168
Table 7.28: Area and production of coffee arabica, by ZARDI	169

List of figures

Figure 1.1: Map of the ZARDIs in Uganda	34
Figure 1.2: Map of the Sub-regions in Uganda	35
Figure 2.1: Level of education attained, by Ag HH heads by sex.....	45
Figure 2.2: Percent distribution of adult members* that belong to a farmer group, by sex	49
Figure 2.3: Percent distribution of adult* members that belong to a farmer group, by ZARDI and year	50
Figure 2.4: Distribution of Ag HHs with at least one member trained on agriculture, by ZARDI and year	51
Figure 3.1: Percent distribution of parcels by use-rights	62
Figure 3.2: Percent distribution of owned parcels by possession of a documentation	64
Figure 4.1: Average number of person-days by worker type.....	86
Figure 4.2: Percentage of small-scale producers, by ZARDI	91
Figure 4.3: Volume of production per labour unit by enterprise size (SDG indicator 2.3.1).....	91
Figure 4.4: Average annual farm income by enterprise size (SDG indicator 2.3.2).....	92
Figure 5.1: Percentage of Ag HHs that received extension services in the previous 12 months.....	94
Figure 5.2: Percentage of Ag HHs that received a farmer training in the previous 12 months	95
Figure 5.3: Distribution of Ag HHs that received advisory services and training, by training topic	96
Figure 5.4: Distribution of Ag HHs that received advisory services, by source/service provider	97
Figure 5.5: Distribution of Ag HHs that received advisory services, by Acquisition method	98
Figure 5.6: Percentage of Ag HHs that paid for the extension service	98
Figure 5.7: Distribution of Ag HHs that received credit, by selected credit sources	99
Figure 5.8: Average amount of loan (UGX) received by Ag HHs, by ZARDI.....	100
Figure 5.9: Distribution of Ag HHs accessing various facilities.....	101
Figure 6.1: Percentage distribution of Ag HHs that experienced a shock	103
Figure 6.2: Percentage distribution of Ag HHs that reported having experienced food shortage, by year ...	105

Figure 6.3: Percentage distribution of Ag HHs that reported having experienced food shortage, by sex of Ag HH head	105
Figure 6.4: Percentage distribution of Ag HHs that reported food shortage, by month	107
Figure 6.5: Percentage distribution of Ag HHs, by immediate response to food shortage	108
Figure 6.6: Percentage distribution of Ag HHs, by immediate response to food shortage, by sex of the Ag HH head	109
Figure 7.1: Percentage of Ag HHs growing temporary crops	114
Figure 7.2: Percentage of Ag HHs growing permanent crops	115
Figure 7.3: Maize production trend ('000 MT), 1999/2000-2019	119
Figure 7.4: Use of maize production (share of total production).....	119
Figure 7.5: Millet production trend ('000 MT), 1999/2000-2019	123
Figure 7.6: Use of millet production (share of total production).....	123
Figure 7.7: Sorghum production trend ('000 MT), 1999/2000-2019	127
Figure 7.8: Use of sorghum production (share of total production)	127
Figure 7.9: Rice production trend ('000 MT), 1999/2000-2019.....	131
Figure 7.10: Use of rice production (share of total production)	131
Figure 7.11: Beans production ('000) MT, 1999/2000-2019.....	135
Figure 7.12: Use of beans production (share of total production)	135
Figure 7.13: Soya beans production trend ('000 MT), 1999/2000-2019	139
Figure 7.14: Use of soya beans production (share of total production)	139
Figure 7.15: Sweet potatoes production trend ('000 MT), 1999/2000-2019	143
Figure 7.16: Use of sweet potatoes production (share of total production)	143
Figure 7.17: Irish potatoes production trend ('000 MT), 1999/2000-2019	147
Figure 7.18: Use of Irish potatoes production (share of total production).....	147
Figure 7.19: Simsim production trend ('000 MT), 1999/2000-2019	151
Figure 7.20: Use of simsim production (share of total production)	151
Figure 7.21: Groundnuts production trend ('000MT), 1999/2000-2019	155
Figure 7.22: Use of groundnuts production (share of total production)	155
Figure 7.23: Banana-food production trend ('000 MT), 1999/2000-2019	159

Figure 7.24: Use of banana-food production (share of total production)	159
Figure 7.25: Cassava production trend ('000 MT), 1999/2000-2019	163
Figure 7.26: Use of cassava production (share of total production)	163
Figure 7.27: Use of coffee robusta production (share of total production).....	167
Figure 7.28: Use of coffee arabica production (share of total production).....	170

List of annex tables

Table 1- 1: List of districts within the ZARDIs.....	172
Table 1- 2: List of districts within the sub-regions.....	173
Table 1- 3: Response rate, by visit and ZARDI*.....	174
Table 2- 1: Distribution of agricultural households, by ZARDI *	175
Table 2- 2: Distribution of agricultural households, by sub-region*	176
Table 2- 3: Number and percentage of Ag HHs, by sex of the head and ZARDI	177
Table 2- 4: Percent distribution of literate Ag HH heads by sex and ZARDI	178
Table 2- 5: Percent distribution of Ag HH heads, by highest educational level, by sex and ZARDI*	180
Table 2- 6: Percent distribution of Ag HH heads, by age class, sex and ZARDI*	182
Table 2- 7: Dependency rate by ZARDI*	184
Table 2- 8: Percent distribution of Ag HH heads, by main economic activity and ZARDI*	185
Table 2- 9: Percent distribution of adult* members that belong to a farmer organization, by sex and ZARDI**	186
Table 2- 10: Percent distribution of adult* members that belong to a farmer organization, by sex and sub-region**	188
Table 2- 11: Percent distribution of adult members, by employment status, by sex and ZARDI*	190
Table 2- 12: Percentage of Ag HHs with at least one member trained in agriculture by ZARDI*	192
Table 2- 13: Distribution of adult* members trained in agriculture** by sex and ZARDI*	193
Table 2- 14: Distribution of Ag HHs engaged in crop production, by sex of the head and ZARDI*	194
Table 2- 15: Distribution of Ag HHs raising livestock by sex of the head and ZARDI*	196
Table 2- 16: Distribution of Ag HHs practicing aquaculture, by sex of the head and ZARDI *	198
Table 2- 17: Distribution of Ag HHs practicing apiculture, by sex of the head and ZARDI *	200
Table 2- 18: Distribution of Ag HHs engaged in forestry*, by sex of the head and ZARDI*	202
Table 2- 19: Distribution of Ag HHs, by type of enterprise by, sex of the head and ZARDI*	204
Table 2- 20: Percent distribution of Ag HHs, by type of enterprise and main purpose*	206
Table 2- 21: Percent distribution of Ag HHs, by enterprise type and sex of members involved *	207
Table 3- 1: Average number of parcels and average parcel size (Ha), by ZARDI.....	208

Table 3- 2: Average number of parcels and average parcel size (Ha), by Sub-region.....	209
Table 3- 3: Average number of plots and average plot size (Ha)	210
Table 3- 4: Percent distribution of Ag HHs, by number of parcels and ZARDI*	211
Table 3- 5: Percent distribution of Ag HHs, by number of plots and ZARDI*	212
Table 3- 6: Total area, by use and ZARDI *	213
Table 3- 7: Percent distribution of Ag HHs, by size of the holding and ZARDI*	214
Table 3- 8: Percent distribution of Ag HH, by size of the holding and Sub-region*	215
Table 3- 9: Number, percentage and area (Ha) of parcels by use right and ZARDI*	216
Table 3- 10: Number and percentage of parcels with a legally recognized document that certifies legal tenure rights*	217
Table 3- 11: Percent distribution of parcels, by type of legal document and Sub-region.....	218
Table 3- 12: Percent distribution of parcels, by tenure type and ZARDI*	219
Table 3- 13: Percent distribution of parcels, by tenure type and Sub-region*	220
Table 4- 1: Percent distribution of crop plots by sex of the plot manager, by ZARDI	221
Table 4- 2: Percentage and number of plots by cropping system, by ZARDI.....	222
Table 4- 3: Plot areas (Ha) by cropping system, by ZARDI*	223
Table 4- 4: Percentage, number and areas (Ha) of plots in swampland, by ZARDI	224
Table 4- 5: Percentage, number and area (Ha) of plots by land preparation method, by ZARDI	226
Table 4- 6: Percentage of Ag HHs using irrigation on at least one plot	230
Table 4- 7: Irrigated area (Ha).....	232
Table 4- 8: Percent distribution of Ag HHs by type of seeds used, by ZARDI*	234
Table 4- 9: Percentage of plots where crop was planted with improved seeds, by crop	238
Table 4- 10: Quantity of seeds applied (Kg), by ZARDI	254
Table 4- 11: Average amount spent on seeds (UGX) by crop, by ZARDI*	262
Table 4- 12: Average value of seeds per unit of land (UGX/Acre) by crop, by ZARDI*	270
Table 4- 13: Percentage of Ag HHS using fertilisers by ZARDI.....	278
Table 4- 14: Percentage of Ag HHs using organic fertilisers among HHs using fertilisers, by ZARDI.....	282
Table 4- 15: Percentage of Ag HHs using inorganic fertilisers among HHs using fertilisers, by ZARDI	284

Table 4- 16: Percentage of Ag HHs using fertilisers by type of fertilisers used	286
Table 4- 17: Average quantity of inorganic fertilisers applied (Kg) among HHs using inorganic fertilisers, by ZARDI	288
Table 4- 18: Average quantity of inorganic fertiliser per unit of land (Kilos/Acre) among HHs using inorganic fertilisers	290
Table 4- 19: Total quantity of nutrients applied (Kg), by ZARDI	292
Table 4- 20: Average quantity of nutrients per unit of land (Kg/Acre) among HHs using inorganic fertilisers, by ZARDI.....	294
Table 4- 21: Average quantity of fertilisers and nutrients per unit of land (Kg/Acre) in the total population, by ZARDI	296
Table 4- 22: Median expenditure on inorganic fertilisers among HHs using inorganic fertilisers, by ZARDI	298
Table 4- 23: Percent distribution of Ag HHs not using inorganic fertilisers, by reason	299
Table 4- 24: Percentage of Ag HHs using pesticides	300
Table 4- 25: Percent distribution of Ag HHS by type of labour used for crop cultivation	304
Table 4- 26: Percent distribution of Ag HHs by type of labour used for crop activities	306
Table 4- 27: Participation in crop production activities, by ZARDI.....	308
Table 4- 28: Labour input for crop production activities, by ZARDI	310
Table 4- 29: Cost and value of crop labour, by ZARDI.....	312
Table 4- 30: Fixed costs, by cost category*	314
Table 4- 31: Volume of production per labour unit (UGX / person-day), by enterprise size and ZARDI.....	315
Table 4- 32: Volume of production per labour unit (PPP / person-day), by enterprise size and ZARDI *	316
Table 4- 33: Volume of production per labour unit, by enterprise size and sex of the household head.....	317
Table 4- 34: Average farm annual income (UGX), by enterprise size and ZARDI.....	318
Table 4- 35: Average farm annual income (UGX), by enterprise size and ZARDI*	319
Table 4- 36: Average farm annual income, by enterprise size and sex of the household head	320

Table 5- 1: Percentage of Ag HHs that received a farmer training in the previous 12 months	321
Table 5- 2: Percentage of Ag HHs that received extension services in the previous 12 months.....	322
Table 5- 3: Distribution of Ag HHs that received advisory services, by topic of the training*	323
Table 5- 4: Distribution of Ag HHs that received advisory services, by source/service provider*	324
Table 5- 5: Percentage of Ag HHs that received advisory services, by method to acquire the advice*	325
Table 5- 6: Percentage of Ag HHs that paid for the extension service*	325
Table 5- 7: Distribution of Ag HHs that received advisory services, by level of satisfaction and source/ service provider	325
Table 5- 8: Distribution of Ag HHs that received credit, by credit source	326
Table 5- 9: Total and average amount of loans (UGX).....	327
Table 5- 10: Distribution of Ag HHs accessing Type of facility	329
Table 6- 1: Percentage of Ag HHs that experienced a shock, by type of shock and ZARDI*	330
Table 6- 2: Percentage of Ag HHs that experienced a shock, by type of shock and sub-region*	331
Table 6- 3: Percentage of Ag HHs that experienced a shock, by extent of the damage*	332
Table 6- 4: Percentage of Ag HHs that experienced a shock, by main response to shock*	333
Table 6- 5: Percentage of Ag HHs that reported food shortage, by ZARDI*	334
Table 6- 6: Percentage of Ag HHs that reported food shortage, by sub-region*	335
Table 6- 7: Percentage of Ag HHs that reported food shortage, by ZARDI, by sex of household head*	336
Table 6- 8: Percentage of Ag HHs, by reason of food shortage*	337
Table 6- 9: Percentage of Ag HHs, by reason for food shortage and ZARDI*	338
Table 6- 10: Percentage of Ag HH, by reason for food shortage and sub-region*	339
Table 6- 11: Percentage of Ag HHs that reported food shortage, by month*	340
Table 6- 12: Percentage of Ag HHs that reported food shortage, by month, by ZARDI*	341
Table 6- 13: Percentage of Ag HHs that reported a food shortage, by immediate response, by ZARDI*.....	342
Table 6- 14: Percentage of Ag HHs that reported a food shortage, by immediate response, by sex of household head*	342
Table 6- 15: Percentage of Ag HHs that changed eating patterns, by age group and sex, by ZARDI*	343
Table 6- 16: Percentage of Ag HHs that skipped meals, by age group and sex, by ZARDI*	344
Table 6- 17: Percentage of Ag HHs that ate less preferred meals, by age group and sex, by ZARDI*	345

Table 6- 18: Percentage of Ag HHs that reduced the meal size, by age group and sex, by ZARDI*	346
Table 7- 1: Maize area, production and yields, by Sub-region	347
Table 7- 2: Maize area, production and yields, by ZARDI	349
Table 7- 3: Millet area, production and yields, by Sub-region	351
Table 7- 4: Millet area, production and yields, by ZARDI	353
Table 7- 5: Sorghum area, production and yields, by Sub-region	355
Table 7- 6: Sorghum area, production and yields, by ZARDI	357
Table 7- 7: Rice area, production and yields, by Sub-region.....	359
Table 7- 8: Rice area, production and yields, by ZARDI	361
Table 7- 9: Beans area, production and yields, by Sub-region.....	363
Table 7- 10: Beans area, production and yields, by ZARDI	365
Table 7- 11: Soya beans area, production and yields, by sub-region.....	367
Table 7- 12: Soya beans area, production and yields, by ZARDI.....	369
Table 7- 13: Sweet potatoes area, production and yields, by sub-region.....	371
Table 7- 14: Sweet potatoes area, production and yields, by ZARDI	373
Table 7- 15: Irish potatoes area, production and yields, by sub-region	375
Table 7- 16: Irish potatoes area, production and yields, by Zardi.....	377
Table 7- 17: Simsim area, production and yield, by Sub-region.....	379
Table 7- 18: Simsim area, production and yield, by ZARDI.....	381
Table 7- 19: Groundnuts area, production and yields, by sub-region.....	383
Table 7- 20: Groundnuts area, production and yields, by ZARDI.....	385
Table 7- 21: Banana food area, production and yields, by Sub-region.....	387
Table 7- 22: Banana food area, production and yields, by ZARDI	389
Table 7- 23: Banana Sweet area, production and yields, by sub-region	391
Table 7- 24: Banana Sweet area, production and yields, by ZARDI	393
Table 7- 25: Banana-beer area, production and yields, by Sub-region	395
Table 7- 26: Banana-beer area, production and yields, by ZARDI	397
Table 7- 27: Cassava area, production and yields, by sub-region	399

Table 7- 28: Cassava area, production and yields, by ZARDI.....	401
Table 7- 29: Coffee Robusta area, production and yields, by Sub-region	403
Table 7- 30: Coffee Robusta area, production and yields, by ZARDI.....	405
Table 7- 31: Coffee Arabica area, production and yields, by sub-region.....	407
Table 7- 32: Coffee Arabica area, production and yields, by ZARDI.....	409
Table 7- 33: Percentage of Households cultivating major crops, national.....	411
Table 7- 34: Area, production and yields in 2018 and 2019, national.....	412

Acronyms and abbreviations

Ag HH	Agricultural Household
AAS	Annual Agricultural Survey
ACF	Agricultural Credit Facility
AGI	Agro-industrialisation
CAADP	Comprehensive Africa Agriculture Development Programme
CAPI	Computer Assisted Personal Interview
EA	Enumeration area
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GOU	Government of Uganda
GPS	Global Positioning System
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDI	Micro Deposit-taking Institution
NFA	National Forest Authority
NSA	Non-State Actors
NDP	National Development Plan
PFI	Participating Financial Institution
PSU	Primary Sampling Unit
SACCO	Savings and Credit Cooperative Society
SDG	Sustainable Development Goal
SSU	Secondary Sampling Unit
TLU	Tropical Livestock Unit
UBOS	Uganda Bureau of Statistics
UCA	Uganda Census of Agriculture
UGX	Ugandan shilling
UDBL	Uganda Development Bank Ltd
UNHS	Uganda National Household Survey
ZARDI	Zonal Agricultural Research and Development Institute

EXECUTIVE SUMMARY

The agricultural sector is the largest employer in Uganda, and it remains essential to secure the livelihood of the Ugandan population.

The Annual Agricultural Survey (AAS) 2019 confirms that the agricultural sector ranks first in terms of labour force in the Ugandan economy. Indeed, approximately 6.9 million households operated / cultivated land and/or reared livestock during the agricultural year 2019. 76.8 percent of Agricultural Households (Ag HHs) heads reported to be mainly engaged in agricultural activities. The percentage increases to 86.7 percent when focusing solely on the female heads.

Around 85 percent of Ag HHs engage in crop production both for own consumption and income-generation and only 14.4 percent of Ag HHs cultivate crops exclusively for own consumption. Further, 70.8 percent of Ag HHs raised livestock both for own consumption and income and only 3 percent raised livestock solely for own consumption. As such, agriculture remains a backbone in securing subsistence and income to a large portion of the population.

A skewed land distribution characterizes the agricultural landscape with a predominance of households operating less than one hectare

The AAS 2019 confirms the results generated from the AAS 2018. The average holding size has increased over the last decade reaching an average area of 1.3 Ha per household compared to 1.1 Ha in the 2008/09 Uganda Census of Agriculture. Yet, disparities in the land distribution are observed with 67 percent of Ag HHs operating less than 1 Ha of agricultural land.

At national level, agricultural households utilized two parcels per season with an average size of 0.6 Ha per parcel. A mere 3.4 percent of agricultural households used five parcels or more.

Some variations in the physical characteristics of the holdings are observed between ZARDIs. While Kachwekano is characterized by small size holdings with a mean size of 0.4 Ha, the average holding size in Ngetta was 2.6 Ha.

The survey confirms the gap between men and women in terms of tenure rights over agricultural land. Yet, women work on the land more than men.

The AAS 2019 confirms the presence of gender-based disparities on tenure rights, which were already observed in 2018. 40.8 percent of adults (18+) living in agricultural households own or have tenure rights over the land they cultivate. Such percentage gets as high as 52 percent among men, while it goes down to 30.4 percent among the women (SDG 5.a.1 – part a).

Yet, women cultivate crops more frequently than men and for longer hours. Indeed, the survey indicates that, during the first season, female household members dedicated on average 45.6 person-days to crop production against 35.1 of their male counterparts⁴.

The survey discloses the disparity between small-scale producers and large-scale producers on productivity and income.

According to target 2.3 of the Sustainable Agenda, by 2030 countries should “*double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and nonfarm employment*”.

The AAS 2019 collected the data required for the monitoring of the Sustainable Development Goal (SDG) 2. SDG indicator 2.3.1 is the volume of production per labour unit, by enterprise size; it measures the difference between small and large holders on labour productivity. The AAS 2019 indicates a considerable gap between these two categories. In fact, the volume of production per labour unit⁵ was equal to 13,524 UGX for the large producers while it was only 7,691 UGX among the small producers.

SDG indicator 2.3.2 measures the average farm income by enterprise size; it helps in understanding the disparity between small and large producers annual farm income. Like the previous indicator, data show a considerable gap between these two categories. Indeed, the average annual farm income was equal to 2.6 Millions UGX for the large-scale producers while it was less than 1 Million UGX among the small holders.

Despite a relatively wide variety of agricultural production, maize, banana-food, cassava and beans are the primary food crops grown in Uganda

- **Maize** is one of the priority crops in Uganda. In the agricultural year 2019, it was grown by 69 percent of agricultural households in the first season and by 48 percent of agricultural households in the second season on a land area of about 1.9 million Ha (first and second season aggregated). The maize production in 2019 was 2.8 million tonnes, with an annual yield of 1.6 MT/Ha.
- **Banana Food**, commonly known as “Matooke”, is a major crop grown mainly in the Western, Central and parts of Eastern Uganda. In 2019, banana food was grown by 47 percent of agricultural households on a planted area of about 590,000 Ha. The annual production of banana food was 9.4 million tonnes with a yield of 16 MT/Ha.
- **Cassava** is one of the most important staple food crops in the country. It is useful in manufacturing industry. Cassava is grown mainly in the Central, Northern and North-Western parts of Uganda. The

⁴ A person-day corresponds to a full-time day of eight hours

⁵ Labour unit is a person-day. i.e. a full time day (8 hours)

crop was grown by 53 percent of agricultural households in the first season of 2019 and by 45 percent in the second season. In 2019, about 2.7 million tonnes of cassava were produced from a planted area of about 659,000 Ha. The annual yield of cassava was 7.5 MT/Ha.

- **Beans** are pulses rich in protein; they are desired by farmers as cover crops because of their nitrogen fixing ability. In 2019, they were cultivated by 54 percent of agricultural households in the first season and 42 percent in the second season. In 2019, the total area planted with beans was about 870,000 Ha and the annual total production of beans was 438,000 tonnes with an annual yield of 0.6 MT/Ha.

Despite not being a top crop in terms of area cultivated or production, coffee deserves attention because it is a cash crop and it has been identified as a strategic crop for Uganda. Two types of coffee are grown in the country - i.e., Arabica and Robusta. In 2019, Arabica coffee was grown by 7 percent of agricultural households, majorly in the areas of Elgon and Tooro, while Robusta coffee was grown by 21 percent of agricultural households and it is concentrated mainly in South and North Buganda. The AAS 2019 reveals that the production of coffee Arabica was about 63,000 MT from a planted area of 83,000 Ha while the production of coffee Robusta was about 192,000 MT from a planted area of 310,000 Ha. Arabica and Robusta reported the same yield (0.6 MT/Ha).

The Ugandan soil fertility has reduced and hence it needs enhancements. However, agricultural households applying fertilisers are a minority

According to the Uganda National Fertiliser Policy, the loss of soil nutrients in Uganda remains one of the highest of the African continent. Therefore, the Government of Uganda has put in place interventions that enhance access to and use of fertilisers.

Despite the governmental efforts advocating for an increased use of fertilisers, the agricultural households using fertilisers ranged between 25.2 percent (in first season) and 31.7 percent (in second season). Most of the farmers (78.6 percent) did not apply fertilisers because they are expensive while 33.3 percent reported that they are not available locally⁶.

Most households applying fertilisers used organic fertilisers (74.7 percent) while 36.2 percent used inorganic fertilizers. Mbarara had the highest percentage of Ag HHs using fertilisers (59.5 percent) followed by Kachwekano (43.8 percent), while Nabuin (1.6 percent) had the lowest percentage of Ag HHs using fertilisers⁷.

Use of disease control products has not increased in the past decade

As part of the strategy to increase agricultural production and improve food security, between 2015 and 2020, the Agricultural Sector Strategic Plan (ASSP) focused on pests, vectors and disease control,

⁶ Percentages refer to the first season.

⁷ Percentages refer to the first season.

especially for the priority and strategic commodities and along the entire value chain. The AAS 2019 indicates that about 23 percent of agricultural households used agro-chemicals, with Bulindi and Mukono having the highest rates (31.4 percent and 37.9 percent respectively) and Nabuin (1.3 percent) having the lowest percentage.

The current adoption of agro-chemicals is consistent with the results obtained during AAS 2018 and the the Uganda Census of Agriculture (UCA) 2008/9.

Further effort is needed to modernise the agricultural sector

The survey presents an agricultural sector highly dependent on rain fed crop production and mainly based on traditional seeds. At national level, less than 3 percent of agricultural households used irrigation and 25 percent used improved seeds. The penetration of extension services remained low in 2019 (5 percent of households received advice from an extension worker) and it has substantially decreased compared to the previous year (12 percent).

Finally, about a half of the Ag HHs reported food shortage and there is significant variation in the proportion of households experiencing shocks in agricultural production across ZARDIs

During the agricultural year 2019, 65 percent of Ag HHs experienced a shock (i.e., a sudden loss in food and livestock production) compared to 74 percent of the previous year. Shocks were mainly due to droughts (reported by 55.4 percent of the Ag HHs), erratic/heavy rains (reported by 28.5 percent of the Ag HHs) and pests/diseases (29.8 percent). At the ZARDI level, Serere (91%) and Ngetta (82%) had the highest percentage of Ag HHs that reported shocks in 2019.

CHAPTER 1: INTRODUCTION

1.1 Background

Agriculture is a key sector in Uganda's economy. According to the Uganda National Household Survey (UNHS) 2019/20, the highest percentage of the working population (68.1 percent) work in the Agriculture sector and taking the largest share in employment (47 percent). Agriculture is the third most important sector, contributing about 24.0 percent to Gross Domestic Product (GDP) at current prices in 2019/20. The Uganda National Population and Housing Census (NPHC 2014) indicates that approximately 80 percent of households in the country are engaged in agriculture where approximately 90 percent reside in the rural areas.

The National Development Plan III identifies agriculture as a driver of key growth opportunities with great potential to generate employment with positive multiplier effects on other sectors, including manufacturing and services. Under the plan, commercialization of agriculture is expected to increase production and productivity along the value chains, agro-processing and marketing and serve as a launch pad to industrialization. To effectively monitor progress in carrying out the plan, timely and reliable statistics are required.

Although agriculture plays a significant role in poverty reduction, it is also considered a contributor to; global warming, water scarcity, pollution and land degradation, resulting from attempts to increase production to feed the growing world population. Accordingly, regular statistics are needed to better understand cross-cutting issues that include effects of; population growth, demand for natural resources, competing use of food crops, gender, extreme weather and climate change on food security and poverty reduction.

It is, therefore, critical that quality agricultural statistics are provided for evidence-based decision-making and policy development to improve the performance of the sector so that it meets the national food security needs and reduces poverty through employment creation.

The objective of this publication, the third in a series of annual agricultural survey reports, is to provide data to inform; developments under the Sustainable Development Goals (SDGs), research on bio-fuels, global warming, and the environment, as well as on food security. It aims at providing data with high-quality statistical evidence for the implementation and monitoring of development programmes and policy, such as the Comprehensive Africa Agriculture Development Programme (CAADP) 2015-2025, NDP III, and the national agricultural sector policies and programmes.

The publication contains statistical information on a wide range of agricultural production indicators, including; agricultural holder characteristics (e.g. sex and level of education), crop area, production and yield, seeds and fertiliser application, and water management, farmer training, livestock and other agricultural practices.

1.2 Objectives

The overall objective of the Annual Agricultural Survey (AAS) is to provide high-quality and current agricultural statistics on priority core macro and micro development indicators.

The specific objectives of the AAS are to provide timely data and information:

- i. On crop and livestock production, agricultural land area, values of agricultural outputs and inputs, market information, farm income, food security, gender and environment;
- ii. For assessing the adoption of appropriate agricultural production practices in different agroecological zones in Uganda;
- iii. On adoption and use of livestock production technologies.

1.3 Scope and coverage

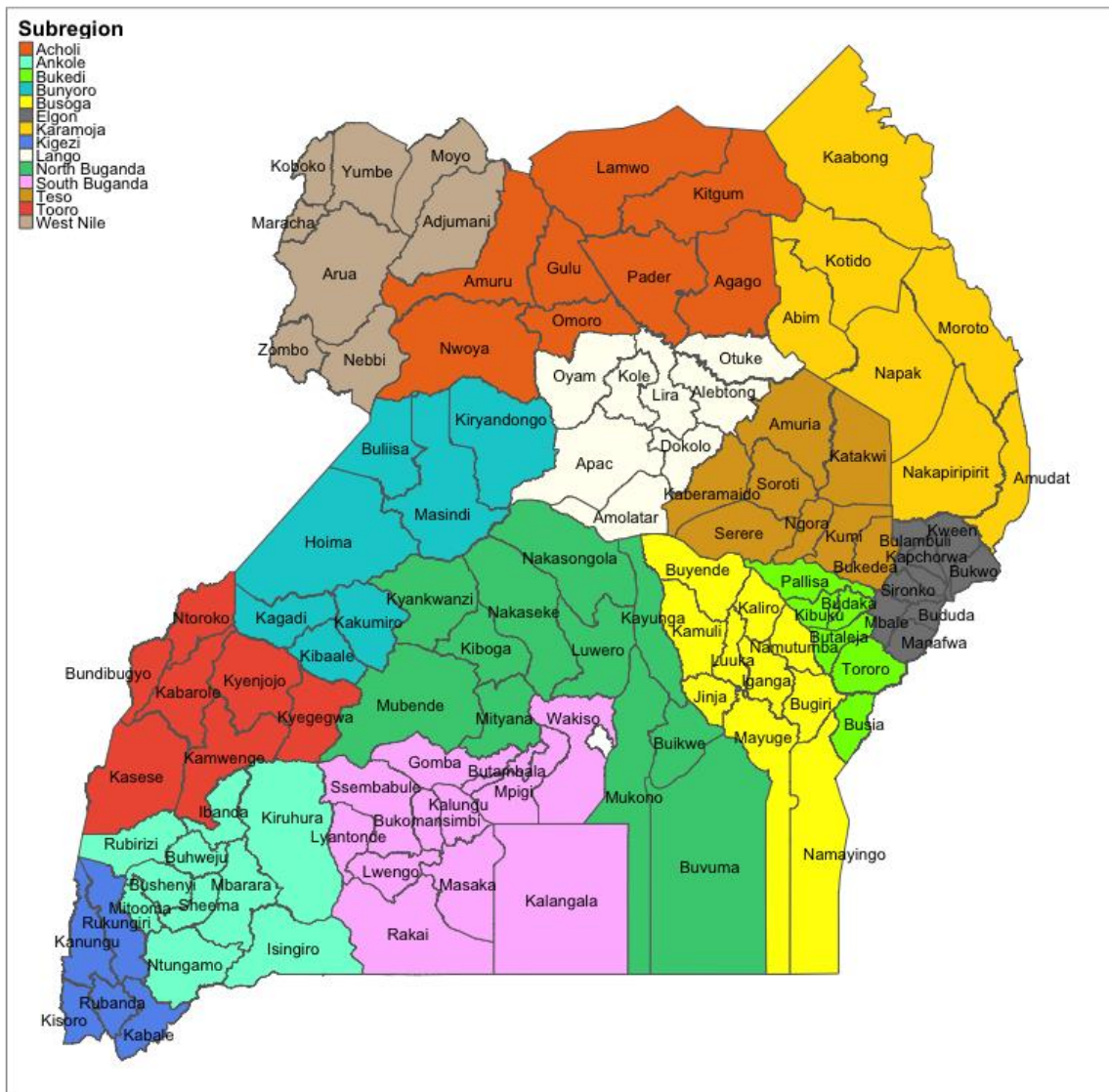
The AAS collects data for the timespan of an agricultural year (from January to December 2019). In Uganda, the agricultural year consists of two seasons. The First Season is from January to June and the Second Season runs from July to December. For each season, agricultural households (Ag HHs) are interviewed twice: during visits in the post-planting and the post harvesting periods.

The AAS covers the 10 agroecological zones “ZARDIs” (Zonal Agricultural Research and Development Institute) in Uganda and the 14 statistical sub-regions. These ZARDIs have the same climate, land use and cropping patterns, which was relevant in designing and developing the sampling strategy.

The AAS excludes the non-household holdings and focuses only on the household sector holdings, i.e. agricultural households. This, however, may lead to an underestimation of total crop and livestock production

Below are the maps of ZARDIs and Sub-Regions. A detailed list of the districts within each ZARDI and Sub-Region is available in Annex I, **Table 1- 1**.

Figure 1.2: Map of the Sub-regions in Uganda



The survey covered both crop and livestock farming households and collected data on various structural characteristics of the agricultural holding, such as:

- i. Number and size of holding
- ii. Land tenure system
- iii. Demographic and socio-economic characteristics of the household members

Non-structural statistics, such as:

- iv. Crop area and production
- v. Crop sales and value of crop production
- vi. Livestock numbers and livestock production
- vii. Use and cost of agricultural inputs

1.4 Survey methodology

To ensure timely, reliable and quality output, the focus of the survey execution was to carry out an efficient statistical process. The main activities undertaken included survey organization; sampling design; tabulation and plan preparation; design of survey questionnaires; training of trainers/supervisors and enumerators; data collection; field supervision and consistency checks; and data processing.

1.4.1 Survey organization and data collection

The survey was implemented by the Uganda Bureau of Statistics (UBOS), in collaboration with the Ministry of Agriculture, Animal Industries and Fisheries (MAAIF) and the Food and Agriculture Organization of the United Nations (FAO). It was funded by the Government of Uganda (GoU) and the FAO through its AGRISurvey Programme. The headquarters team had the responsibility of overseeing the planning, operation and management of the entire survey process. The team included staff from the Directorate of Agricultural and Environment Statistics of UBOS. A centralized approach to data collection was used. This entailed dispatching 14 field teams to different sub-regions from which Enumeration Areas (EAs) had been sampled. Each team consisted, on average, of one supervisor, three enumerators and a driver.

The dates of data collection were as follows:

First Season

Post-planting:	June 2019 to August 2019
Post-Harvest:	September 2019 to November 2019

Second Season

Post-planting:	December 2019 to March 2020
Post-Harvest:	March 2020, July-August 2020

The mode used for data collection was the Computer Assisted Personal Interview (CAPI).

1.4.2 Sampling design

A two-stage sampling design was adopted for the AAS 2019. To increase the efficiency of the sample design, the sampling frame was stratified into 10 ZARDIs. In each stratum, the first stage was the selection of the Primary Sampling Unit (PSU), which is the EA (enumerator area) and the second stage was the selection of the Secondary Sampling Unit (SSU), which are the Ag HHs.

The survey covered households cultivating crops and/or raising livestock, including households that were cultivating a few crops or raising a limited number of animals. No minimum threshold on the amount of land cultivated or animals raised was set nor did the survey aim to generate estimates concerning aquaculture, forestry and fisheries.

1.4.3 Sample size

The survey generated national, regional and sub-regional level estimates. A sample of 593 EAs and an average of 12 Ag HHs were selected from each EA.

1.4.4 Response rate

Overall, a sample of 7,115 Ag HHs were selected for the AAS 2019 Survey. The response rate was approximately 84 percent.

Table 1.1: Response rate, by visit and ZARDI*

ZARDI	Both visits	Post-Planting only	Post-Harvesting only	Complete non-response	Total	Response Rate
Abi	488	19	4	17	528	92.4
Buginyanya	1,166	92	117	137	1,512	77.1
Bulindi	464	22	22	32	540	85.9
Kachwekano	416	18	21	25	480	86.7
Mukono	783	79	51	106	1,019	76.8
Ngetta	781	16	23	44	864	90.4
Nabuin	291	10	26	33	360	80.8
Serere	369	17	20	26	432	85.4
Mbarara	698	34	36	72	840	83.1
Rwebitaba	505	4	5	26	540	93.5
Uganda	5,961	311	325	518	7,115	83.8

Notes: *Calculated from the post-planting and post-harvest data of First Season. The figures are unweighted.

1.4.5 Questionnaire design and other instruments

For each season, Ag HHs are interviewed twice: during the post-planting and the post-harvesting visit.

The AAS 2019 implemented three main questionnaires: the post-planting (PP), the post-harvest (PH) and the livestock and holding questionnaires. The PP and PH questionnaires are administered each season, while the livestock and holding questionnaire is administered only at the end of the Second Season and covers the entire agricultural year.

The post-planting questionnaire used during the post-planting season, which is referred to as the **crop area module**, collected information on the following:

- Household member socio-demographic characteristics
- Agricultural enterprises undertaken by the household in the current agricultural season
- Land use (parcel and plots used by the Ag HHs, access to land, land use rights, decision-making, land area, seed/seedlings utilization, etc.).
- Land disputes

The main objective of this questionnaire was to estimate land areas for crops planted; this was done by combining objective measurements, i.e. the Global Positioning System (GPS) on the plots and parcels and then collecting the share of land area covered by each crop on each plot based on the farmer's assessment.

The questionnaire used for the post-harvest visit, which is referred to as **crop production**, collected information on the following:

- Household member socio-demographic characteristics (only for new household members)
- Crop production and disposals
- Use of agricultural inputs for crop production
- Cost of labour used for crop production
- Crop labour input used on the agricultural household

The main objective of this questionnaire was to collect data on the crops harvested by the agricultural household, based on farm declarations.

As the last step of the visit, the **livestock and holding** questionnaire collected information on the following:

- Animal raised on the holding
- Inputs used for livestock production

- Livestock production and dispositions
- Access to agricultural information
- Access to means of transport
- Access to storage facilities
- Access to agricultural credit
- Fixed costs of the agricultural household
- Shocks and food security of the agricultural household
- Access to extension services

The main objective of this questionnaire was to collect data on livestock capital, animal production and inputs over a 12-month reference period, thus covering the entire agricultural year. In addition, it also collected information concerning household and holding characteristics, such as the access to market and information, household food security, shocks and their impact on food security.

The questionnaire was first designed in a paper format. It was later transformed into an electronic copy in survey solutions. The electronic version of the questionnaires was pre-tested and refined prior to being used during the enumeration exercise.

1.4.6 Training and fieldwork

After recruitment of field staff, supervisors and enumerators were trained on the concepts and definitions, interview process and how to use CAPI for data collection. The training involved field tests of the post-planting and post-harvest questionnaires in order to ensure the collection of high-quality data.

Enumerators visited the respondent four times during the agricultural year and conducted face-to-face interviews using CAPI and measured agricultural land area using a GPS device.

To ensure high-data quality, the headquarters team monitored the field activities closely through field supervision to provide technical backstopping. The leaders/supervisors electronically reviewed all interviews conducted daily to ensure consistency before synchronizing the findings. These interviews were also reviewed at the headquarters before being approved.

1.4.7 Data processing and management

All the data captured from the field were stored in the cloud with a local backup. Editing and validation was done electronically using STATA software. Before analysis, dummy tables were prepared based on a predesigned tabulation plan. Final tables were run using the STATA package.

1.4.8 Sampling error estimates

The accuracy of the survey results depends on the sampling and the non-sampling errors. The AAS 2019 had a large enough and representative sample to limit sampling errors. On the other hand, the non-sampling errors, usually errors that arise during data collection, were controlled through thorough training of the data collectors, field supervision by the headquarters team, and a well-developed CAPI programme. The Coefficients of Variations (CVs) and Confidence Intervals (CIs) for selected indicators at national, ZARDI and sub-regional levels are presented in the Annex tables.

1.5 Structure of the report

The report comprises the following seven chapters: Introduction; Agricultural Households and Holding Characteristics; Agricultural Land; Agricultural Practices and Inputs; Agricultural Services; Household Food Security; and Crop Production. The update of this edition, including livestock and livestock production will be released later.

CHAPTER 2: AGRICULTURAL HOUSEHOLDS AND HOLDING CHARACTERISTICS

2.1 Introduction

This chapter provides information on the distribution of Ag HHs, the classification of Ag HH heads by sex, ZARDI and their educational level and attainment of literacy; economic activities of Ag HH members; youth employment, status of main activity and training in agriculture. Details are also provided on the distribution of Ag HHs in the first and second agricultural seasons of 2019 and for both agricultural seasons combined. Social and demographic characteristics for Ag HHs, however, are presented for only Ag HHs in the first season due to the higher number of Ag HHs.

2.2 Distribution of Ag HHs by ZARDI

The estimated number of Ag HHs was 6.94 million for the First and Second Season. The highest percentage of Ag HHs among the ZARDIs was in Buginyanya (21.5 percent), followed by Mukono (19.9 percent), while the lowest was in Nabuin (2.7 percent).

In the First Season, the total number of Ag HHs was approximately 6.75 million. Among the ZARDIs, Buginyanya had the highest percentage of Ag HHs (21.4 percent), followed by Mukono (19.7 percent), while the lowest was in Nabuin (2.7 percent). In the Second Season, the number of Ag HHs declined by approximately 4 percent to 6.545 million. Among the ZARDIs, the highest percentage of Ag HHs was in Buginyanya (20.8 percent) and lowest percentage was in Nabuin (2.6 percent).

Details of the results are shown in **Table 2.1** and Annex 2, **Table 2- 1**.

Table 2.1: Distribution of Agricultural Households, by ZARDI

ZARDI	Number	Percentage
Abi	505,252	7.3
Buginyanya	1,492,213	21.5
Bulindi	487,860	7.0
Kachwekano	304,804	4.4
Mukono	1,382,610	19.9
Ngetta	763,278	11.0
Nabuin	187,169	2.7
Serere	363,324	5.2
Mbarara	867,862	12.5
Rwebitaba	582,410	8.4
Uganda	6,936,782	100

**Note: *Table extracted from the post-planting and post-harvest data for each season of the 2019 agricultural year*

2.3 Number and percentage of Ag HHs, by sex of the head and ZARDI

In 2019, approximately 78 percent of agricultural households in Uganda were headed by males while females headed the rest.

Among the ZARDIs, the highest percentage of male-headed households were registered in Bulindi (84.6 percent) while the lowest percentage was in Nabuin (60.3 percent). As for female-headed households, the highest percentage of female-headed households was in Nabuin (approximately 39.7 percent), and the lowest percentage was in Bulindi (15.4 percent).

The details are provided in **Table 2.2** and Annex 2.

Table 2.2: Percentage distribution of Ag HHs by sex of the head and ZARDI*

ZARDI	Sex of the household head			
	Male-headed percentage	Female-headed percentage	Total Number	Total Percentage
Abi	71.9	28.1	502,614	100
Buginyanya	82.3	17.7	1,442,994	100
Bulindi	84.6	15.4	452,590	100
Kachwekano	78.8	21.2	300,667	100
Mukono	74.2	25.8	1,327,740	100
Ngetta	79.2	20.8	753,199	100
Nabuin	60.3	39.7	182,300	100
Serere	78.2	21.8	358,166	100
Mbarara	76.7	23.3	852,545	100
Rwebitaba	81.5	18.5	580,765	100
Uganda	78.0	22.0	6,753,580	100

Note: * Figures in this table have been computed using data from both post-planting and post-harvest visit of the First Season.

2.4 Literacy among Ag HH heads

As part of the AAS 2019, data was collected on literacy of Ag HH heads. Literacy refers to ability of an individual to read and write with understanding in any language. Overall, 68 percent of Ag HH heads were literate. Among the male Ag HH heads, the literacy rate gets as high as 75 percent while it is 42 percent among the female Ag HHs.

The distribution by ZARDI of the literate Ag HH heads indicated that the percentage of male heads able to read and write exceeds 70 percent in most of the ZARDI, except Bulindi (68.5 percent, Serere (69.8 percent) and Nabuin (27.1 percent). The highest percentage of literate males was recorded in Ngetta (86.2 percent). In contrast, the distribution of literate female heads by ZARDI shows that the lowest lowest percentage is found in Nabuin (7.1 percent), followed by Serere (29.9 percent). Details are provided in **Table 2.3** and Annex 2, **Table 2- 4**.

Table 2.3: Percentage distribution of Ag HH heads by literacy, sex and ZARDI *

ZARDI	% literate Ag HH heads			N
	Male	Female	Total	
Abi	77	41.1	66.9	502,614
Buginyanya	71.9	37.5	65.8	1,442,994
Bulindi	68.5	36.8	63.6	452,590
Kachwekano	81.2	42.8	73	300,668
Mukono	73.6	51.3	67.8	1,323,322
Ngetta	86.2	38.3	76.2	751,929
Nabuin	27.1	7.1	19.1	182,300
Serere	69.8	29.9	61	358,166
Mbarara	83.4	48.7	75.3	851,592
Rwebitaba	78.5	50.7	73.3	580,765
Uganda	75.3	41.9	67.9	6,746,941

Note: * Figures in this table have been computed using data of the First Season post-planting and post-harvest visits.

2.5 Education level attained by Ag HH heads by sex and ZARDI

The survey collected information on the highest level of education completed by Ag HH heads. Data was collected based on the following categories of levels of education attainment: those who had never been to school, primary level, and secondary level and beyond.

Generally, for a majority of the Ag HH heads, a primary education was the highest level attained (56.9 percent), an increase of approximately seven percentage points from the result in 2018 (50.1 percent) while 28.4 percent had attained a secondary education and above and 14.7 percent had not attained any education. The percentage of the Ag HH heads with no education declined from 24.9 percent in 2018 to 14.7 percent in 2019.

Disaggregation by sex shows that the proportion of female heads with no formal education (36.4 percent) was four times more than that of their male counterparts (8.5 percent). The male heads who had attained a secondary education and beyond (32 percent) were more than two times that for the female heads (14.9 percent).

The survey showed that more than 50 percent of the adult Ag HH heads within each ZARDI had attained a primary level of education apart from Nabuin (15.5 percent). In addition, the percentage of those that had attained secondary education was significantly high, mostly exceeding 25 percent. The highest percentage of adult Ag HH members that had never been to school was recorded in Nabuin (74.7 percent). Notably, some household heads did not respond to questions pertaining to their highest education level.

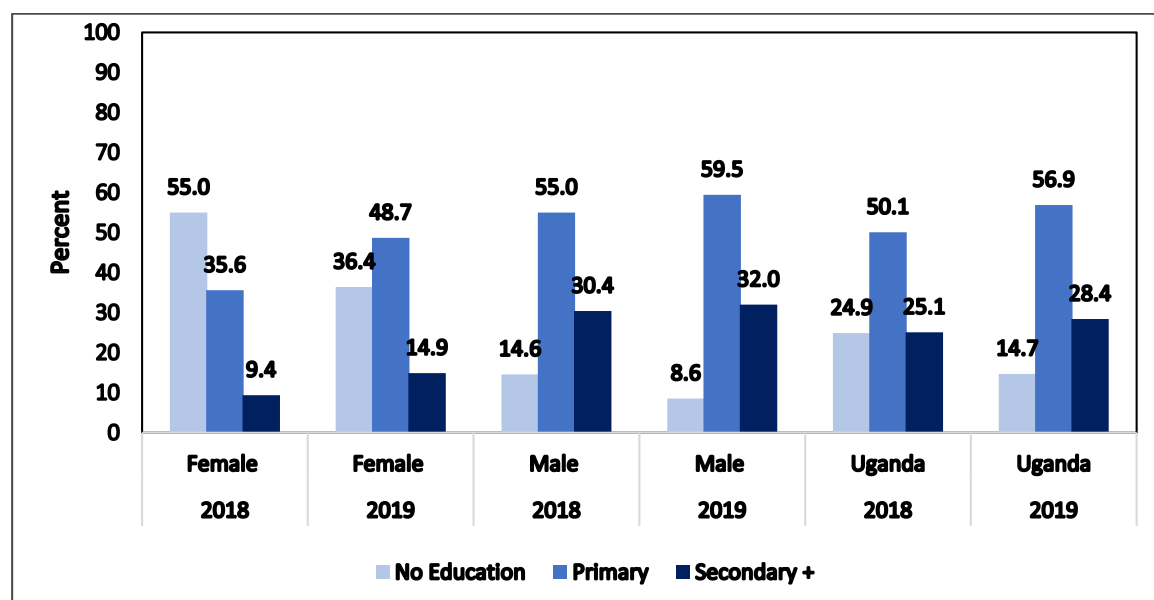
The details are provided in **Table 2.4** and Annex 2, Table 2- 5.

Table 2.4: Distribution of Ag HH heads by highest educational level attained, by sex and ZARDI*

Characteristics	Level of education			Total
	No education	Primary	Secondary +	
Sex				
Male	8.5	59.3	32.2	5,260,192
Female	36.4	48.6	15.0	1,486,748
ZARDI				
Abi	9.3	63.0	27.7	502,614
Buginyanya	11.6	55.9	32.5	1,442,994
Bulindi	14.0	61.7	24.3	452,590
Kachwekano	17.9	51.5	30.7	300,667
Mukono	12.7	53.1	34.2	1,323,322
Ngetta	9.2	64.0	26.8	751,930
Nabuin	74.7	15.5	9.8	182,300
Serere	14.9	59.8	25.4	358,166
Mbarara	18.0	58.3	23.7	851,592
Rwebitaba	13.4	62.2	24.4	580,765
Uganda	14.7	56.9	28.4	6,746,940

Note: *Figures in this table have been computed using data of the First Season post-planting and post-harvest visits.

Figure 2.1: Level of education attained, by Ag HH heads by sex



2.6 Age distribution of Ag HH heads

The survey reveals that Ag HH heads between 45 to 64 years old (33 percent) was the largest age group, followed by those who were between 35 to 44 years old (24 percent) and those who were less than 25 years old (6 percent).

Among the male Ag HH heads, 30.3 percent were aged 45 to 64 years, followed by those aged 25 to 34 years (26.3 percent), 35 to 44 years (26.0 percent), 65 years and above (10.1 percent) and those below 25 years (7.2 percent).

Among the female Ag HH heads, the largest age grouping was between 45 and 64 years (42.9 percent) followed by those 65 years and above (27.9 percent), 35 to 44 years (16.4 percent), 25 to 34 years (10.8 percent) and less than 25 years (2.0 percent).

The details are provided in **Table 2.5** and in Annex 2, Table 2- 6.

Table 2.5: Percent distribution of Ag HH heads, by age and ZARDI*

ZARDI	Age classes					Total	
	0-24	25-34	35-44	45-64	65+	N	%
Abi	6.4	26.9	23.2	31.4	12.2	502,614	100
Buginyanya	6.4	23.5	23.7	34	12.5	1,442,993	100
Bulindi	8.8	26.8	23.7	28.1	12.7	452,590	100
Kachwekano	4.8	25	21	32.9	16.3	300,668	100
Mukono	4.7	18.6	24.6	36	16.1	1,327,740	100
Ngetta	8.1	22.6	25.5	30.8	13	753,199	100
Nabuin	8.4	20.7	21.5	29.9	19.6	182,300	100
Serere	8.6	21.1	20.1	34.4	15.8	358,166	100
Mbarara	3.5	22.2	24.5	35.3	14.5	852,545	100
Rwebitaba	5.5	26.9	25.3	29.5	12.8	580,765	100
Uganda	6.1	22.9	23.9	33.1	14.1	6,753,580	100

Notes: * Figures in this table have been computed using data of the First Season post planting and post-harvest visits. – No sampled unit under this category.

2.7 Dependency ratio

Age dependency ratio is a measure of the number of dependents aged zero to 13 years and over the age of 65, compared with the total population aged 14 to 64 years. The dependency ratio for Uganda in 2019 was 95 dependents per 100 working-age population among Ag HHs.

The dependency ratio varied among ZARDIs. Nabuin had the highest dependency ratio of 136 while Kachwekano had the lowest of 82 per 100. A higher value for a country means that employed people have to support more non-working members of the population, either young or old.

Data is shown as the proportion of dependents per 100 working-age population. The details are provided in **Table 2.6** and in Annex 2, Table 2- 7.

Table 2.6: Dependency rate by ZARDI*

ZARDI	Percentage of individuals aged 0-14 or 65+	Percentage of individuals aged 15-64	Dependency rate (%) **	Total Population (N)
Abi	48.5	51.5	94.3	2,699,902
Buginyanya	51.0	49.0	104.0	8,232,657
Bulindi	48.7	51.3	95.1	2,564,765
Kachwekano	45.2	54.8	82.4	1,537,817
Mukono	49.8	50.2	99.2	7,300,356
Ngetta	46.3	53.7	86.3	4,314,738
Nabuin	57.6	42.4	136.1	921,276
Serere	47.2	52.8	89.5	2,419,413
Mbarara	46.1	53.9	85.4	4,723,014
Rwebitaba	48.3	51.7	93.6	3,236,590
Uganda	48.8	51.2	95.1	37,950,528

Notes: *Table generated from the post-planting and post-harvest of the First Season data.

2.8 Main activity for Ag HH heads

Economic activity refers to work people do to enhance their quality of life. This involves production of goods and services for sale or own consumption. A person may be engaged in more than one activity. In such cases, the most important activity according to time spent (and not in monetary terms) is considered as the main activity. Information was collected on activities of persons aged 10 years and above.

The AAS 2019 asked Ag HH heads about their main activity. For Ag HHs, the main activity was categorized as mainly engaged in agricultural activities and mainly engaged in non-agricultural activities.

A majority of the Ag HH heads (76.8 percent) were mainly engaged in agriculture. The survey results

also indicated that the percentage of female Ag HH heads engaged in agricultural activities (86.7 percent) was higher as compared to male Ag HH heads (74 percent).

Highlights of the results at the ZARDI level are as follows. Serere and Abi had the highest percentage of Ag HH heads that were mainly engaged in agricultural activities (92.7 percent and 87.7 percent, respectively). Serere had the highest percentage of male Ag HH heads mainly engaged in agricultural activities (91.2 percent) followed by Abi and Rwebitaba (86.5 percent and 84.7 percent, respectively). Kachwekano had the least percentage of male Ag HH heads engaged in agricultural activities (60.2 percent). In contrast, Serere, Rwebitaba and Ngetta had the highest percentage of female Ag HH heads engaged in agricultural activities, at 98.3 percent, 92.9 percent and 92.1 percent, respectively. Mbarara had the least percentage of females mainly engaged in agriculture (79.2 percent).

The details are provided in **Table 2.7** and in Annex 2, Table 2- 8.

Table 2.7: Percent distribution of Ag HH heads by main economic activity and ZARDI*

ZARDI	Male heads			Female heads			All heads		
	Agriculture	Out of agriculture	Total	Agriculture	Out of agriculture	Total	Agriculture	Out of agriculture	Total
Abi	86.5	13.5	100	90.7	9.3	100	87.7	12.3	100
Buginyanya	68.6	31.4	100	88.3	11.7	100	72.1	27.9	100
Bulindi	82.6	17.4	100	91.6	8.4	100	83.9	16.1	100
Kachwekano	60.2	39.8	100	85.8	14.2	100	65.6	34.4	100
Mukono	66.9	33.1	100	80.1	19.9	100	70.3	29.7	100
Ngetta	83.9	16.1	100	92.1	7.9	100	85.6	14.4	100
Nabuin	83.5	16.5	100	88.6	11.4	100	85.5	14.5	100
Serere	91.2	8.8	100	98.3	1.7	100	92.7	7.3	100
Mbarara	62.1	37.9	100	79.2	20.8	100	66.1	33.9	100
Rwebitaba	84.7	15.3	100	92.9	7.1	100	86.3	13.7	100
Uganda	74.0	26.0	100	86.7	13.3	100	76.8	23.2	100

Note: *This table is extracted from the First Season PP and PH data sets.

2.9 Membership to a farmer group

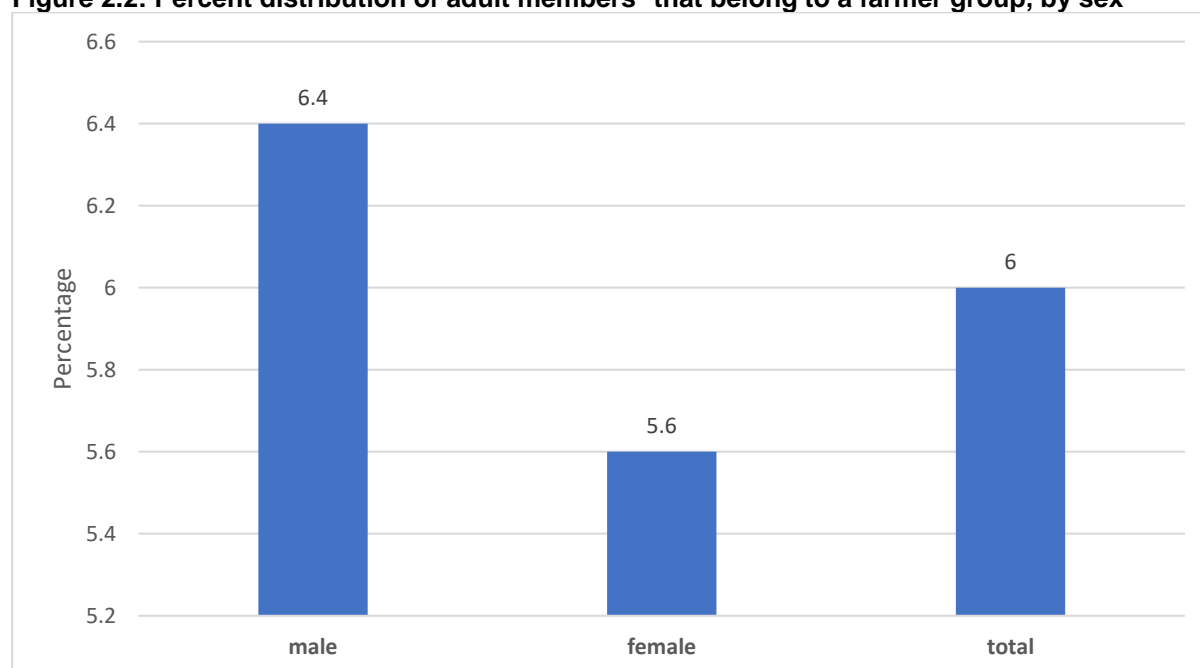
The AAS 2019 inquired whether adult members of Ag HHs belonged to a farmer group. The question was asked for people aged 15 years and above who were not guests in the households. The data collected revealed that 6 percent of the adult household members belonged to a farmer group, a four-percentage point drop from 10.1 percent recorded for the 2018 Agricultural year.

A total of 6.4 percent of the male adults belonged to a farmer group, as compared to 5.6 percent of female adults.

Among the ZARDIs, Ngetta had the highest percentage of adults belonging to a farmer organization (17.2 percent), while Serere ZARDI had the lowest percentage (1.5 percent). Ngetta had the highest percentage of both male and female adults belonging to a farmer organization, at 16.8 percent and 17.7 percent, respectively.

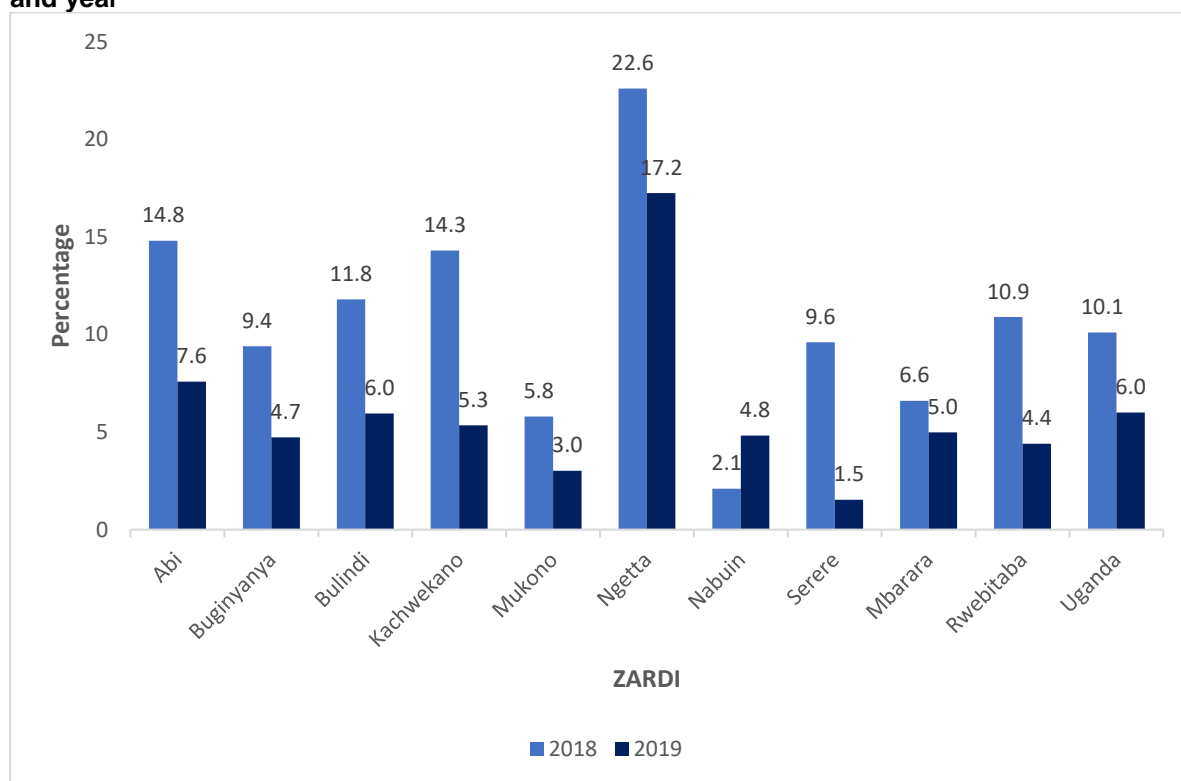
The details are provided in **Figure 2.2**, **Figure 2.3** and in Annex 2, **Tables 2- 9** and **2- 10**.

Figure 2.2: Percent distribution of adult members* that belong to a farmer group, by sex



Note: *18 years old or more.

Figure 2.3: Percent distribution of adult* members that belong to a farmer group, by ZARDI and year



Note: *18 years old or more.

2.10 Training in agriculture for Ag HHs

The AAS 2019 asked Ag HHs if at least one member of their households had received a training in agriculture. The majority of them (94.6 percent) in all ZARDI declared that none of their members had received any training in agriculture.

Among the ZARDIs, Kachwekano had the highest percentage of Ag HHs in which at least one household member had received some type of training in agriculture (8.5 percent), followed by Bulindi (7.9 percent) while the lowest percentage was recorded for Serere (1.2 percent).

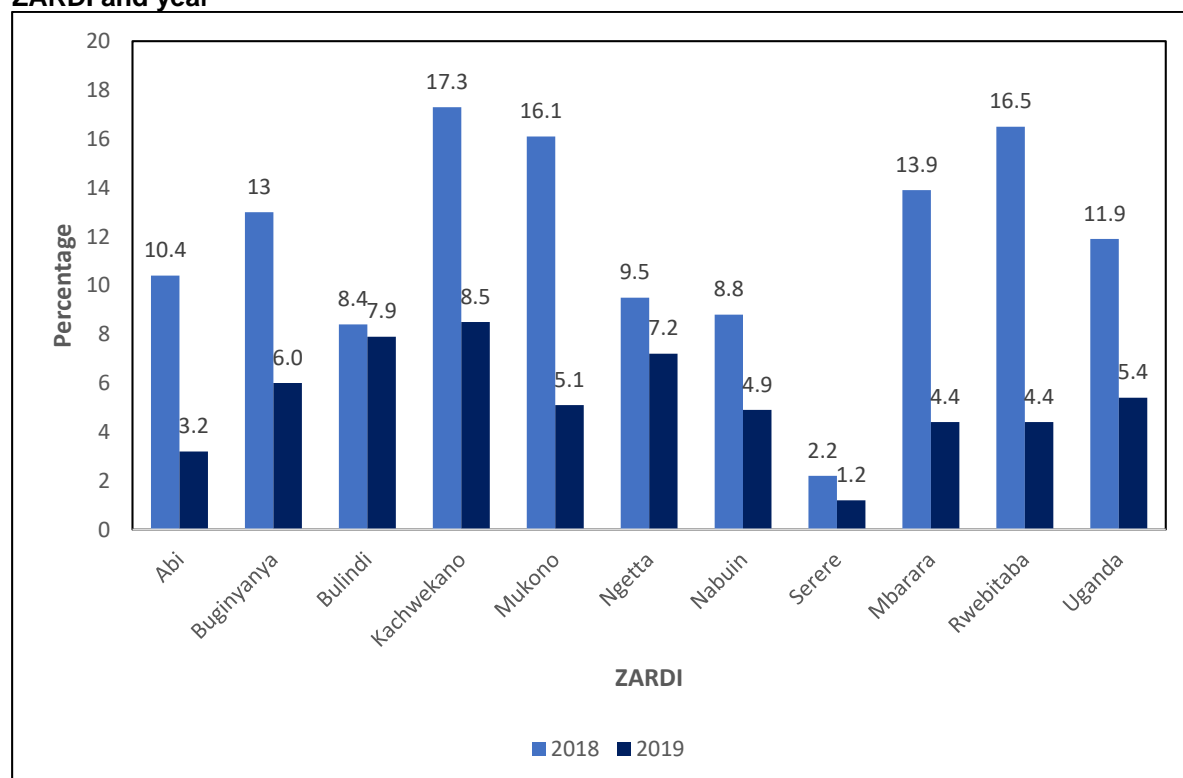
The details are provided in **Table 2.8** and in Annex 2, Table 2- 12.

Table 2.8: Distribution of Ag HHs with at least one member trained on agriculture, by ZARDI*

ZARDI	Percentage of Ag HHs		Total
	With at least one member trained	Without any member trained	
Abi	3.2	96.8	100
Buginyanya	6.0	94.0	100
Bulindi	7.9	92.1	100
Kachwekano	8.5	91.5	100
Mukono	5.1	94.9	100
Ngetta	7.2	92.8	100
Nabuin	4.9	95.1	100
Serere	1.2	98.8	100
Mbarara	4.4	95.6	100
Rwebitaba	4.4	95.6	100
Uganda	5.4	94.6	100

Notes: *Reference period are the last 12 months. The table generated from the post-harvest data of the Second Season

Figure 2.4: Distribution of Ag HHs with at least one member trained on agriculture, by ZARDI and year



2.11 Adults trained in agriculture, by sex and ZARDI

Questions about training received in agriculture showed that overall, 391,511 adults (2.5 percent) in Uganda received training in agriculture in 2019, as compared to 923,409 (4.9 percent) adults in 2018.

Overall, 240,598 adult males (3.3 percent) received training in agriculture, approximately 1.5 times the number of adult females 150,912 (1.9 percent). Within the ZARDIs, Bulindi had the highest percentage of trained adult males (5.8 percent), while Serere had the least percentage of trained adult males (1.0 percent) and Kachwekano had the highest percentage of trained adult females (4.9 percent). The details are provided in **Table 2.9** and in Annex 2, Table 2.13.

Table 2.9: Distribution of adult members who were trained in agriculture, by sex and ZARDI*

ZARDI	Adult** males (%)	Adult** females (%)	Total
Abi	2.7	0.5	1.5
Buginyanya	3.4	2.5	2.9
Bulindi	5.8	1.3	3.5
Kachwekano	4.3	4.9	4.6
Mukono	2.9	1.9	2.4
Ngetta	4.7	2.2	3.4
Nabuin	3.1	2.5	2.7
Serere	1.0	-	0.5
Mbarara	2.3	1.9	2.1
Rwebitaba	2.9	1.2	2.0
Uganda	%	3.3	1.9
	N	240,598	150,912
			391,511

Notes: *Table generated using the post-harvest Second Season data. Reference period is the last 12 months from the date of the interview. **Adults are 18 years old or more. -No sampled units under this category.

2.12 Distribution of Ag HHs engaged in crop production

The AAS 2019 collected data on the different enterprises that Ag HHs engaged in during the first and second seasons of 2019.

In the First Season, approximately 6.7 million Ag HHs (99.3 percent) were engaged in crop production. In the Second Season, the number of Ag HHs engaged in crop production declined to 6.27 million (95.8 percent) of the total Ag HHs. In addition, in the First Season, about 5.225 million male-headed Ag HHs (99.2 percent) were engaged in crop production, almost 3.5 times the number of female-headed Ag HHs engaged in crop production, which was about 1.481 million (99.7 percent).

Among the ZARDIs, more than 95 percent of Ag HHs in the First Season were engaged in crop production. In the Second Season, Nabuin was the only ZARDI in which more than 95 percent of

the Ag HHs did not engage in crop production. The details are provided in **Table 2.10** and in Annex 2, Table 2- 14.

Table 2.10: Distribution of Ag HHs engaged in crop production* by sex of the head and ZARDI*

ZARDI		First Season			Second Season		
		Number of Ag HHs	Number of Ag HHs producing crops	% of Ag HHs engaged in crop prod	Number of Ag HHs	Number of Ag HHs producing crops	% of Ag HHs engaged in crop production
Abi	Male	361,334	361,334	100	341,511	332,715	97.4
	Female	141,280	141,280	100	132,336	129,209	97.6
	Total	502,614	502,614	100	473,847	461,924	97.5
Buginyanya	Male	1,187,283	1,179,085	99.3	1,126,530	1,099,218	97.6
	Female	255,710	255,710	100	234,469	226,985	96.8
	Total	1,442,993	1,434,795	99.4	1,360,999	1,326,203	97.4
Bulindi	Male	383,074	381,656	99.6	396,282	383,392	96.7
	Female	69,516	69,516	100	73,881	70,840	95.9
	Total	452,590	451,172	99.7	470,162	454,233	96.6
Kachwekano	Male	236,791	234,193	98.9	229,766	229,766	100
	Female	63,877	63,877	100	63,398	63,398	100
	Total	300,667	298,070	99.1	293,163	293,163	100
Mukono	Male	984,538	963,234	97.8	934,741	914,659	97.9
	Female	343,202	340,463	99.2	350,284	340,721	97.3
	Total	1,327,740	1,303,696	98.2	1,285,025	1,255,380	97.7
Ngetta	Male	596,901	595,031	99.7	590,664	575,977	97.5
	Female	156,298	156,298	100	153,279	149,892	97.8
	Total	753,199	751,329	99.8	743,943	725,869	97.6
Nabuin	Male	109,849	109,849	100	106,971	11,437	10.7
	Female	72,451	71,473	98.6	65,230	3,527	5.4
	Total	182,300	181,322	99.5	172,201	14,964	8.7
Serere	Male	279,944	279,944	100	278,967	273,273	98.0
	Female	78,222	78,222	100	77,043	75,759	98.3
	Total	358,166	358,166	100	356,010	349,032	98.0
Mbarara	Male	654,005	648,950	99.2	621,803	620,705	99.8
	Female	198,540	197,471	99.5	202,052	202,052	100
	Total	852,545	846,421	99.3	823,854	822,756	99.9
Rwebitaba	Male	473,113	471,995	99.8	462,056	462,056	100
	Female	107,652	107,652	100	104,017	103,208	99.2
	Total	580,765	579,648	99.8	566,073	565,264	99.9
Uganda	Male	5,266,832	5,225,270	99.2	5,089,291	4,903,198	96.3
	Female	1,486,748	1,481,962	99.7	1,455,989	1,365,591	93.8
	Total	6,753,580	6,707,232	99.3	6,545,279	6,268,789	95.8

Notes: * Table generated using the post-planting data set of each season. Reference period is the First and Second Season of 2019.

2.13 Distribution of Ag HHs raising livestock

In the First Season, 4,972,734 Ag HHs (73.6 percent) raised livestock in Uganda. In the Second Season, the number of Ag HHs that raised livestock dropped to 4,694,602 (71.7 percent) of the total Ag HHs.

In the First Season, 4,010,058 male-headed Ag HHs (76.1 percent) raised livestock in Uganda. This was more than four times the number of female-headed Ag HHs that raised livestock, which was 962,676 (64.8 percent). In the Second Season, 3,801,057 male-headed Ag HHs (74.7 percent) raised livestock in Uganda, as compared to 893,545 for female-headed Ag HHs (61.4 percent) that raised livestock in the same season. The details are provided in **Table 2.11** and in Annex 2, Table 2- 15.

Table 2.11: Distribution of Ag HHs raising livestock*, by sex of the head and ZARDI*

ZARDI		First Season		Second Season	
		Number of Ag HHs	% of Ag HHs engaged in livestock production	Number of Ag HHs	% of Ag HHs engaged in livestock production
Abi	Male	361,334	84.5	341,511	86.2
	Female	141,280	75.5	132,336	76.5
	Total	502,614	81.9	473,847	83.5
Buginyanya	Male	1,187,283	77.0	1,126,530	72.0
	Female	255,710	64.0	234,469	53.0
	Total	1,442,993	74.7	1,360,999	68.7
Bulindi	Male	383,074	76.2	396,282	74.0
	Female	69,516	66.7	73,881	63.6
	Total	452,590	74.7	470,162	72.4
Kachwekano	Male	236,791	64.5	229,766	62.7
	Female	63,877	48.3	63,398	52.8
	Total	300,668	61.1	293,163	60.6
Mukono	Male	984,538	71.9	934,741	66.1
	Female	343,202	60.8	350,284	54.3
	Total	1,327,740	69.0	1,285,025	62.8
Ngetta	Male	596,901	82.6	590,664	89.5
	Female	156,298	74.8	153,279	78.3
	Total	753,199	81.0	743,943	87.2
Nabuin	Male	109,849	78.3	106,971	89.8
	Female	72,451	61.4	65,230	84.5
	Total	182,300	71.6	172,201	87.8
Serere	Male	279,944	90.9	278,967	90.8
	Female	78,222	87.7	77,043	83.1
	Total	358,166	90.2	356,010	89.1
Mbarara	Male	654,005	65.4	621,803	64.3
	Female	198,540	53.0	202,052	44.4
	Total	852,545	62.5	823,85	59.4
Rwebitaba	Male	473,113	79.7	462,056	78.7
	Female	107,652	66.3	104,017	65.9
	Total	580,765	77.3	566,073	76.3
Uganda	Male	5,266,832	76.1	5,089,291	74.7
	Female	1,486,748	64.8	1,455,989	61.4
	Total	6,753,580	73.6	6,545,280	71.7

Notes: *Table generated using the post-planting data set of each season. Reference period is the First and Second Season of 2019.

2.14 Ag HHs practicing apiculture

The number and percent of Ag HHs that practiced apiculture declined in the Second Season in comparison to the First Season from 133,102 (2.1 percent) to 59,510 (1.0 percent).

In the First Season, 123,570 male-headed Ag HHs (2.4 percent) practiced apiculture, this was more than twelve times the number of female-headed Ag HHs that practiced apiculture, which was 9,532 (0.7 percent). Among the ZARDIs, Ngetta had the highest number of Ag HHs that practiced apiculture (54,070), followed by Abi (16,698). The lowest number of Ag HHs that practiced apiculture was recorded in Nabuin (535). In the Second Season, 55,099 male-headed Ag HHs practiced apiculture (1.1 percent), as compared to 4,411 or 0.3 percent for female-headed Ag HHs. The details are provided in **Table 2.12** and in Annex 2, **Table 2- 17**.

Table 2.12: Distribution of Ag HHs practicing apiculture, by sex of the head and ZARDI

ZARDI		First Season			Second Season		
		Number of Ag HHs	Number of Ag HHs engaged in apiculture	% of Ag HHs engaged in apiculture	Number of Ag HHs	Number of Ag HHs engaged in apiculture	% of Ag HHs engaged in apiculture
Abi	Male	361,334	14,898	4.1	341,511	3,325	1.0
	Female	141,280	1,799	1.3	132,336	0	-
	Total	502,614	16,697	3.3	473,848	3,325	0.7
Buginyanya	Male	1,187,283	5,939	0.5	1,126,530	3,490	0.3
	Female	255,710	0	-	234,469	0	-
	Total	1,442,993	5,939	0.4	1,360,999	3,490	0.3
Bulindi	Male	383,074	4,051	1.1	396,282	2,172	0.5
	Female	69,516	1,472	2.1	73,881	2,153	2.9
	Total	452,590	5,523	1.2	470,163	4,325	0.9
Kachwekano	Male	236,791	14,018	5.9	229,766	3,695	1.6
	Female	63,877	0	-	63,398	0	-
	Total	300,668	14,018	4.7	293,164	3,695	1.3
Mukono	Male	984,538	16,039	1.6	934,741	10,472	1.1
	Female	343,202	1,036	0.3	350,284	1,036	0.3
	Total	1,327,740	17,075	1.3	1,285,025	11,508	0.9
Ngetta	Male	596,901	49,440	8.3	590,664	22,047	3.7
	Female	156,298	4,630	3.0	153,279	0	-
	Total	753,199	54,070	7.2	743,943	22,047	3.0
Nabuin	Male	109,849	535	0.5	106,971	924	0.9
	Female	72,451	0	-	65,230	201	0.3
	Total	182,300	535	0.3	172,201	1,125	0.7
Serere	Male	279,944	2,424	0.9	278,967	0	-
	Female	78,222	0	-	77,043	0	-
	Total	358,166	2,424	0.7	356,010	0	-
Mbarara	Male	654,005	15,107	2.3	621,803	8,123	1.3
	Female	198,540	595	0.3	202,052	0	-
	Total	852,545	15,702	1.8	823,855	8,123	1.0
Rwebitaba	Male	473,113	1,118	0.2	462,056	851	0.2
	Female	107,652	0	-	104,017	1,022	1.0
	Total	580,765	1,118	0.2	566,073	1,873	0.3
Uganda	Male	5,266,832	123,570	2.3	5,089,291	55,099	1.1
	Female	1,486,748	9,532	0.6	1,455,989	4,411	0.3
	Total	6,753,580	133,102	2.0	6,545,280	59,510	0.9

Notes: *Table generated using the post-planting data set of each season for Ag HHs engaged in apiculture. Reference period is the First and Second Seasons of 2019.

2.15 Types of agricultural enterprises

Overall, in the First Season, 1,474,874 Ag HHs (21.8 percent) only practiced crop production, 5,232,359 Ag HHs (77.5 percent) practiced crop production plus other activities and 46,347 Ag HHs (0.7 percent) practiced only other agricultural activities.

Among the male-headed Ag HHs, in the First Season, the majority of them (80.0 percent) practiced crop production plus other activities, 19.2 percent only practiced crop production and 0.8 percent practiced only other agricultural activities.

Among the female-headed Ag HHs in the First Season, the majority of them (68.5 percent) practiced crop production plus other activities 31.2 percent only practiced crop production and 0.3 percent practiced only other agricultural activities (0.3 percent).

Among the ZARDIs, the highest number of Ag HHs that only practiced crop production was in Mukono (340,801 (25.7 percent)) and the lowest number was in Serere (19,247 (5.4 percent)).

The details are provided in Annex 2, Table 2-19.

2.16 Main purpose Ag HHs enterprise

Among the Ag HHs that practiced crop production in the First Season, the majority of them (68.4 percent), engaged in crop production mainly for their own consumption and some for sale, while the lowest percentage (0.5 percent) were engaged in crop production only for sale.

Among the Ag HHs that practiced livestock production in the First Season, the majority of them (52.4 percent) practiced crop production mainly for their own consumption and some for sale, while the lowest percentage (3.0 percent) of them practiced it only for their own consumption.

The details are provided in **Table 2.13** and in Annex 2, Table 2- 20.

Table 2.13: Percent distribution of Ag HHs, by type of enterprise and main purpose*

Enterprise purpose	Crop production	Livestock production	Aquaculture production	Apiculture production	Agroforestry production
Only sale	0.5	26.3	39.0	22.9	37.8
Mainly sale, some own consumption	16.7	52.4	61.0	49.4	19.8
Mainly own consumption, some sale	68.4	18.4	-	13.8	24.3
Only own consumption	14.4	3.0	-	13.9	18.1
Total	100	100	100	100	100

*Notes: * Table generated from the post-planting data of the First Season. -No sampled unit under this category*

2.17 Ag HHs members involved in production by type of enterprise

Among the Ag HHs that practiced crop production in the First Season, men and women were equally involved in the activity in the majority of them (50.5 percent), while in the same households, the lowest percentage (5.8 percent) was under the category, only males were involved the activity.

Among the Ag HHs that practiced livestock production in the First Season, the majority of them (44.4 percent), responded that men and women equally were involved in the activity, while the lowest percentage (8.9 percent) was under the category, only males were involved in the activity.

Among the Ag HHs that practiced aquaculture production in the First Season, the response with highest percentage (49.5 percent) was for only men being involved in the activity, while the response for only women and mostly women being involved in the activity was negligible.

The details are provided in **Table 2.14** and in Annex 2, Table 2- 21.

Table 2.14: Percent distribution of Ag HHs, by type of enterprise and sex of members involved in production*

Sex of members involved	Crop production	Livestock production	Aquaculture production	Apiculture production	Agroforestry production
Only males	5.8	8.9	49.5	66.2	21.0
Only females	13.5	12.8	-	3.7	15.0
Mostly males	9.1	16.6	9.6	14.8	18.0
Mostly females	21.1	17.3	-	2.8	10.9
Men and women equally	50.5	44.4	40.9	12.5	35.1
Total	100	100	100	100	100

Note: *Table generated from the post-planting data of the First Season.

CHAPTER 3: AGRICULTURAL LAND

3.1 Introduction

This chapter presents information on land ownership, number and size of parcels, average holding size, parcels use rights, tenure system and the legality of the documents for all parcels used by farmers during 2019. These attributes have important implications for Ag HHs' attitudes towards land use. For example, the type of land use rights directly affects the type of Ag HH investments on land, which, in turn, affects land productivity.

3.2 Agricultural land

Agricultural land is the total of cropland,⁸ permanent meadows, and permanent pastures (FAO, 2015). According to the National Forestry Authority (NFA), approximately 43 percent of the total land area in Uganda in 2015 was agricultural land. Because of the importance of land in agriculture and the growing population of the country living in rural areas, increased pressure is likely to be on the existing agriculture land. Accordingly, the AAS collects information on access to agricultural land, the structure of the agricultural land and agricultural practices used on land holdings, with the objective to inform and support efforts to formulate and monitor policies and programmes related to land.

3.1.1 Number and size of parcels

A parcel is any piece of land of one land tenure type, surrounded entirely by other land, water, road, forest or other features not forming part of the holding, or forming part of the holding under a different land tenure type (FAO, 2015). An Ag HH may use one or more land parcels⁹, located in the same or in separate areas, or in the same or different administrative units. As part of the AAS 2019, Ag HHs were asked to list all the parcels they were using within their enumeration area (including parcels used for farmhouses, stables, storehouses, and other uses)¹⁰ and parcels located elsewhere. Land owned by members of an Ag HH but rented to others was not included. Conversely, land not owned by members of an Ag HH but rented from others for agricultural production purposes was included among the parcels.

Information obtained in the AAS 2019 indicates that, at the national level, Ag HHs used, on average, two parcels per season with an average size of 0.6 hectares (ha) per parcel. Among the ZARDIs, Ag HHs in Kachwekano used the highest average number of parcels (3); the average size per parcel was 0.2 Ha per parcel. See **Table 3.1** for details.

⁸ Cropland includes land under temporary and permanent crops, land temporarily fallow and land under temporary meadows and pastures (FAO, 2015).

⁹This definition of parcel may not be consistent with that used in cadastral work.

¹⁰ Parcels may be used for different types of activities and very frequently Ag HHs use their own dwelling for living and for storing agricultural inputs and outputs.

Table 3.1: Physical characteristics of the holdings*

ZARDI	Parcels		
	Total number	Average number	Average size (Ha)
Abi	1,242,878	2.5	0.3
Buginyanya	2,819,900	2.0	0.4
Bulindi	794,416	1.7	1.1
Kachwekano	844,247	2.8	0.2
Mukono	2,396,531	1.8	0.8
Ngetta	1,853,349	2.5	1.1
Nabuin	380,908	2.1	0.6
Serere	657,733	1.8	0.8
Mbarara	1,916,022	2.2	0.7
Rwebitaba	1,122,050	1.9	0.4
Uganda	14,028,033	2.1	0.6

Note: *AAS 2019-PP and PH First Season data.

3.1.2 Holding size

Among the ZARDIs, the average holding size for Ag HHs was 1.3 Ha of land. The highest average holding size was recorded in Ngetta (2.6 Ha per Ag HH) and the smallest average sizes were recorded in Kachwekano, Abi, Buginyanya and Rwebitaba, at 0.4, 0.7, 0.8 and, 0.8 Ha, respectively. See **Table 3.2** for details.

Table 3.2: Physical characteristics of the holdings* by holding size and planted area

ZARDI	Holding size (Ha)		Planted area (Ha)	
	Average	Total	Average	Total
Abi	0.7	361,885	0.6	314,431
Buginyanya	0.8	1,091,037	0.7	967,463
Bulindi	1.8	847,513	1.2	524,190
Kachwekano	0.4	131,071	0.4	106,673
Mukono	1.4	1,815,861	0.9	1,220,638
Ngetta	2.6	1,948,736	1.4	1,011,630
Nabuin	1.2	213,158	0.9	169,552
Serere	1.4	506,368	1.0	375,972
Mbarara	1.5	1,281,946	0.7	568,116
Rwebitaba	0.8	451,082	0.7	392,917
Uganda	1.3	8,648,657	0.8	5,651,581

Note: * AAS 2019-PP and PH First Season data.

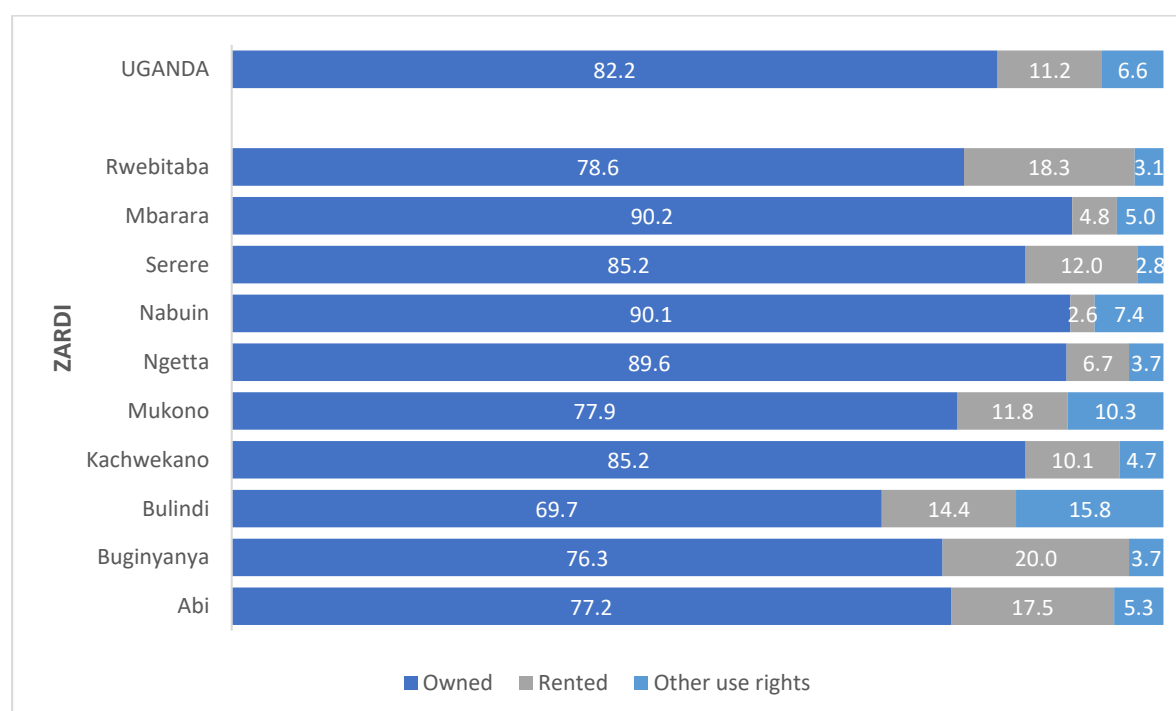
3.1.3 Parcels use rights

Land use rights refer to the right to use or enjoy land property even though the one using it is not the owner of the property. The right to use land does not necessarily transfer the actual ownership of the land, but it grants specific use entitlements over the property. The type of use rights affects the type of investment an Ag HH can make related to a parcel.

Information obtained in the AAS 2019 indicates that, at the national level, 82 percent of the parcels used by Ag HHs were owned, and about 11 percent were rented.¹¹

The highest parcels owned by Ag HHS were in the ZARDIs of Nabuin (Karamoja Region), Ngetta (Lango sub-region) and Mbarara, at 90 percent, followed by Serere (85 percent) and Kachwenkano (85 percent). The lowest percent was recorded in Nabuin (3 percent). The highest number of parcels under other use rights (20 percent) was recorded in Buginyaya. Details are provided in **Figure 3.1**.

Figure 3.1: Percent distribution of parcels by use-rights



3.1.4 Parcel tenure system

The Constitution of Uganda provides for land to be held in four categories of tenure, customary, mailo, freehold and leasehold tenure. Accordingly, information was collected from Ag HHs regarding land tenure for each parcel owned.

Results at the national level indicate that about 67 percent of parcels owned by Ag HHs had a customary system of tenure, 17 percent were mailo; 11 percent were freehold; and less than one

¹¹ For an agreed amount of money or exchange of services.

percent were of leasehold tenure. The highest number of parcels owned by Ag HHs as Mailo was in Mukono. See **Table 3.3** for details.

Table 3.3: Percent distribution of owned parcels by tenure of parcel*

ZARDI	Tenure system						TOTAL
	Freehold	Leasehold	Mailo	Customary	Public	Unknown	
Abi	0.0	0.1	0.0	99.2	0.7	-	100
Buginyanya	15.7	0.3	0.0	81.8	1.8	0.3	100
Bulindi	33.5	1.0	0.0	51.0	6.8	7.8	100
Kachwekano	2.1	0.3	0.2	91.8	1.5	4.1	100
Mukono	1.0	0.4	87.1	0.1	4.2	7.2	100
Ngetta	11.0	0.4	0.1	86.0	2.1	0.4	100
Nabuin	0.0	0.4	0.2	98.8	0.5	-	100
Serere	1.0	-	-	96.3	2.5	0.2	100
Mbarara	0.9	0.3	18.5	74.8	2.4	3.1	100
Rwebitaba	51.7	1.4	0.0	46.0	0.2	0.7	100
Uganda	10.9	0.4	17.3	66.7	2.3	2.5	100

Note: *AAS 2019-PP & PH First Season data.

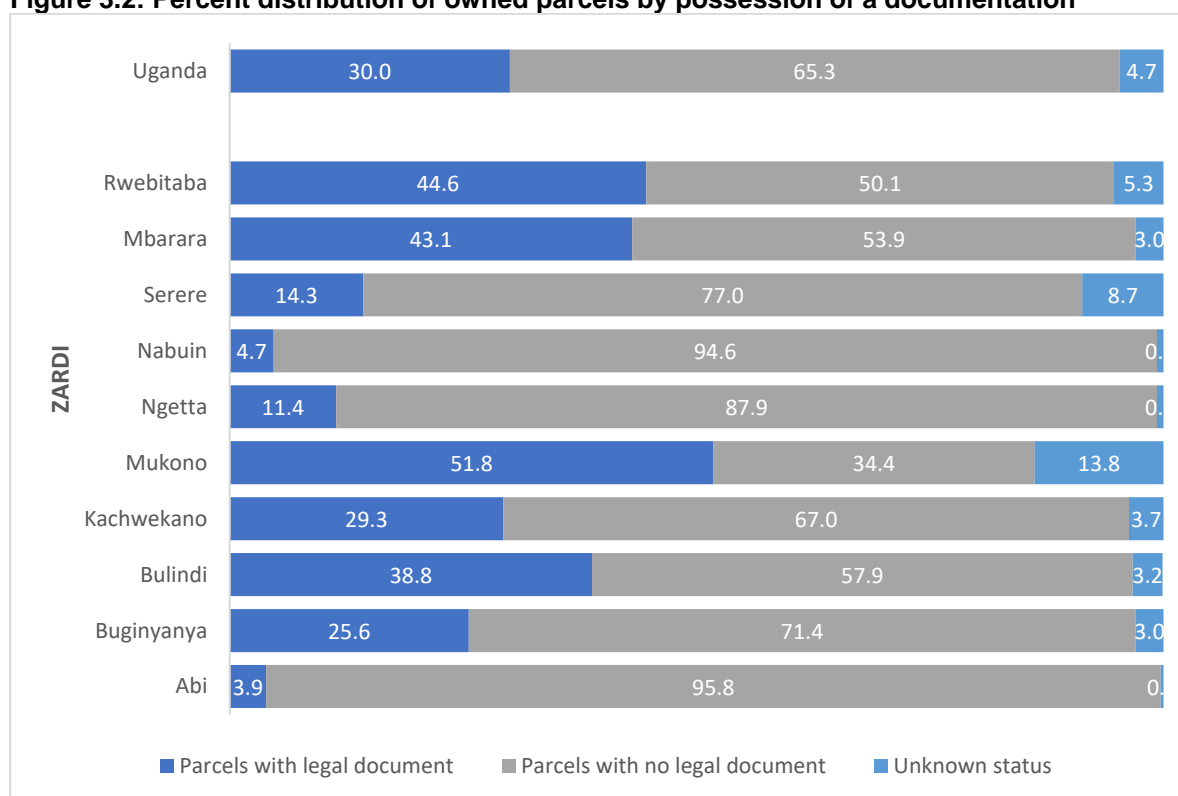
3.1.5 Presence of legal document for parcel

A legal document for a parcel is a piece of written, printed, or electronic matter that provides information or evidence or serves as an official record concerning the use rights over the parcel. The survey collected data on whether the Ag HHs had a formal document issued or registered with government authorities. If there was no positive response to either of these two options, it was implied that the Ag HH was operating without a legally recognized document. The list of legal documents considered by the survey are a title deed, a customary certificate of ownership, a certificate of occupancy, a certificate of hereditary acquisition, a written sale agreement and a rental or lease contract.

The results show that nationally, 65 percent of the parcels were operated without a legally recognized document, as compared to 30 percent of parcels for which there were legally recognized documents.

At the ZARDI level, Abi and Nabuin, at 96 percent and 95 percent, respectively, had the highest percentage of parcels that were being used without a legally recognized document, while Mukono, at 52 percent, had the highest percentage of parcels for which there were legally recognized documents. See **Figure 3.2** for details.

Figure 3.2: Percent distribution of owned parcels by possession of a documentation



3.1.6 Gender-based disparities over the land (SDG 5.a.1)

The AAS 2019 collected data required to monitor gender disparities in tenure rights over agricultural land as suggested in the 2030 Agenda for Sustainable Development, based on the Sustainable Development Goals (SDG) indicator 5.a.1.

SDG indicator 5.a.1 is comprised of two sub-indicators:

- a) The percentage of adults (18+) agricultural population with ownership or secure tenure rights over agricultural land, by sex;
- b) The share of women among owners or rights holders, by tenure type.

According to the indicator methodology, an individual is considered to have ownership or rights over the land, if s/he has a legal document in his/her name or if s/he enjoys alienation rights (can sell/can bequeath the land). One of the three proxies is sufficient to be considered an owner or a right holder.

Table 3.4 shows that 41 percent of the adults living in Ag HHs were owners or right holders over agricultural land. In a breakdown by gender, 52 percent of the men and 30 percent of the women were owner or right holders over agricultural land. Consistently, the share of women among owners /rights holders in 2019 was 39 percent a drop from 41 percent in 2018. This drop can be seen across the ZARDIS except for Nabuin (51 percent) and Serere (22 percent) which showed a slight increase from 2018.

In conclusion, the data discloses the presence of a gap in ownership and tenure between men and women, which was prevalent in all of the ZARDIs. See **Table 3.4** for details.

Table 3.4: Adults (18+) with ownership or tenure rights over agricultural land, by sex and share (%) of women among the owners/rights holder over agricultural land

ZARDI	Percentage of adults with ownership** or tenure rights over agricultural land, by sex (SDG 5a1 – part a)			Share (%) of women among the owners/rights holders (SDG 5a1 – part b)
	Total	Adult males*	Adult females*	
Abi	34.8	56.3	15.8	24.1
Buginyanya	37.6	49.3	26.5	36.3
Bulindi	36.6	47.4	25.9	35.7
Kachwekano	51.7	53.3	50.3	50.6
Mukono	35.5	49.9	22.5	33.4
Ngetta	40.8	51.3	30.6	38.2
Nabuin	52.9	63.6	45.6	51.3
Serere	23.0	37.0	9.8	22.0
Mbarara	54.7	58.0	51.6	48.7
Rwebitaba	51.6	63.4	40.9	41.5
Uganda	40.8	52.0	30.4	38.7

Note: *Based on totals within each category. **An individual is considered to have ownership or rights over the land, if s/he has a legal document in his/her name or if s/he enjoys alienation rights (can sell/can bequeath the land).

Similar results are observed considering only the strongest of the three proxy conditions – i.e. having the name on a legally recognized document, as shown in **Table 3.5**. Overall, 16 percent of the agricultural population had a legally recognized document for a parcel in their name. The findings further showed that the percentage of adults with a tenure right document in their name was higher among men (22.7 percent) than women (9.2 percent).

Table 3.5: Distribution of adult (18+) agricultural population with a land document in their name by sex

ZARDI	Percentage of adults with a tenure right document in their name		
	Total	Males	Female
Abi	2.0	2.5	1.5
Buginyanya	16.3	22.5	10.4
Bulindi	19.7	30.0	9.7
Kachwekano	11.5	13.9	9.4
Mukono	21.1	33.4	10.1
Ngetta	8.9	11.7	6.3
Nabuin	3.0	5.0	1.6
Serere	3.4	5.8	1.2
Mbarara	19.8	28.3	11.9
Rwebitaba	27.4	38.1	17.6
Uganda	15.7	22.7	9.2

CHAPTER 4: AGRICULTURAL PRACTICES AND INPUTS

4.1 Introduction

The overall objective of the Uganda national agriculture policy is to achieve food and nutrition security and improve the income of Ag HHs through coordinated interventions focusing on increasing sustainable agricultural productivity and value addition. In addition, the National Development Plan II (NDP II) aims to raise agricultural production and productivity through commercialization.

Agricultural productivity is generally low in Africa and is particularly low in Uganda, despite the country's potential to feed its population and export to surrounding countries. The low productivity can be attributed to various reasons, including, among them, low-yielding crop varieties, extensive land practices, declining soil fertility,¹² low fertiliser use and high dependence on rainfed agriculture. Given the importance of inputs on agriculture productivity, the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) has made efforts to foster access to agricultural inputs, including the promotion of financial services for farmers.

The topic of this chapter is the utilization of critical agricultural inputs, such as seeds, fertilisers and pesticides. In addition, it includes reports on agricultural practices, irrigation and labour as presented in the sections below.

4.2 Agricultural practices

4.2.1 Plot managers

The AAS 2019 collected information on the sex of the plot managers, which is potentially useful to identify gender differentials in agricultural productivity. The survey findings are consistent with the results obtained in the AAS 2018. As shown in **Table 4.1**, the vast majority of plots (91.3 percent) were managed jointly by men and women. Results were similar across ZARDIs. Only in Bulindi, the percentage of plots managed by men was substantially higher than the national average.

¹² According to the Uganda National Fertilisers Policy, the loss of soil nutrients in Uganda remains one of the highest in the African continent.

Table 4.1: Percent distribution of crop plots by sex of the plot manager, by ZARDI*

ZARDI	% plots managed by males only	% plots managed by females only	% plots managed jointly by males and females
Abi	2.8	4.9	92.3
Buginyanya	3.9	5.2	90.9
Bulindi	8.5	4.9	86.7
Kachwekano	3.3	6.2	90.5
Mukono	5.2	5.3	89.5
Ngetta	1.8	3.9	94.3
Nabuin	0.5	9.8	89.6
Serere	2.3	3.9	93.8
Mbarara	3.4	3.4	93.2
Rwebitaba	4.9	3.3	91.8
Uganda	4.0	4.7	91.3

Note: *Based on First Season data.

4.2.2 Cropping system and land preparation

Uganda's wetlands are widespread and complex, covering an estimated 13 percent of the country's land surface. They constitute the most widespread ecosystem type in the country and contribute immensely to people's livelihoods and to the health of the environment through processes, such as water storage and purification, products obtained from ecosystems, benefits from regulation of ecosystem services, non-material benefits obtained from ecosystems, and services necessary for the production of all other ecosystem services (Mafabi P., 2018). In 2018, the GoU started reviewing the National Policy for the Conservation of Wetlands and Management of Wetland Resources.

The AAS 2019 data shows that the percentage of plots in swampland remained stable from the previous year. At the national level, 6 percent of the cultivated land was in a swampland, compared to 6.7 percent reported in 2018. Buginyanya continued to be the ZARDI where swamplands are more frequently used (14 percent in 2019, 17 percent in 2018).

Table 4.2: Plot area in swampland, by ZARDI

ZARDI	First Season		Second Season	
	% plot area in swampland	Total area (Ha) in swampland	% plot area in swampland	Total area (Ha) in swampland
Abi	6	18,505	2	5,335
Buginyanya	14	129,014	14	102,375
Bulindi	3	14,401	2	11,501
Kachwekano	3	3,260	4	3,418
Mukono	7	86,498	10	109,831
Ngetta	5	44,889	4	25,930
Nabuin	5	7,928	-	-
Serere	3	9,614	1	1,462
Mbarara	3	15,476	3	16,213
Rwebitaba	2	7,046	3	10,772
Uganda	6	336,631	6	286,836

Note: -No sampled units under this category.

The AAS 2019 data confirmed that mixed cropping was very common in Uganda. As shown in **Table 4.3**, at the national level, 46 percent of the land cultivated in First Season and 38 percent of the land cultivated in Second Season were under mixed crops. The ZARDI with the highest percentage of land under mixed cropping was Mbarara (61 percent and 63 percent in First and Second Season, respectively). In addition, conventional tillage remained the main technique used for land preparation (see **Table 4.4**). At the national level, 79 percent of the cultivated land had been prepared with conventional tillage, a slight change from the 80 percent observed the previous year. The main difference with the AAS 2018 is under the category “no tillage”, in which the percent of land prepared with no tillage decreased from 17.6 percent in 2018 to 9 percent in 2019.¹³

¹³ Conventional tillage involves inversion (turning over) of the soil over the whole area with tillage operations. Conservation tillage involves tillage practice or practices that leave plant residues (at least 30-35 percent) on the soil surface for erosion control and moisture conservation. Conservation tillage can include reduced tillage/minimum tillage; strip tillage; ridge tillage; zero tillage or no tillage.

Table 4.3: Plot area by cropping system, by ZARDI

ZARDI	First Season			Second Season		
	Area (Ha)		% area in mixed mode	Area (Ha)		% area in mixed mode
	Pure	Mixed		Pure	Mixed	
Abi	190,419	124,012	39.4	190,581	31,549	14.2
Buginyanya	517,023	450,440	46.6	487,746	235,815	32.6
Bulindi	333,211	190,979	36.4	370,459	151,464	29.0
Kachwekano	79,505	27,168	25.5	57,647	31,736	35.5
Mukono	572,539	648,098	53.1	533,288	603,917	53.1
Ngetta	640,263	371,367	36.7	541,654	119,137	18.0
Nabuin	98,846	70,705	41.7	3,037	560	15.6
Serere	213,521	162,451	43.2	220,537	47,003	17.6
Mbarara	224,154	343,961	60.5	195,502	326,720	62.6
Rwebitaba	202,997	189,921	48.3	192,031	177,270	48.0
Uganda	3,072,479	2,579,103	45.6	2,792,481	1,725,170	38.2

Table 4.4: Distribution of land area (Ha), by land preparation method, by ZARDI*

ZARDI	Area (Ha)				
	Ridge till	Mulch till	Planting holes/pits	No tillage	Conventional tillage
Abi	8,126	102	1,186	684	302,866
Buginyanya	120,704	5,895	34,385	10,614	727,444
Bulindi	21,223	-	96,248	20,761	374,429
Kachwekano	16,265	4,389	4,340	7,701	67,856
Mukono	44,263	11,151	247,644	171,888	707,632
Ngetta	15,394	134	2,023	1,764	937,190
Nabuin	-	-	152	376	158,867
Serere	503	-	303	1,880	359,092
Mbarara	9,466	8,871	12,529	189,094	331,082
Rwebitaba	8,194	66	15,233	70,757	294,761
Uganda	244,140	30,608	414,042	475,518	4,261,220

Notes: *Based on season one data. -No sampled units under this category.

4.2.3 Irrigation

To boost agriculture production and modernise the agricultural sector, which is usually hampered by over-reliance on rainfall, the GoU is striving to increase farmer access and use of water for crop, livestock and fishery production.

The AAS 2018 showed a substantial change in the percentage of Ag HHs using irrigation for crop cultivation, from 0.4 percent in 2017 to 2.2 percent in 2018. This confirms the findings of the previous year. **Table 4.5** shows that the percentage of Ag HHs using irrigation on at least one plot ranged between 2.4 and 2.9 percent during the agricultural year 2019. Nabuin was the ZARDI with the lowest use of irrigation (0.4 percent in the First Season), followed by Rwebitaba (0.9 percent in the First Season). Mukono was the ZARDI with the highest use of irrigation (5.6 percent in the First Season). This pattern was confirmed by the amount of irrigated area (Ha) shown in **Table 4.6**.

Table 4.5: Percentage of Ag HHs using irrigation in at least one plot, by ZARDI

ZARDI	2018		2019	
	Second Season	First Season	First Season	Second Season
Abi	3.0		1.9	1.4
Buginyanya	3.0		2.1	2.7
Bulindi	2.3		4.1	2.0
Kachwekano	3.1		4.2	1.8
Mukono	2.9		5.6	4.2
Ngetta	1.1		1.1	1.5
Nabuin	-		0.4	-
Serere	1.7		2.8	1.8
Mbarara	3.8		3.5	2.3
Rwebitaba	2.5		0.9	1.2
Uganda	2.2		2.9	2.4

Note: - No sampled units under this category.

Table 4.6: Irrigated area (Ha), by ZARDI

ZARDI	2018	2019	
	Second Season	First Season	Second Season
Abi	3,229	2,799	1,130
Buginyanya	20,682	3,879	7,974
Bulindi	2,505	5,573	2,356
Kachwekano	818	971	1,130
Mukono	9,804	38,441	17,159
Ngetta	4,191	2,944	3,186
Nabuin	-	247	-
Serere	1,090	2,501	1,491
Mbarara	7,543	4,380	2,802
Rwebitaba	5,077	1,871	602
Uganda	54,939	63,607	37,831

Note: - No sampled units under this category.

4.3 Agricultural inputs

4.3.1 Seeds

The AAS 2019 collected information on the use of seeds during the First and Second Seasons of the agricultural year 2019. Results are shown in **Table 4.7**, **Table 4.8** and **Table 4.9**. As presented in **Table 4.7**, improved seeds were rarely used by Ag HHs; the application of them ranged between 25.3 percent in First Season and 18.3 percent in Second Season. These estimates are consistent with the 22.8 percent observed in the AAS 2018. The disaggregation by crop is shown in tables in Annex 4 shows that improved seeds were more frequently used to grow maize, Irish potatoes and coffee robusta clonal.

Table 4.7: Percent distribution of Ag HHs by type of seeds used, by ZARDI

ZARDI	% Ag HHs First Season		% Ag HHs Second Season	
	Traditional	Improved	Traditional	Improved
Abi	96.3	33.9	72.7	13.5
Buginyanya	95.3	28.2	81.8	16.0
Bulindi	97.6	29.5	93.8	20.8
Kachwekano	95.0	6.4	94.9	11.2
Mukono	91.1	34.0	90.8	29.5
Ngetta	98.2	39.1	95.4	23.4
Nabuin	86.5	6.4	85.6	5.4
Serere	99.5	16.2	94.7	8.1
Mbarara	93.9	10.5	93.6	9.7
Rwebitaba	96.3	12.9	93.1	17.8
Uganda	94.9	25.3	89.3	18.3

Note: * Question was asked only if the household planted seeds during the agricultural season. The sum of the percentage of households using traditional seeds and the percentage of households using improved seeds may have exceeded 100 if the households use both types of seeds.

Table 4.8 shows the average quantities of seeds applied by the farms during the agricultural year 2019 on the main temporary crops.¹⁴ Values are presented “per farm” and “per unit of land”; the latter relates quantities to planted area, thus it provides standardised results useful for comparisons across space and time (see tables in Annex 4 for ZARDI-level results). At the national level, for crops, such as sorghum, beans, groundnuts and simsim, estimates were similar for the two seasons while for other crops, such as maize, rice and millet, there were substantial discrepancies between First Season and Second Season. Collecting data on seeds is challenging because the quantities are reported in local units of measurements and farmers sometimes are unable to quantify the amounts, especially if seeds are self-produced (i.e. set aside from previous harvests). This explains the differences between seasons and the large confidence intervals (C.I.) around the means.

¹⁴ Except for Irish and sweet potatoes, for which information was not available.

Table 4.8: Average quantity of seeds applied*

CROPS	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
	Maize	4.0	4.0	13.7
Rice	35.0	24.0	40.8	32.9
Sorghum	3.6	3.4	11.3	9.8
Millet	4.0	3.4	10.8	14.4
Soya beans	10.0	3.4	25.8	21.4
Beans	10.0	3.4	47.0	43.8
Groundnuts	10.0	3.4	40.3	36.0
Simsim	2.4	3.4	5.5	4.8

Note: *Question was asked only if the household planted seeds during the agricultural season.

Table 4.9: Average seed expenditure and seed value*

CROPS	First Season	Second Season	First Season	Second Season
	Average expenditure (UGX)		Average total value** per land unit (UGX/Acre)	
	Maize	2,045	1,321	168,337
Rice	13,287	10,149	652,622	35,044
Sorghum	1,067	333	12,930	7,664
Millet	733	550	7,994	37,512
Soya Beans	5,105	1,989	89,422	22,580
Beans	3,604	3,011	201,320	36,295
Groundnuts	8,648	4,957	285,219	144,246
Simsim	2,736	1,535	34,166	6,408

Notes: *Question was asked only if the household planted seeds during the agricultural season. **The total value includes the actual cost of seeds and the opportunity cost of seeds set aside from previous harvests or received for free.

4.3.2 Fertilisers

The AAS 2019 collected information on the use of organic and inorganic fertilisers during the First and Second Season of the agricultural year 2019.

The adoption of fertilisers is presented in **Table 4.10** and **Table 4.11**. As shown in **Table 4.10**, 25.2 percent and 31.7 percent of Ag HHs used organic or inorganic fertilisers, respectively, during First and Second Season. Organic fertilisers are used by farmers than inorganic fertilisers. The Ag HHs using organic fertilisers was 18.8 percent in First Season and 25.2 percent in Second Season, whereas Ag HHs using inorganic fertilisers was only 9.1 percent in First Season and 10.1 percent in Second Season. At the ZARDI level, in both seasons, the percentage of Ag HHs using fertilisers was highest in Mbarara (59.5 percent in First Season and 67.9 percent in Second Season) and Kachwekano (43.8 percent in First Season and 65.5 percent in Second Season) and lowest in Ngetta (2.6 percent in First Season

and 2.1 percent in Second Season), Abi (7.5 percent in First Season and 6 percent in Second Season) and Nabuin (1.6 percent in First Season and 13.7 percent in Second Season).

Table 4.10: Percentage of Ag HHs using fertilisers, by ZARDI

ZARDI	First Season			Second Season		
	Any fertiliser	Organic	Inorganic	Any fertiliser	Organic	Inorganic
Abi	7.5	3.6	4.1	6.0	5.7	0.3
Buginyanya	25.3	16.1	14.9	25.5	18.6	11.5
Bulindi	16.8	3.3	14.1	19.6	7.6	14.7
Kachwekano	43.8	34.6	12.8	65.5	60.0	15.5
Mukono	33.8	25.7	13.6	44.7	33.0	19.0
Ngetta	2.6	0.3	2.4	2.1	1.0	1.4
Nabuin	1.6	1.6	0.0	13.7	8.5	5.2
Serere	20.7	20.0	0.6	31.2	31.2	0.0
Mbarara	59.5	57.2	4.5	67.9	64.0	7.0
Rwebitaba	10.4	2.4	8.2	15.2	4.7	11.5
Uganda	25.2	18.8	9.1	31.7	25.2	10.1

Table 4.11: Percentage of Ag HHs using fertilisers, by type of fertiliser used and by ZARDI

	First Season		Second Season	
	Organic	Inorganic	Organic	Inorganic
Abi	48.1	55.3	95.4	4.6
Buginyanya	63.7	58.6	72.9	45.0
Bulindi	19.7	84.1	39.0	75.0
Kachwekano	79.0	29.3	91.7	23.7
Mukono	76.1	40.2	73.8	42.6
Ngetta	10.0	92.4	47.7	69.2
Nabuin	100.0	0.0	61.7	38.3
Serere	97.1	2.9	100.0	0.0
Mbarara	96.2	7.5	94.2	10.4
Rwebitaba	22.9	78.6	30.8	75.4
Uganda	74.7	36.2	79.4	32.0

Table 4.12 illustrates that birds and animal droppings were the fertilisers most frequently in use, followed by plant residues and compost, and NPK. During the First Season, 68.4 percent of Ag HHs used fertilisers of applied birds and animal droppings, 40.7 percent used plant residues and compost and 43.8 percent used NPK. Similar estimates were observed for the Second Season.

Table 4.12: Percentage of Ag HHs using fertilisers by type of fertilisers used

Fertiliser type	First Season	Second Season
Commercial organic	1.2	0.6
Animal/human urine	1.3	1.7
Animal/bird droppings	68.4	71.8
Plant residue/compost	40.7	33.5
Green plant cover crops	3.0	4.4
Ash	2.9	3.1
Rubbish	1.0	0.5
Sewage/sludge	-	0.4
Other types of organic fertilisers	0.1	0.1
CAN (Calcium Ammonium Nitrate)	11.7	7.5
Urea	26.1	21.4
DAP (Di-Ammonium Phosphate)	17.5	21.8
SSP (Single Super Phosphate)	1.1	0.2
TSP (Triple Super Phosphate)	0.2	0.2
MOP (Muriate of Potash)	-	-
NPK (Nitrogen Phosphorus and Potassium)	43.8	29.2
Other type of inorganic fertilisers	28.2	15.7

Note: -No sampled units under this category.

In addition to identifying Ag HHs using fertilisers, the AAS 2019 collected information on the quantity and cost of inorganic fertilisers applied.¹⁵ **Table 4.13** shows the average quantities applied by the Ag HHs using fertilisers. Values are presented “per household” and “per unit of land”. At the national level, the Ag HHs using fertilisers applied, on average, 46.9 kilograms per acre during the First Season and 36.3 kilograms per acre during the Second Season. Among the households using fertilisers, those located in the ZARDIs of Kachwekano and Abi tended to use higher quantities. In fact, in Kachwekano, households applied, on average, 102.4 Kg/Acre in First Season and 93.6 Kg/Acre in Second Season; in Abi, households applied 80.3 Kg/Acre in First Season.

¹⁵ Quantities of organic fertilisers are not presented due to the difficulty of collecting this type of information from the respondents.

Table 4.13: Average quantity of inorganic fertiliser applied (Kg) among Ag HHs using inorganic fertilisers, by ZARDI

ZARDI	First Season		Second Season	
	Quantity (Kg)	Quantity per land unit (Kg/Acre)	Quantity (Kg)	Quantity per land unit (Kg/Acre)
Abi	90.2	80.3	<	<
Buginyanya	50.3	56.4	79.7	50.7
Bulindi	70.5	41.4	13.8	13.6
Kachwekano	29	102.4	35.6	93.6
Mukono	65.1	31.8	45.2	26.4
Ngetta	37.7	25.2	125.5	29.3
Nabuin	-	-	<	<
Serere	<	<	-	-
Mbarara	139.3	51.9	61.4	42.3
Rwebitaba	16.8	21.1	19.2	15
Uganda	58.8	46.9	49.3	36.3

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Using standard reference tables, the quantities of fertilisers have been transformed into nutrients.¹⁶ As shown in **Table 4.14**, at the national level, Ag HHs using inorganic fertilisers applied, on average, 10.7 Kg/Acre of nitrogen (N), 6.3 Kg/Acre of phosphorous (P) and 3.6 Kg/Acre of potassium (K) during the First Season. The estimates for Second Season are similar – i.e. 7.9 Kg/Acre of nitrogen (N), 6 Kg/Acre of phosphorous (P) and 2.7 Kg/Acre of potassium (K). Overall, Kachwekano is the ZARDI with the highest quantities of nutrients per unit of land.

¹⁶ Nutrient quantities have been derived from fertilizer quantities using the standard reference tables. For CAN (Calcium Ammonium Nitrate) the values used are: 26 percent N, 0 percent P and 0 percent K. For UREA, the values used are: 46 percent N, 0 percent P and 0 percent K. For DAP (Diammonium Phosphate), the values used are: 18 percent N, 46 percent P and 0 percent K. For SSP (Single Super Phosphate) the values used are: 0 percent N, 20 percent P and 0 percent K. For TSP (Triple Super Phosphate) the values used are: 0 percent N, 46 percent P and 0 percent K. For MOP (Muriat of Potash) the values used are: 0 percent N, 0 percent P and 60 percent K. For NPK, the values used are: 15 percent N, 15 percent P and 15 percent K. However, farmers may purchase fertilisers with nutrient concentration different from the standard values.

Table 4.14: Average quantity of nutrients per unit of land (Kg/Acre) among Ag HHs using inorganic fertilisers, by ZARDI

ZARDI	First Season			Second Season		
	Quantity per land unit (Kg/Acre)			Quantity per land unit (Kg/Acre)		
	N	P	K	N	P	K
Abi	15.0	8.0	8.0	<	<	<
Buginyanya	15.7	7.7	3.1	11.9	11.1	2.0
Bulindi	8.2	4.9	4.2	2.2	0.6	2.6
Kachwekano	15.7	15.6	15.0	13.5	16.0	11.3
Mukono	8.7	4.9	1.4	6.3	3.9	1.8
Ngetta	5.1	3.0	3.0	6.8	2.6	1.3
Nabuin	-	-	-	<	<	<
Serere	<	<	<	-	-	-
Mbarara	6.9	6.7	4.1	7.8	7.2	4.6
Rwebitaba	2.8	1.5	1.5	5.8	-	-
Uganda	10.7	6.3	3.6	7.9	6.0	2.7

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4.15 illustrates the cost of inorganic fertilisers at the farm-level¹⁷ and per unit of land. At the national level, median value per land unit (UGX/Acre) was very similar for the two seasons (55,825 UGX in the First Season and 52,568 UGX in the Second Season). At ZARDI level, differences are observed in mainly in Bulindi, Kachwekano and Ngetta¹⁸.

¹⁷ Here the term “farm” is used as synonymous of “holding” or “agricultural household”. Accordingly, it indicates the entire land operated by the household.

¹⁸ Approximately equal to 97 percent.

Table 4.15: Median expenditure on inorganic fertilisers among HHs using inorganic fertilisers, by ZARDI

ZARDI	First Season		Second Season	
	Median expenditure (UGX)	Median value* per land unit (UGX/Acre)	Median expenditure (UGX)	Median value per land unit (UGX/Acre)
Abi	190,000	177,012	<	<
Buginyanya	32,000	49,123	<	<
Bulindi	80,000	74,511	24,980	26,156
Kachwekano	35,000	184,426	60,000	255,102
Mukono	20,000	32,060	60,000	31,383
Ngetta	600	532	150,000	110,357
Nabuin	-	-	<	<
Serere	<	<	-	-
Mbarara	135,000	94,500	78,000	95,157
Rwebitaba	31,000	58,182	40,000	44,483
Uganda	35,000	55,825	55,000	52,568

Note: *The total value includes the actual cost of fertilisers and the opportunity cost of fertilisers received for free. -No sampled units under this category. <Insufficient number of sampled units under this category.

While the tables above focus on Ag HHs using fertilisers, **Table 4.16** relates the quantity of inorganic fertilisers and nutrients to the total area planted in the country, thus providing an efficient summary about fertiliser adoption in Uganda. At the national level, farms applied, on average, 1.2 Kg/Acre of inorganic fertilisers.¹⁹ This resulted in 0.3 Kg/Acre of nitrogen (N), 0.2 Kg/Acre of phosphorous (P) and 0.1 Kg/Acre of potassium (K) during First Season. Similar estimates were observed for the Second Season. Kachwekano and Buginyanya are the ZARDIs with the highest quantities of inorganic fertilisers and nutrients per unit of land.

¹⁹ Equal to 2.9 Kg/Ha/ha.

Table 4.16: Average quantity of inorganic fertilisers and nutrients per unit of land (Kg/Acre) in the total land planted, by ZARDI

	First Season				Second Season			
	Average quantity per land unit (Kg/Acre)				Average quantity per land unit (kg/Acre)			
	Inorg. fert.	N	P	K	Inorg. fert.	N	P	K
Abi	16.3	3.2	1.4	1.4	13.8	2.1	2.1	2.1
Buginyanya	19.2	5.6	2.6	0.8	23.1	6.4	3.4	0.5
Bulindi	10.5	2.1	1.2	1.0	1.7	0.4	0.1	0.1
Kachwekano	19.6	3.0	3.0	2.9	26.8	3.9	4.2	3.7
Mukono	9.5	2.8	1.6	0.3	6.8	1.6	1.1	0.5
Ngetta	6.3	1.1	0.9	0.9	52	13.7	2.5	2.3
Nabuin	-	-	-	-	-	-	-	-
Serere	0.1	-	-	-	-	-	-	-
Mbarara	8.2	1.5	1.3	0.7	6.5	1.0	1.2	0.7
Rwebitaba	3.4	0.5	0.2	0.2	3.5	1.4	-	-
Uganda	1.2	0.3	0.2	0.1	1	0.2	0.1	0.1

Note: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4.17 sheds light on the factors preventing Ag HHs from using fertilisers. Similar to the previous year, affordability was the major issue. A majority of the Ag HHs, 78.6 percent in First Season and 77.5 percent in Second Season, reported they could not afford to purchase fertilisers. Lack of availability (33.3 percent in First Season and 31.4 percent in Second Season) was another reason indicated. Aside from these practical constraints, among the other reasons, were those related to knowledge-related explanations, such as lack of knowledge on benefits and use of fertilisers (24.9 percent in First Season and 25.4 in Second Season) and the belief that the farm soil does not require fertilisers (28.5 percent in First Season and 33.1 in Second Season).

Table 4.17: Percentage distribution of Ag HHs not using inorganic fertilisers by reason

REASONS	% Ag HHs	
	First Season	Second Season
No need for fertiliser, the soil is fertile enough	28.5	33.1
Fertiliser is of poor quality or bad experience	0.6	0.5
Land is rented in, no motivation to apply fertiliser	3.8	2.8
No knowledge on benefits and use	24.9	25.4
Fertiliser use is costly/farmer can't afford	78.6	77.5
Fertiliser not available locally	33.3	31.4
Fertiliser use will not improve the yield	1.8	2.2
Fertiliser burns crops if rain is little	1.4	1.2
Fertiliser increases weeds	0.9	3.3
Fertiliser has negative effects on soil	7.1	8.4
Fertiliser application is impractical	0.7	0.8

4.3.3 Pesticides

As part of the strategy to increase agricultural production and improve food security and farmer income, between 2015 and 2020, the Agriculture Sector Strategic Plan (ASSP) of MAAIF focused on pests, vectors and disease control, especially for the priority and strategic commodities.

The AAS 2019 collected information on the use of pesticides during the First and Second Seasons of the agricultural year 2019.

The adoption of pesticides is presented in **Table 4.18** and **Table 4.19** shows that almost one fourth of the Ag HHs (22.6 percent in First Season and 22.7 percent in Second Season) used pesticides on their crops. Bulindi and Mukono are the ZARDIs where pesticides are more frequently used (31.4 percent and 40.2 percent of the Ag HHs in Bulindi in First Season and Second Season, respectively, and 37.9 percent and 35.4 percent in Mukono in First Season and Second Season, respectively). **Table 4.19** shows that insecticides were the product most frequently applied, followed by herbicides. In fact, in the First Season, 70 percent of the Ag HHs using pesticides applied insecticides and 32 percent used herbicides. Fungicides and rodenticides were rarely used (14 percent and 11 percent, respectively). This pattern observed at the national level is valid at the ZARDI level, with just a few exceptions. For example, fungicides were used frequently in Kachwekano (73.3 percent in First Season and 49.6 in Second Season); and the use of herbicides was much higher than the national average in Bulindi (46.9 percent in First Season and 59.2 percent in Second Season) and Mukono (67.1 percent in First Season and 56.5 percent in Second Season).

Table 4.18: Percentage of Ag HHs using pesticides, by ZARDI

ZARDI	% Ag HHs	
	First Season	Second Season
Abi	11.6	6.3
Buginyanya	21.5	17.3
Bulindi	31.4	40.2
Kachwekano	27.3	25.8
Mukono	37.9	35.4
Ngetta	17.4	13.8
Nabuin	1.3	5.2
Serere	25.2	34.2
Mbarara	12.3	11.3
Rwebitaba	19.3	25.9
Uganda	22.6	22.7

Table 4.19: Percent distribution of Ag HHs using pesticides in 2019, by type of pesticide and ZARDI

ZARDI	First Season				Second Season			
	Herbicides	Insecticides	Fungicides	Rodenticides	Herbicides	Insecticides	Fungicides	Rodenticides
Abi	5.8	90.5	2.1	8.9	0.0	100.0	0.0	4.4
Buginyanya	4.7	91.5	20.8	0.0	3.1	94.1	21.3	0.3
Bulindi	46.9	66.6	2.2	0.6	59.2	58.0	1.6	0.0
Kachwekano	11.8	41.3	73.3	5.7	13.1	72.3	49.6	3.0
Mukono	67.1	48.8	10.1	0.8	56.5	60.0	15.4	0.0
Ngetta	8.0	96.2	0.5	0.5	4.8	87.9	6.3	2.6
Nabuin	<	<	<	<	<	<	<	<
Serere	3.9	98.0	0.0	0.0	1.3	98.7	0.0	0.0
Mbarara	30.0	54.2	31.9	1.7	33.0	54.0	29.5	0.0
Rwebitaba	22.0	80.4	4.2	0.0	38.1	62.9	5.6	0.0
Uganda	32.1	70.3	14.2	1.1	32.8	71.8	14.1	0.5

Note: <Insufficient number of sampled units under this category.

4.3.4 Labour

The AAS 2019 collected information on crop labour during the First and Second Seasons of the agricultural year 2019. Detailed data was collected on the type of labour used for crop cultivation and time spent engaged in crop-related activities. The data shed light on the participation in crop production and labour input, which are necessary for estimating labour productivity and cost of labour.

Table 4.20 and **Table 4.21** show the distribution of Ag HHs by type of labour used for crop cultivation. The vast majority of Ag HHs rely on household labour (99.4 percent in First Season, 99.6 percent in Second Season), either exclusively (40.8 percent in First Season, 43.5 percent in Second Season) or in combination with external workers (e.g., hired laborers or unpaid workers). Farmers almost never replaced household labour with the exclusive use of hired workers or unpaid labourers. So, external workers were mainly used to complement the household labour. This happened more frequently during land preparation (27.3 percent in First Season and 24.5 percent in Second Season) and weeding (27.2 percent in First Season and 25 percent in Second Season) (see **Table 4.22**).

Table 4.20: Percent distribution of Ag HHs by type of labour used for crop cultivation, by ZARDI – First Season

ZARDI	% Ag HHs					
	HH labour only	Hired labour only	Unpaid labour*	HH and hired labour	HH and unpaid labour	HH, unpaid and hired labour
Abi	31.6	0.2	-	40.5	9.4	18.2
Buginyanya	49.3	0.2	0.3	28.5	11.2	10.5
Bulindi	43.5	0.2	-	32.0	10.6	13.7
Kachwekano	32.7	3.2	0.2	24.8	22.2	16.9
Mukono	47.0	0.8	-	32.1	10.6	9.6
Ngetta	29.5	0.2	0.1	35.7	15.8	18.7
Nabuin	21.2	-	-	14.8	48.4	15.6
Mbarara	46.1	1.1	-	22.1	20.2	10.5
Rwebitaba	33.5	0.1	-	23.3	24.5	18.6
Serere	37.1	-	-	51.6	4.0	7.4
Uganda	40.8	0.5	0.1	30.6	14.9	13.1

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category. *Unpaid labour includes unpaid relatives and community members.

Table 4.21: Percent distribution of Ag HHs by type of labour used for crop cultivation, by ZARDI – Second Season

ZARDI	% Ag HHs					
	HH labour only	Hired labour only	Unpaid labour*	HH and hired labour	HH and unpaid labour	HH, unpaid and hired labour
Abi	39.9	0.4	-	32.2	14.1	13.3
Buginyanya	55.6	0.6	-	25.4	10.3	8.1
Bulindi	41.5	1.2	-	33.9	11.8	11.8
Kachwekano	43.1	1.5	-	27.1	17.4	11.0
Mukono	44.3	0.2	0.1	31.2	12.2	11.9
Ngetta	25.6	-	-	27.6	19.0	27.8
Nabuin	70.9	-	-	11.2	12.2	5.7
Mbarara	42.8	0.3	-	20.4	23.8	12.8
Rwebitaba	43.6	-	-	24.7	14.6	17.1
Serere	40.2	-	-	54.6	3.3	1.9
Uganda	43.5	0.4	-	28.9	14.2	13.0

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category. *Unpaid labour includes unpaid relatives and community members.

Table 4.22: Percent distribution of Ag HHs, by type of labour and activities

Activity	First Season			Second Season		
	Only HH members	Only hired workers	Both	Only HH members	Only hired workers	Both
Land preparation	69.2	3.5	27.3	72.3	3.2	24.5
Planting	80.3	2.0	17.7	82.4	1.8	15.8
Weeding	70.2	2.6	27.2	72.6	2.4	25.0
Mulching	95.8	1.8	2.4	96.2	1.0	2.8
Fertilising	90.0	4.8	5.2	90.9	3.5	5.6
Spraying	74.6	17.3	8.1	79.5	11.9	8.6
Irrigation	91.5	1.5	7.1	86.6	10.7	2.7
Pruning	95.4	1.5	3.2	97.3	0.4	2.3
Guarding,	96.4	2.4	1.2	96.7	1.0	2.3
Harvesting, threshing	85.3	1.5	13.3	86.2	1.3	12.5
Transport to storage	92.6	1.9	5.5	93.5	1.2	5.3
Transport to market	93.0	3.0	4.0	91.6	4.3	4.1
Drying, packing, storing	98.3	0.4	1.3	98.7	0.3	1.1

Table 4.23 and **Table 4.24** display the average number of person-days worked on crop cultivation. The results are similar across the seasons. At the national level, Ag HHs employed, on average, 87.7 person-days in First Season and 91.5 in Second Season. The major contribution to cropping comes from female household members, (45.6 person-days in First Season and 47.1 in Second Season). After

women, male members were the largest contributors (35.1 in First Season and 36.4 in Second Season) while the contribution of hired workers and unpaid labourers was negligible. The input of hired workers was more visible only in a few ZARDIs, such as Mukono and Mbarara. The number of person-days per Acre can be used to better compare the intensity of labour across the ZARDIs and Seasons because it relates the person-days to the area planted. At the national level, on average, farms used 67.1 person-days per Acre in First Season and 80.3 in Second Season. The lowest number of person-days per Acre occurred in Nabuin during First Season (34.7) and in Serere during Second Season (49.5). The highest numbers were in Kachwekano and Rwebitaba in both seasons.

Table 4.23: Labour input for crop production activities, by ZARDI – First Season

ZARDI	Average number of person-days*					All	Person-days/Acre
	Male HH members	Female HH members	Male hired workers	Female hired workers	Unpaid workers/relatives		
Abi	35.3	48.3	3.5	1.5	0.6	89.1	77.0
Buginyanya	21.9	30.6	2.8	2.1	0.2	57.6	54.1
Bulindi	50.1	57.4	5.1	2.0	0.6	115.1	69.2
Kachwekano	21.1	57.9	1.3	1.7	0.8	82.8	130.5
Mukono	28.8	33.1	8.1	2.7	0.2	72.9	46.3
Ngetta	47.6	56.5	2.3	1.7	0.7	108.8	44.6
Nabuin	13.0	37.6	1.9	1.9	1.5	55.9	34.7
Serere	35.7	39.3	3.3	1.8	0.1	80.1	42.5
Mbarara	39.7	53.6	4.7	3.5	0.5	102.0	96.1
Rwebitaba	55.7	66.6	5.1	1.9	0.6	129.9	109.4
Uganda	35.1	45.6	4.3	2.2	0.5	87.7	67.1

Note: *Person-day corresponds to a full-time day of eight hours.

Table 4.24: Labour input for crop production activities, by ZARDI – Second Season

ZARDI	Average number of person-days*					All	Person-days/Acre
	Male HH members	Female HH members	Male hired workers	Female hired workers	Unpaid workers/relatives		
Abi	31.3	44.7	1.8	1.0	0.6	79.3	89.4
Buginyanya	22.7	30.9	2.6	2.0	0.2	58.4	63.7
Bulindi	42.8	50.7	7.5	2.2	0.5	103.6	58.2
Kachwekano	22.7	57.2	0.9	1.2	0.5	82.6	140.9
Mukono	27.6	34.1	7.6	2.4	0.3	72.0	50.2
Ngetta	45.0	52.2	2.9	3.8	1.0	105.0	57.8
Nabuin	15.9	17.4	0.9	0.1	0.3	34.6	73.7
Serere	30.4	33.1	2.6	1.8	0.1	68.1	49.5
Mbarara	47.9	64.2	10.4	3.7	0.7	126.9	123.2
Rwebitaba	65.3	79.0	4.5	1.8	0.5	151.1	138.9
Uganda	36.4	47.1	5.0	2.4	0.5	91.5	80.3

Note: * Person-day corresponds to a full-time day of eight hours.

Figure 4.1: Average number of person-days by worker type



Table 4.25 and **Table 4.26** illustrate the cost of hired labour, the opportunity cost (value) of unpaid work and the total value of labour per unit of land. Results are similar for the two seasons. At the national level, on average, Ag HHs spent between 74,607 UGX (First Season) and 90,277 UGX (Second Season) to hire workers, which corresponds to 36,324 UGX per acre in First Season and 39,278 UGX per Acre in Second Season. The opportunity cost (value) of relatives and community labour was obviously low, given their little contribution to the crop activities. On the contrary, the opportunity cost

(value) of household labour was very high (302,352 UGX/Acre in First Season; 370,710 UGX/Acre in Second Season), due to the high participation of the household members to cropping. Overall, the cost distribution across the ZARDIs, reflected the patterns observed above. For instance, for the ZARDIs with a higher presence of hired workers (Mukono and Mbarara) the costs of hired workers per unit of land in both seasons were higher.

Table 4.25: Cost and value of labour on crop cultivation, by ZARDI – First Season

ZARDI	Average cost of hired labour (UGX)		Average value (opportunity cost)* of unpaid work per unit of land (UGX/Acre)		Average total value of labour per unit of land (UGX/Acre)**
	Cost	Cost per unit of land (UGX/Acre)	Relatives/ community members	HH members	
Abi	33,709	21,288	9,156	292,745	307,210
Buginyanya	63,275	36,488	6,676	248,383	262,025
Bulindi	79,350	27,344	8,233	339,150	350,266
Kachwekano	31,868	45,047	29,283	645,134	652,453
Mukono	151,373	58,833	5,670	255,068	278,631
Ngetta	33,821	12,891	3,860	188,497	194,490
Nabuin	38,522	16,095	4,560	97,011	104,822
Serere	25,394	12,173	2,242	124,206	131,637
Mbarara	111,303	62,767	7,453	398,167	416,034
Rwebitaba	82,097	43,797	5,616	521,130	541,317
Uganda	74,607	36,324	7,558	302,352	317,638

Notes: *The value of the unpaid labourers (or opportunity cost) is the cost of the unpaid workers if they were to be hired. **The total value of labour includes the actual cost of hired workers and the opportunity cost of unpaid labourers and household members

Table 4.26: Cost and value of labour on crop cultivation, ZARDI – Second Season

ZARDI	Average cost of hired labour (UGX)		Average opportunity cost (value)* of unpaid work per unit of land (UGX/Acre)		Average total value of labour per unit of land (UGX/Acre)**
	Cost	Cost per unit of land (UGX/Acre)	Relatives/ community members	HH members	
Abi	24,238	21,050	13,041	355,098	365,083
Buginyanya	68,430	39,811	6,538	303,340	315,001
Bulindi	102,041	32,466	5,951	273,703	287,111
Kachwekano	26,340	45,085	21,929	732,925	742,184
Mukono	146,590	56,372	5,893	281,750	306,787
Ngetta	53,548	25,330	6,079	241,475	257,326
Nabuin	19,546	12,774	9,999	202,860	198,288
Serere	31,101	17,800	4,132	187,655	197,925
Mbarara	194,507	56,229	9,651	514,220	534,445
Rwebitaba	75,295	41,195	6,339	677,656	696,862
Uganda	90,277	39,278	8,055	370,710	387,180

Note: *The value of the unpaid labourers (or opportunity cost) is the cost of the unpaid workers if they were to be hired. **The total value of labour includes the actual cost of hired workers and the opportunity cost of unpaid labourers and household members

4.3.5 Land and overhead farm costs

While the text above focused on variable inputs and their cost, this section presents the land expenditures and the farm overhead expenses incurred by the Ag HHs during the 12 months before the interview.

Overall, the results are consistent with the low level of mechanisation and modernisation of the agricultural sector in Uganda. In fact, 17.6 percent of the Ag HHs reported having paid for land rentals, for an annual average of 206,960 UGX, 4.9 percent repaid interest on agricultural loans and 7.5 percent purchased or repaired agricultural equipment (see **Table 4.27**). It is worth noting that, the use of electricity by Ag HHs is very low with 0.1 percent of Ag HHs reporting having spent on electricity for agricultural purposes.

Table 4.27: Land and overhead costs*

	Average amount (UGX) **	% Ag HHs
Rent of buildings for farm use	111,086	0.8
Rent of land for agriculture	206,960	17.6
Interest on agricultural loans	118,822	4.9
Licenses, fees and other statutory permits	30,658	0.1
Maintenance and repairs of buildings for farm use	249,827	0.3
Purchase or repair of vehicle/tractor/equipment	64,238	7.5
Water for crop irrigation, animal feeding	305,626	1
Electricity for agricultural purposes	243,159	0.1
Investment on the holding	353,500	0.2

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. **Calculated on the Ag HHs that reported having spent on that particular item

4.4 Labour productivity and income²⁰

The AAS 2019 collected the data required for the monitoring of the Sustainable Development Goal (SDG) 2, particularly SDG indicators 2.3.1 and 2.3.2.

According to target 2.3 of the Sustainable Agenda, by 2030 countries should “double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and nonfarm employment”.

Following the official FAO methodology, the prevalence of small-scale producers has been calculated taking into account the bottom 40 percent of the cumulative distribution of the variables *operated land*²¹, *number of animals (in TLU)* and *total value of farm production*. At national level, more than half of Ag HHs (54%) were classified as small-scale producers (or small holders). Such percentage gets as high as 84 percent in Kachwekano and goes down to 37 percent in Mukono (see **Figure 4.2**). **Table 4.28** presents the profile of small and large holders in 2019.

²⁰ The FAO methodology for SDG indicators 2.3.1 and 2.3.2 can be found at: <https://www.fao.org/sustainable-development-goals/indicators/231/en/> and <https://www.fao.org/sustainable-development-goals/indicators/232/en/>.

²¹ Operated land includes land cultivated with temporary and permanent crops, land temporary fallow and left bare after ploughing. The annual operated land is the average of the land operated in the first and second season.

Table 4.28: Profile of small and large holders in 2019

Small-scale producers	Large-scale producers
<ul style="list-style-type: none"> • On average, small holders operated 1.1 acres of land • 88 percent of small holders operated less than 2 acres of land. Almost none (0.1 percent) operated more than 5 acres of land. • Small holders had an average TLU equal to 0.2 and a maximum TLU equal to 2.6. • Small holders' volume of production was, on average, 1.1 Million UGX. • Small holders generated 28 percent of the total volume of production 	<ul style="list-style-type: none"> • On average, large-scale producers operated 3.1 acres of land in 2019 • 14.2 percent of large-scale producers operated more than 5 acres of land. 39 percent operated less than 2 acres of land. • Large producers had an average TLU equal to 0.7 • Large producers' volume of production was, on average, 3.3 Million UGX. • Large holders generated 72 percent of the total volume of production

SDG indicator 2.3.1 measures the volume of production per labour unit by enterprise size. The volume of production is expressed in monetary terms while labour is measured in person-days. SDG indicator 2.3.1 measures the disparity in labour productivity between small and large holders. Therefore, it helps understanding the productivity gap and the constraints of small holders in accessing inputs and resources adding value to the production.

In the AAS 2019, the volume of production included crop and livestock production, regardless of their disposition. Similarly, labour comprised crop and livestock work. The AAS findings indicate a considerable gap between the small and large producers. In fact, the volume of production per labour unit is equal to 13,524 UGX for the large producers while it is only 7,691 UGX among the small producers (see **Figure 4.3**). Disaggregation by ZARDI and by sex of the holder is shown in Annex 4.

SDG indicator 2.3.2 measures the average income of farmers by enterprise size. The indicator 2.3.2 helps understanding the disparity between small and large producers on the annual income generated by the farm activities. In the AAS 2019, the income calculation was limited to crop and livestock activities. Like the previous indicator, the results show a considerable gap between the small and large producers. In fact, the average annual farm income is equal to 2.6 Millions UGX for the large-scale producers while it is less than 1 Million UGX among the small holders (see **Figure 4.4**). Disaggregation by ZARDI and by sex of the holder is shown in Annex 4.

Figure 4.2: Percentage of small-scale producers, by ZARDI

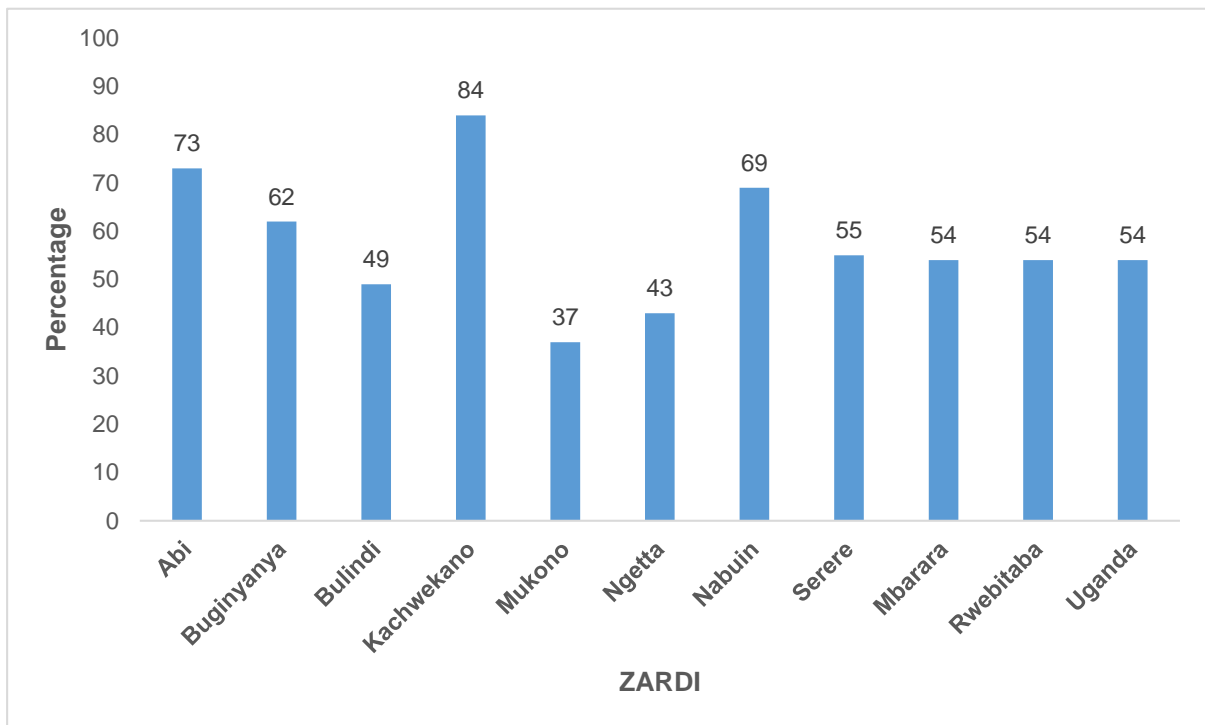


Figure 4.3: Volume of production per labour unit by enterprise size (SDG indicator 2.3.1)

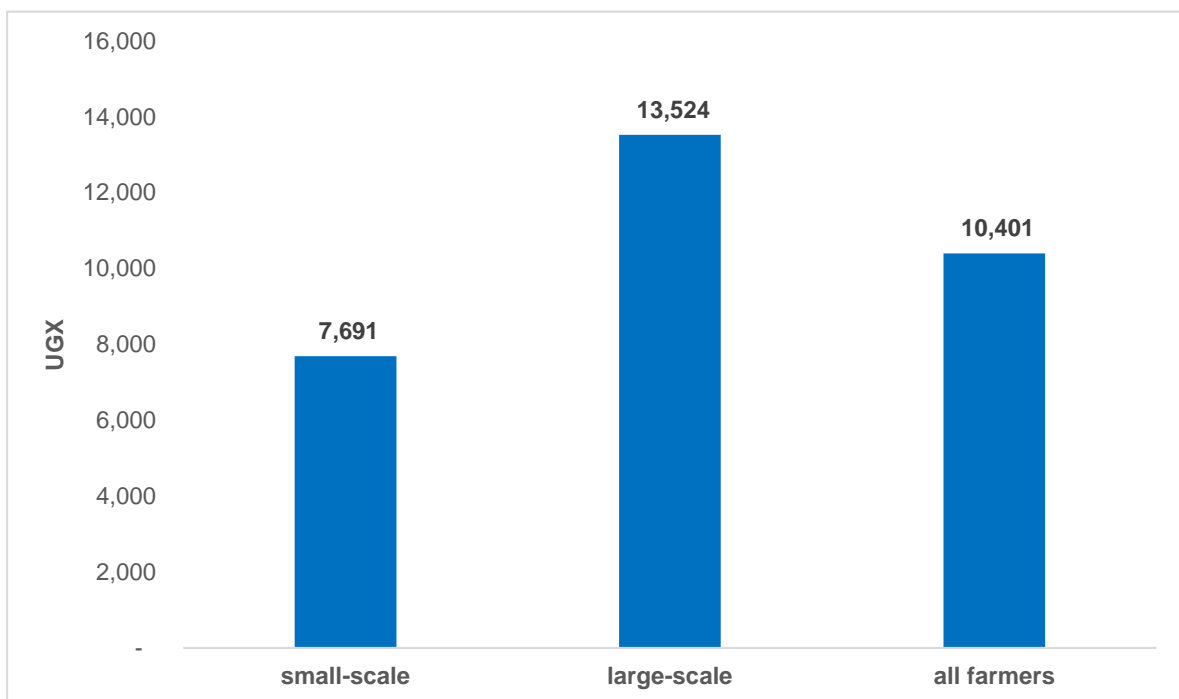
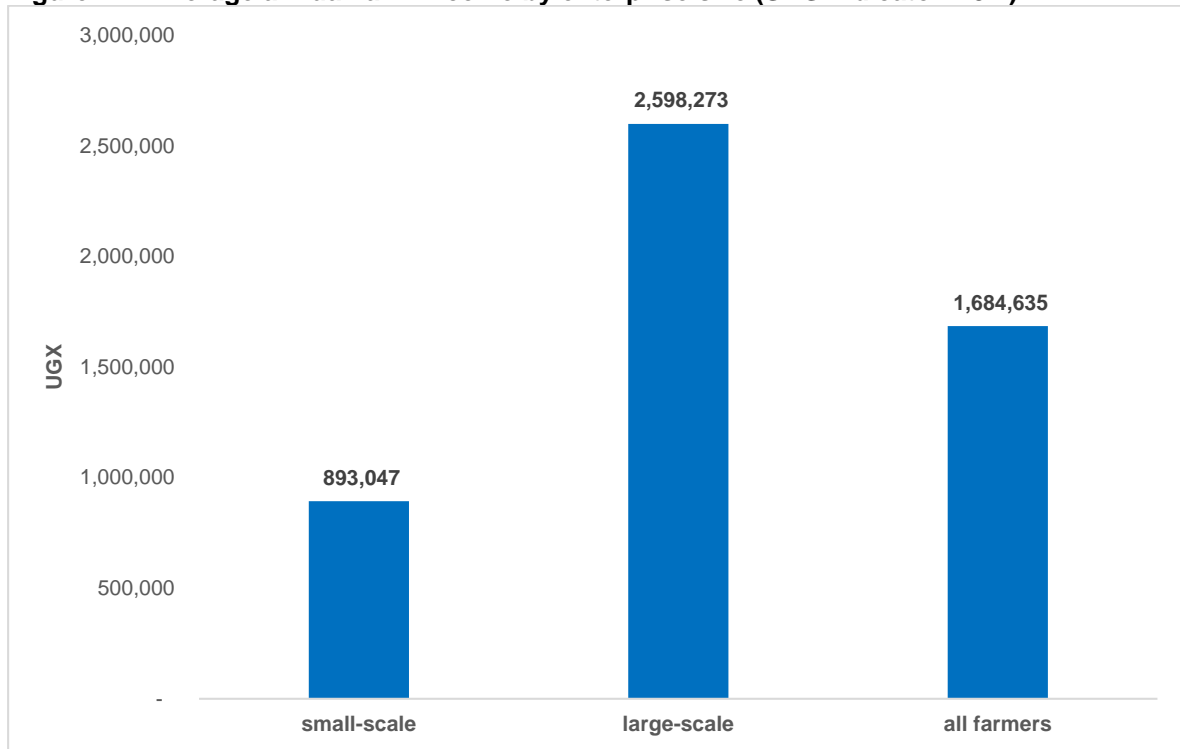


Figure 4.4: Average annual farm income by enterprise size (SDG indicator 2.3.2)



CHAPTER 5: AGRICULTURAL SERVICES

5.1 Introduction

Agricultural services play an important role in helping farmers to make the most of the resources available to them. Examples of those resources are farm management, marketing, financing, pest control, insurance and training. These services equip farmers with knowledge, information to solve problems, skills and technologies. They are provided by the government or non-state actors (NSA) with the intention to boost a farm's efficiency, production and productivity, which, in turn, raises the standard of living of the farm family as incomes increase. The AAS 2019 collected data on Ag HHs' participation in farmer trainings and advisory services given by extension services.

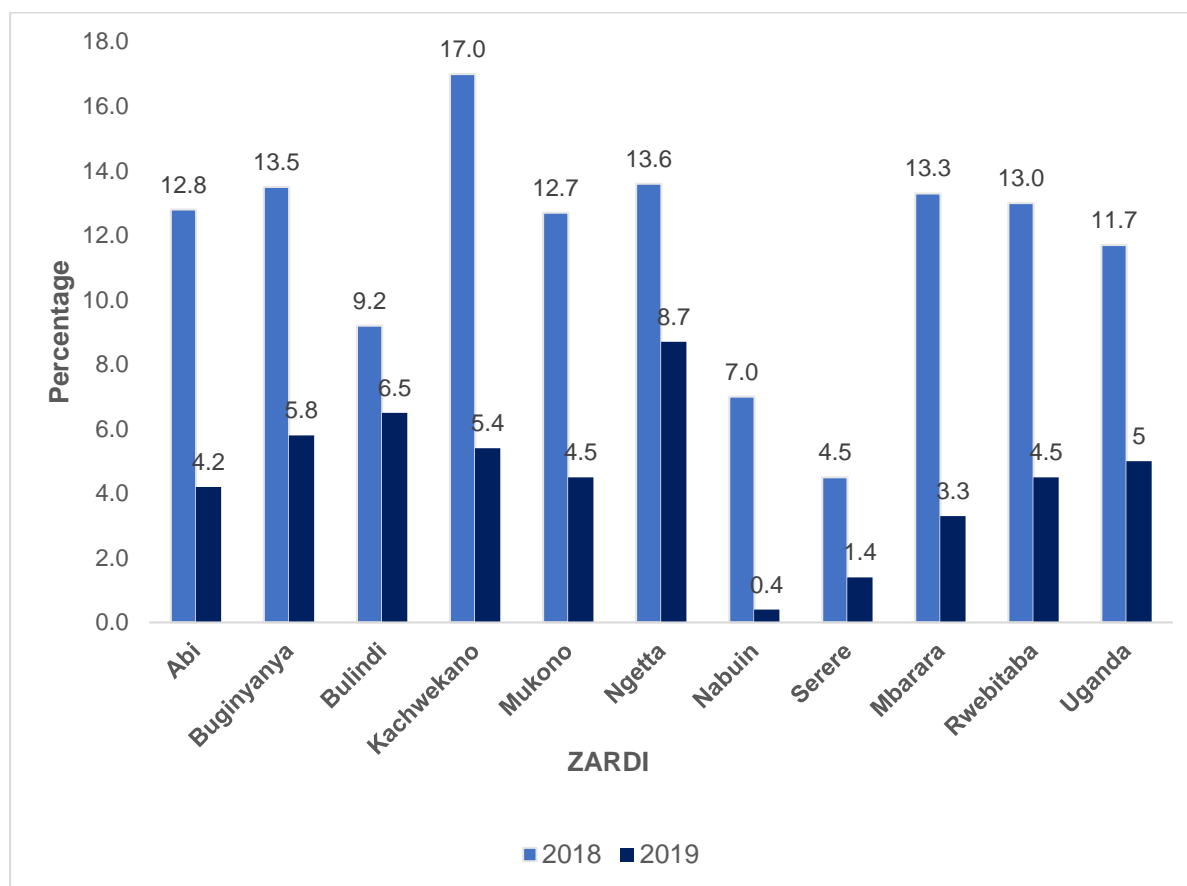
5.2 Agricultural extension services received by Ag HHs

Agricultural extension services refer to interventions or activities by government and NSAs' that facilitate farmers', other value chain actors' and organizations' access to knowledge, information and technologies; mediate their interaction with other relevant organizations; and assist them to develop their technical and management capacity in agriculture and family life.²²

The MAAIF set the National Agricultural Extension Policy, which is intended to effectively and efficiently provide agricultural extension services that support the sustained progression of smallholder farmers from subsistence agriculture to market-oriented and commercial farming. As part of the AAS 2019, Ag HHs were asked if any member of their household received advice or information from an extension worker in 2019. As shown in **Figure 5.1**, only 5 percent of the households in Uganda responded positively to this query in 2019, as compared to 11.7 percent in 2018, with the highest percentage being in the ZARDIs of Ngetta (9 percent), Kachwekano (5 percent), and the lowest in Nabuin (less than 1 percent) and Serere (1 percent).

²² Extension Guidelines and Standards, MAAIF (<https://www.agriculture.go.ug/wp-content/uploads/2019/04/Agricultural-Extension-Services-Guidelines.pdf>).

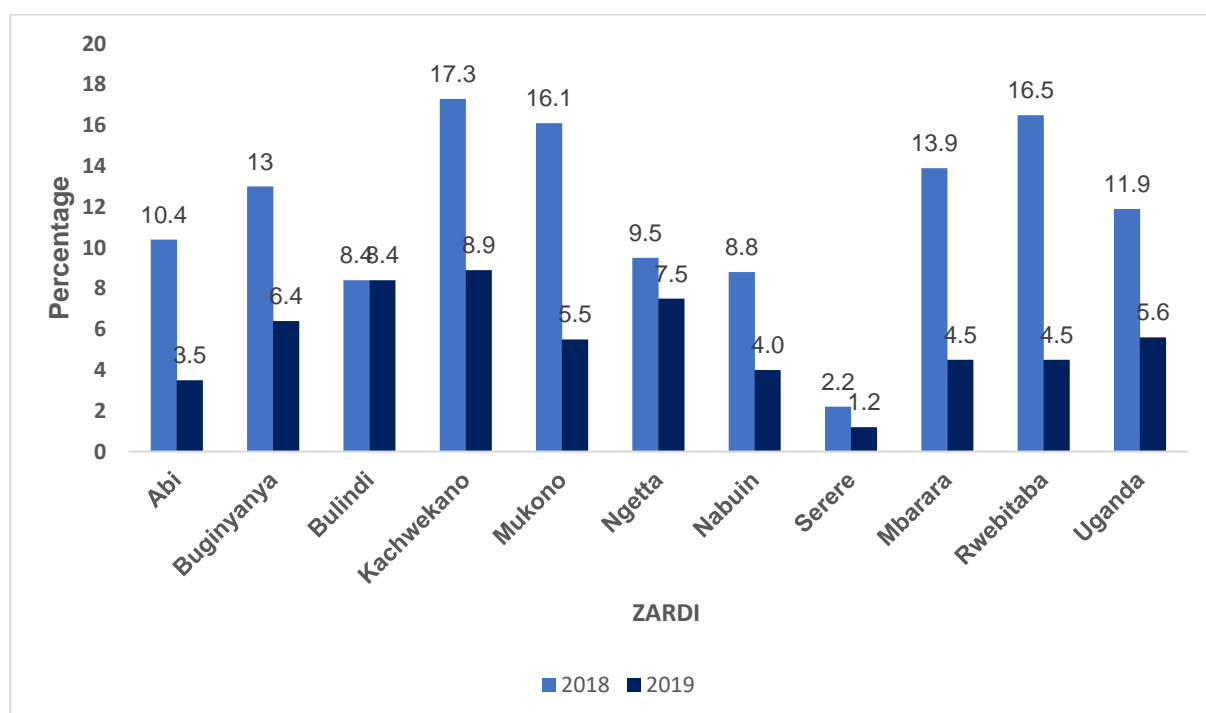
Figure 5.1: Percentage of Ag HHs that received extension services in the previous 12 months



5.3 Farmer training

Farmer trainings are informal education services that provide farmers with knowledge and experience on how to use accessible resources and information on available modern technologies, among others. These trainings may be extended through exposure visits, field days, radio and television programmes, film shows (cinema), leaflets and posters. Not only do these trainings help farms become more efficient, they also provide information on the services the farm can demand from the agriculture service providers.

Figure 5.2: Percentage of Ag HHs that received a farmer training in the previous 12 months

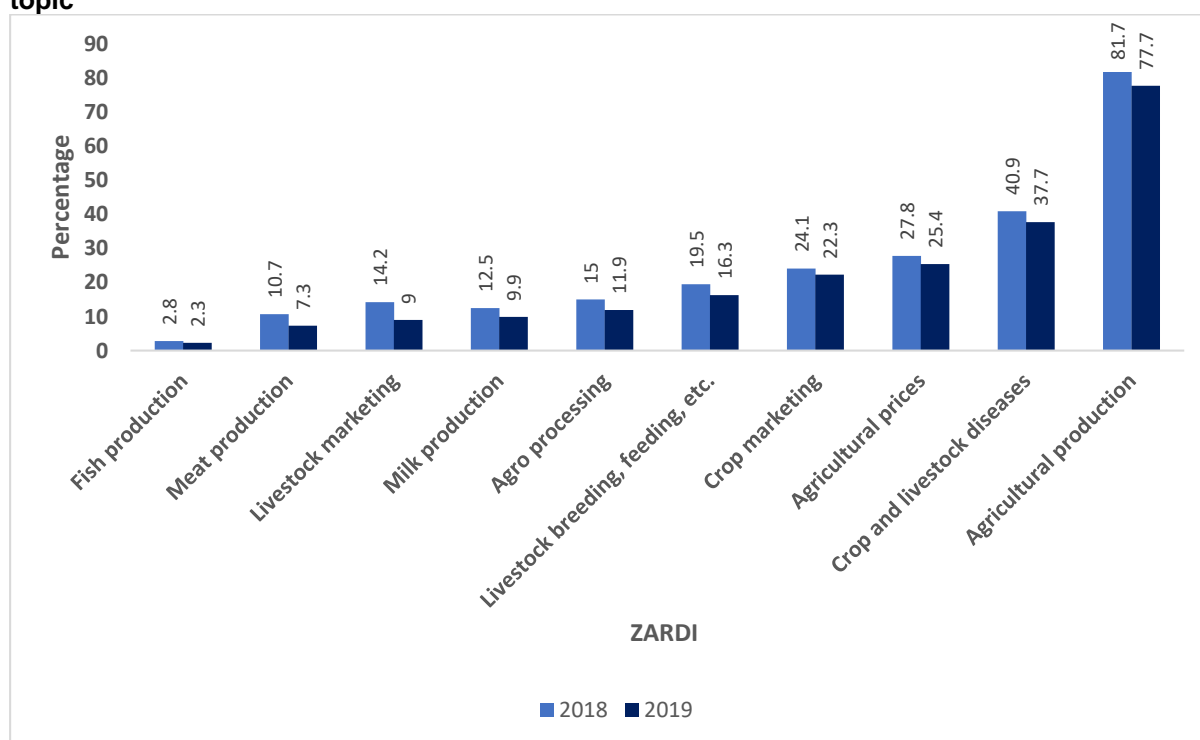


The AAS 2019 indicates that in 5.6 percent of Ag HHs, at least one household member received some sort of farmer training between January and December 2019, compared with 11.9 percent between January and December 2018. The highest percentage of Ag HHs that reported that at least one household member had received farmer training in 2019 was in the ZARDIs of Kachwekano (17.3 percent), Bulindi (8.4 percent), and Ngetta (7.5 percent). The lowest percentage was in Serere (1.2 percent), Abi (3.5 percent) and Nabuin (4.0 percent) (see **Figure 5.2**).

Farmer training by selected topics

Non-state actors and the MAAIF, in collaboration with district extension workers at various levels, design appropriate training sessions for farmers, based on farmer needs. Farmers are then given training in such areas as agriculture and fisheries production and productivity, crop and livestock management, land preparation and soil management, post-harvest handling, value addition and marketing. Error! Reference source not found. **Figure 5.3** shows the distribution of Ag HHs in which at least one member of the household had received training by selected topics.

Figure 5.3: Distribution of Ag HHs that received advisory services and training, by training topic



The results show that the topics covered most through the advisory services and training extended to Ag HHs were production (78 percent), crop diseases (38 percent) and advice on agricultural prices (25 percent) while the least covered topics were labour rights²³ (1 percent), fish production²⁴ (2 percent) and meat production (7 percent). In general, across the topics, fewer farmers received training in 2019 compared to 2018.

Enhancement of value addition in key growth opportunities, such as agriculture, is a key strategic objective of the NDP III. Increased value addition is expected to stimulate farmers to produce more and generate higher yields. The peasant farming nature of most farmers (producing for home consumption), and the need by the country to increase value addition requires extensive training of farmers on agro-processing. Despite this, advisory services extended in agro-processing to farmers declined to 12 percent in 2019 from 15 percent in the previous year.

Agricultural services are provided by government and NSAs to either an individual farmer or a group of farmers. As part of the AAS 2019, Ag HHs that had received agricultural extensions were asked about the source of the extension. **Figure 5.4** presents the distribution of Ag HHs that had received advisory services by source or service provider.

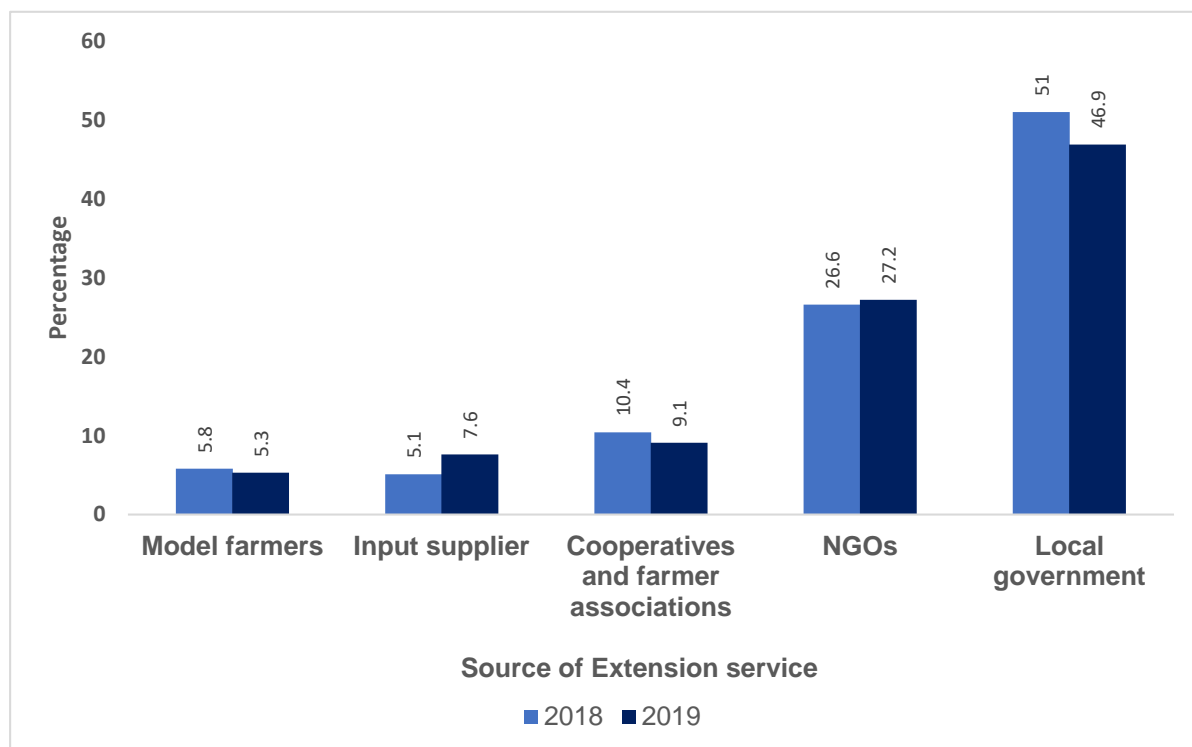
The 2019 survey indicates that agricultural extension services, local government (47 percent) and non-governmental organisations (NGOs) (27 percent) were the most prominent sources of agricultural

²³ Training on labour rights was only reported in the following ZARDIs: Buginyanya; Kachwekano; Ngetta; and Rwebitaba.

²⁴ Training on fish production was only reported in the following ZARDIs: Abi; Ngetta; Mukono; and Buginyanya.

extension services and model farmers (5 percent) were the least common source. In the ZARDIs, local government was the prominent provider of extension services, except in Nabuin.

Figure 5.4: Distribution of Ag HHs that received advisory services, by source/service provider

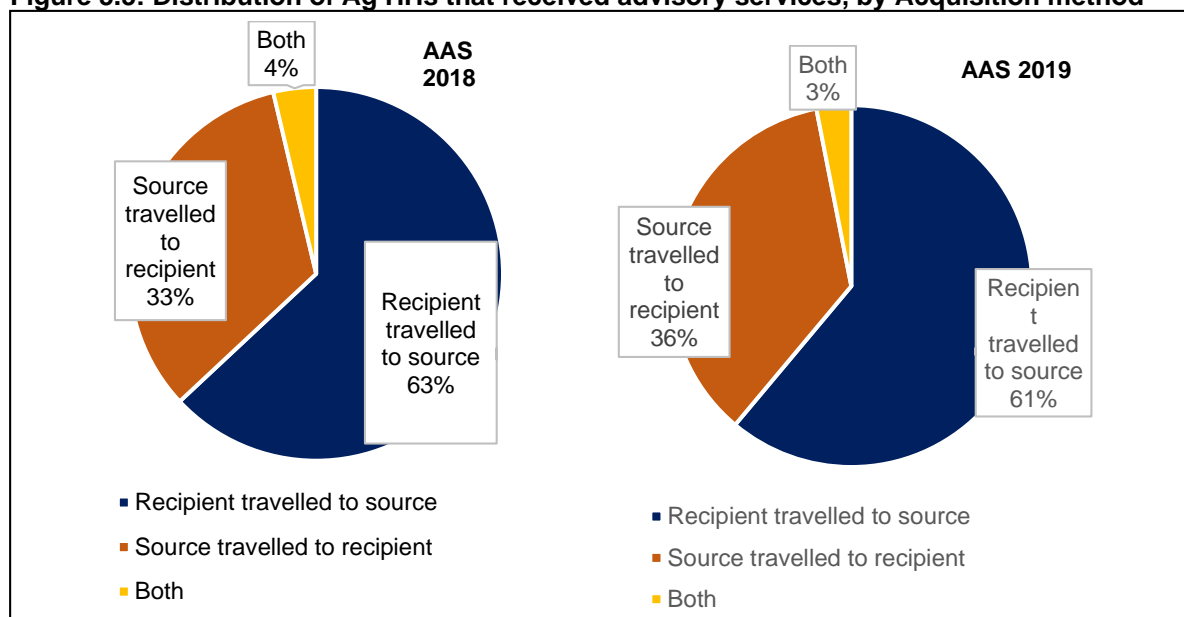


Note: Percentages are reported out of those that received extension services.

Although local government remained the largest provider of agricultural services, the percentage of Ag HHs that received training from them declined from 51 percent in 2018 to 47 percent in 2019. There was, however, a slight increase in the percentage of Ag HHs that were given training by NGOs, from 26.6 percent in 2018 to 27.2 percent in 2019, and by input suppliers, from 5.1 percent to 7.6 percent.

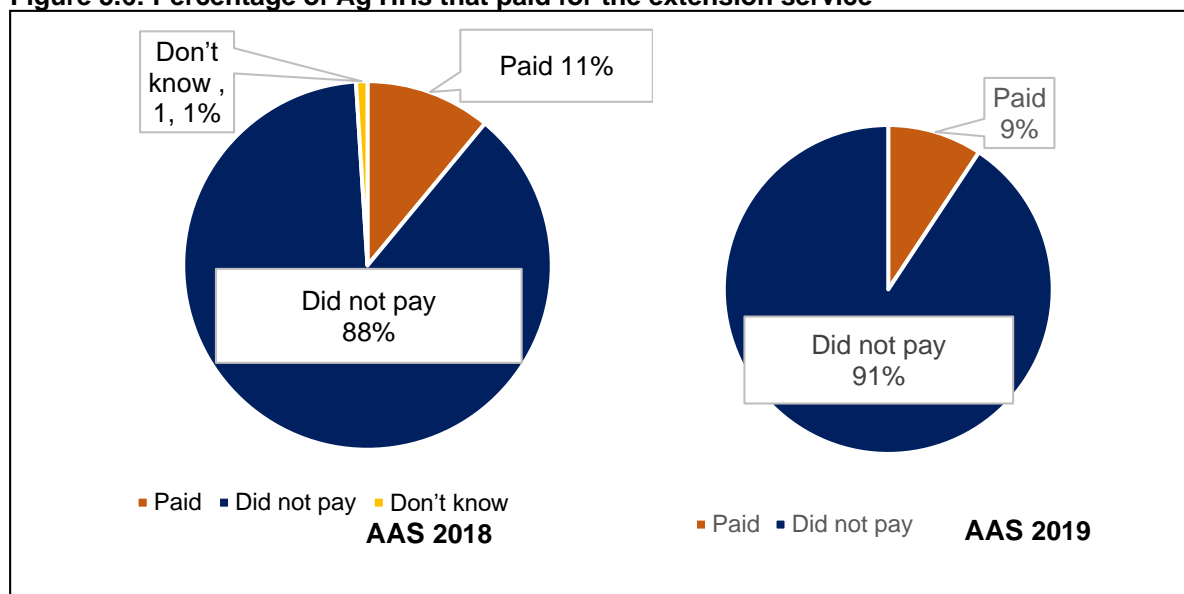
The outreach by different service providers varied by ZARDI. Local governments' role as a service providers exceeded the national average in Abi (59.7 percent) and Buginyanya (58.2 percent); input suppliers were more frequently reported to be providers in Ngetta; NGOs were prominent in Nabuin (83 percent); cooperatives and farmer associations were notably more prominent in Mbarara (26 percent) and model farms in Mukono (16 percent). For details, see Annex **Table 5- 4**.

Figure 5.5: Distribution of Ag HHs that received advisory services, by Acquisition method



The results on extension services acquisition method show that the percentage of Ag HHs whose service provider travelled to the recipient increased from 33 percent in 2018 to 36 percent in 2019 (see **Figure 5.5**).

Figure 5.6: Percentage of Ag HHs that paid for the extension service



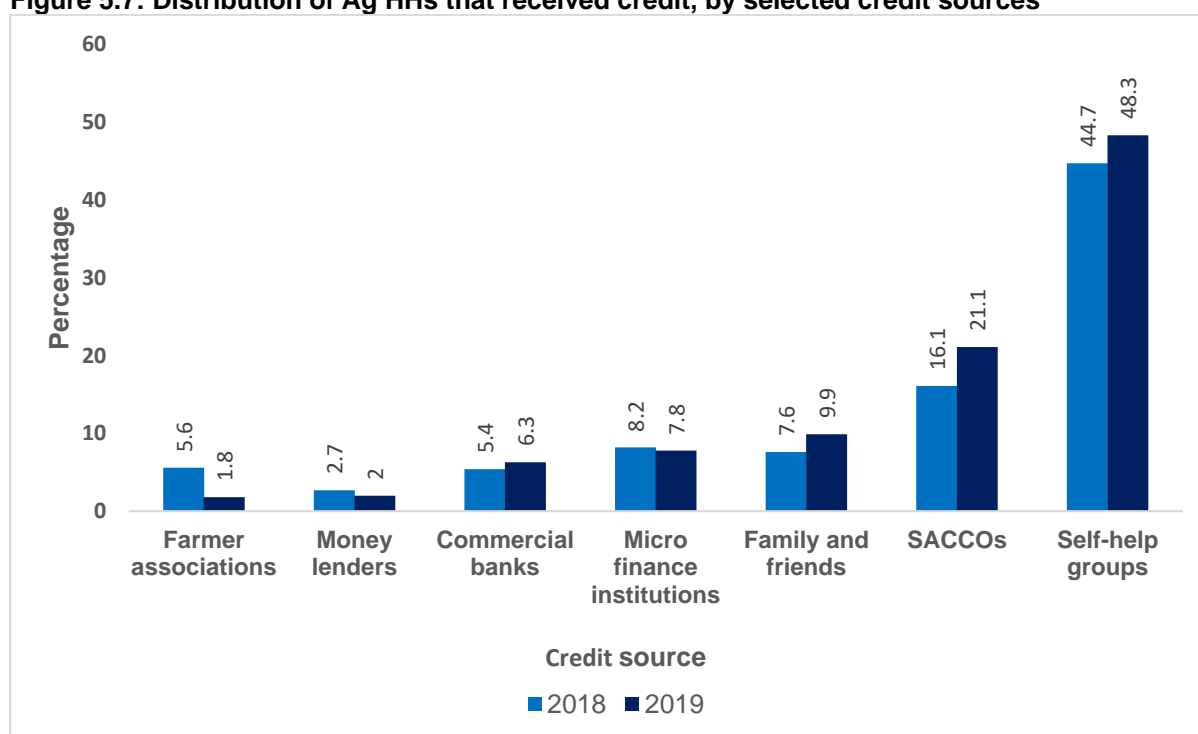
The results shown in **Figure 5.6** indicate that the percentage of Ag HHs that paid for extension services decreased from 11 percent in 2018 to 9 percent in 2019.

Under the NDP III, several development programmes are being implemented, including one covering agro-industrialisation (AGI). This programme is envisaged to offer a great opportunity for Uganda to embark on its long-term aspiration to increase household incomes and improve the quality of life,

especially among subsistence farmers. In addition, the programme, if successful, will facilitate efforts to end hunger, achieve food security, improve nutrition and promote sustainable agriculture.

For the AGI to take off, increased production is necessary, but this is constrained by limited access to agricultural financial services and critical inputs, especially among smallholders. To tackle some of these constraints and achieve the many objectives of the programme, the AGI aims at increasing mobilization and equitable access and utilization of agricultural finance through facilities, such as the Agricultural Credit Facility (ACF), which was set up by the GoU in partnership with commercial banks, the Uganda Development Bank Ltd (UDBL), micro deposit-taking institutions (MDIs) and credit institutions, which as a group are referred to as “participating financial institutions” (PFIs).²⁵

Figure 5.7: Distribution of Ag HHs that received credit, by selected credit sources



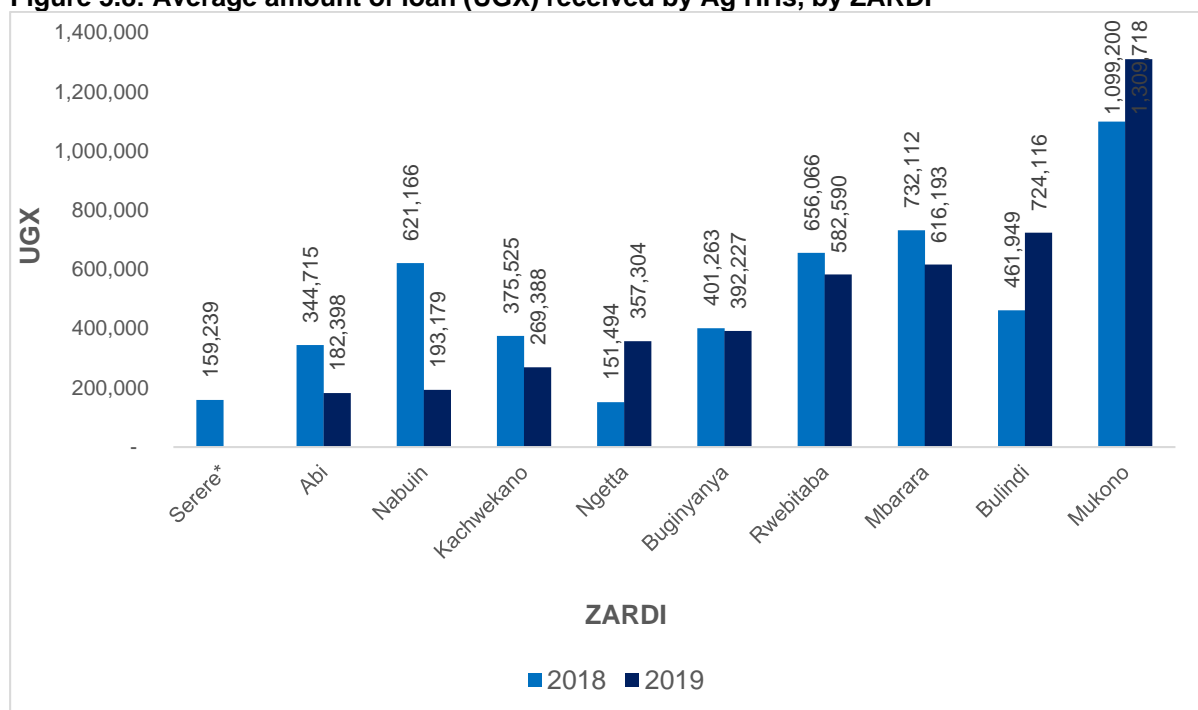
Another query in the AAS 2019 involved asking farmers to list their agricultural loan sources. **Figure 5.7** shows the percentage distribution of Ag HHs that received a loan by source of credit. Between 2018 and 2019, self-help groups (45 to 48 percent), SACCOs (16 to 21 percent) and family and friends (8 percent to 10 percent) not only topped the list, but their percentage as a source to farmers increased. There was, however, a reduction in the percentage of farmers getting loans from money lenders, from 2.7 to 2 percent, and farmer associations, from 5.6 to 2 percent in 2018 and 2019, respectively. For details refer to **Table 5- 8** in Annex 5.

Notably, financial institutions tend to focus on low-risk, high cash flow and well collateralised segments of the value chain, i.e. agro-manufacturing, leaving the high-risk agricultural production underserved.

²⁵ See <https://www.bou.or.ug/bou/bouwebsite/ACF/moreinfo.html>.

Figure 5.8 shows the average amount of loans received by Ag HHs for agricultural purposes in 2018 and 2019. Agricultural credit may be received as cash or in-kind, such as in the form of agricultural inputs.²⁶

Figure 5.8: Average amount of loan (UGX) received by Ag HHs, by ZARDI



Note: *Insufficient number of sampled units in Serere in 2019

The results show that the total agricultural credit extended across the country fell by 24.7 percent in 2019, from 408 billion in 2018 to 307 billion Uganda shillings (UGX). The national average amount of credit taken by farmers was UGX 548,000 in 2019, compared with UGX 552,000 in 2018. See **Table 5-9** in the Annex five for more details.

Across the ZARDIs, the average agricultural credit received by farmers was highest in Mukono (UGX 1.3 million), followed by Bulindi (UGX 724,000) and Mbarara (UGX 616,000). The lowest average agriculture credit received by farmers was in Serere (UGX 171,000), Abi (UGX 182,000) and Nabuin (UGX 193,000).

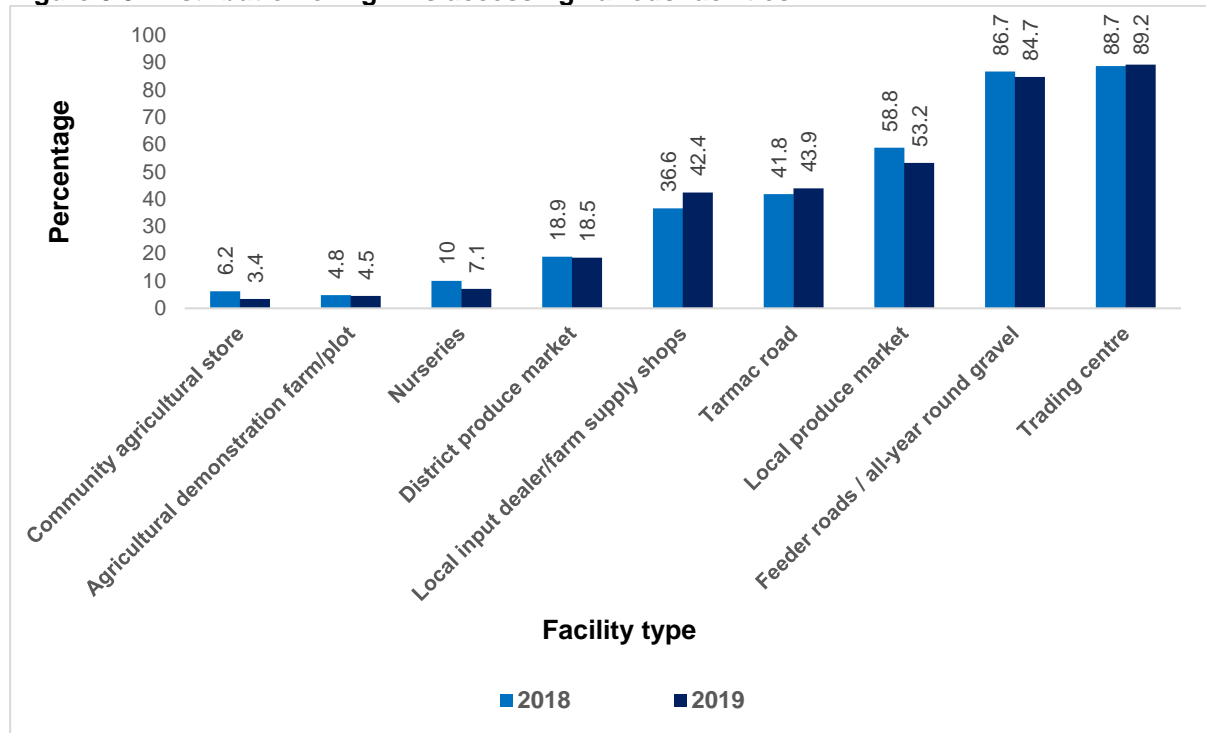
The average credit received by farmers declined in 2019 from 2018 in all the ZARDIs, except for Ngetta, Bulindi, Mukono and Serere, where it increased by 136 percent, 57 percent, 19 percent and 7 percent, respectively.

Increased agricultural production and productivity, greater market access and competitiveness of agricultural products in domestic and international markets and improved post-harvest handling and storage are some of the objectives of the AGI programme within the NDP III. To achieve them, initiatives aimed at improving production and productivity, as well as market competitiveness are needed.

²⁶ Pesticides, fertilisers, seed, chicks, piglets, cows and goats for stocking the farm, among others.

Another question in the AAS 2019 was about Ag HHs' ability to access facilities that would enable them to increase production, such as nurseries and input dealers, markets, bulk storage, such as community storage areas, and trading centres. **Figure 5.9** illustrates the distribution of Ag HHs in accessing various facilities.

Figure 5.9: Distribution of Ag HHs accessing various facilities



The results indicate the following: 89 percent of Ag HHs had access to a trading centre; 85 percent to feeder/all-year round gravel roads and 44 percent to a tarmac road; 42 percent and 7 percent had access to a local input/farm supply shop and nurseries for their inputs, respectively; 53 percent and 19 percent had access to a local market and a district market, respectively.

CHAPTER 6: HOUSEHOLD FOOD SECURITY

6.1 Introduction

Food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food, which meets their dietary needs and food preferences for an active and healthy life.²⁷ The 1995 Constitution of the Republic of Uganda recognizes the importance of food security and is committed to achieving it in line with the Sustainable Development Goal 2 (SDG 2) to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture.”²⁸ Food security promotes good nutrition, which is critical for attaining good health and the socio-economic well-being of a population where economic productivity depends on its nutrition and health status.²⁹

This chapter gives an overview of food security experiences and immediate responses to shocks and food shortage by Ag HHs.

6.2 Presence of shocks and food shortage

6.2.1 Shocks

The percentage of Ag HHs that experienced a shock, as well as the percentage of Ag HHs that experienced a specific shock, such as floods, drought, hailstorms, pest and disease attack, erratic or heavy rain, insecurity, illness or disease are presented in **Figure 6.1** and

Table 6.1.

Approximately 65 percent of Ag HHs (64.9 percent) in 2019 experienced a shock, which is a decrease of about 10 percentage points compared to Ag HHs that experienced a shock in 2018 (74.2 percent).

At the ZARDI level, at the high end, 91.3 percent and 81.6 percent of Ag HHs in Serere and Ngetta, respectively, reported that they had experienced a shock. While, at the low end, 46.9 percent of Ag HHs in Mukono reported that they had experienced a shock

The three main specific shocks experienced by Ag HHs in 2019 were drought (55.4 percent), pest or disease outbreak (29.8 percent), and erratic or heavy rains (28.5 percent). At the ZARDI level, more than two thirds of the Ag HHs in Serere (69.3 percent) and Mbarara (69.1 percent) reported that they had experienced drought; more than half of the Ag HHs in Serere (66.4 percent) and Nabuin (54.4 percent) reported that they had experienced pest or disease outbreak; and more than half of the Ag HHs in Ngetta (53.6 percent) reported that they had experienced erratic or heavy rains.

²⁷ The 1996 World Food Summit.

²⁸ The goal of ending hunger, achieving food security and improving nutrition is recognized in Uganda’s National Development Plans (NDP I, NDP II and NDP III).

²⁹ The Uganda Food and Nutrition Policy, 2003.

Figure 6.1: Percentage distribution of Ag HHs that experienced a shock

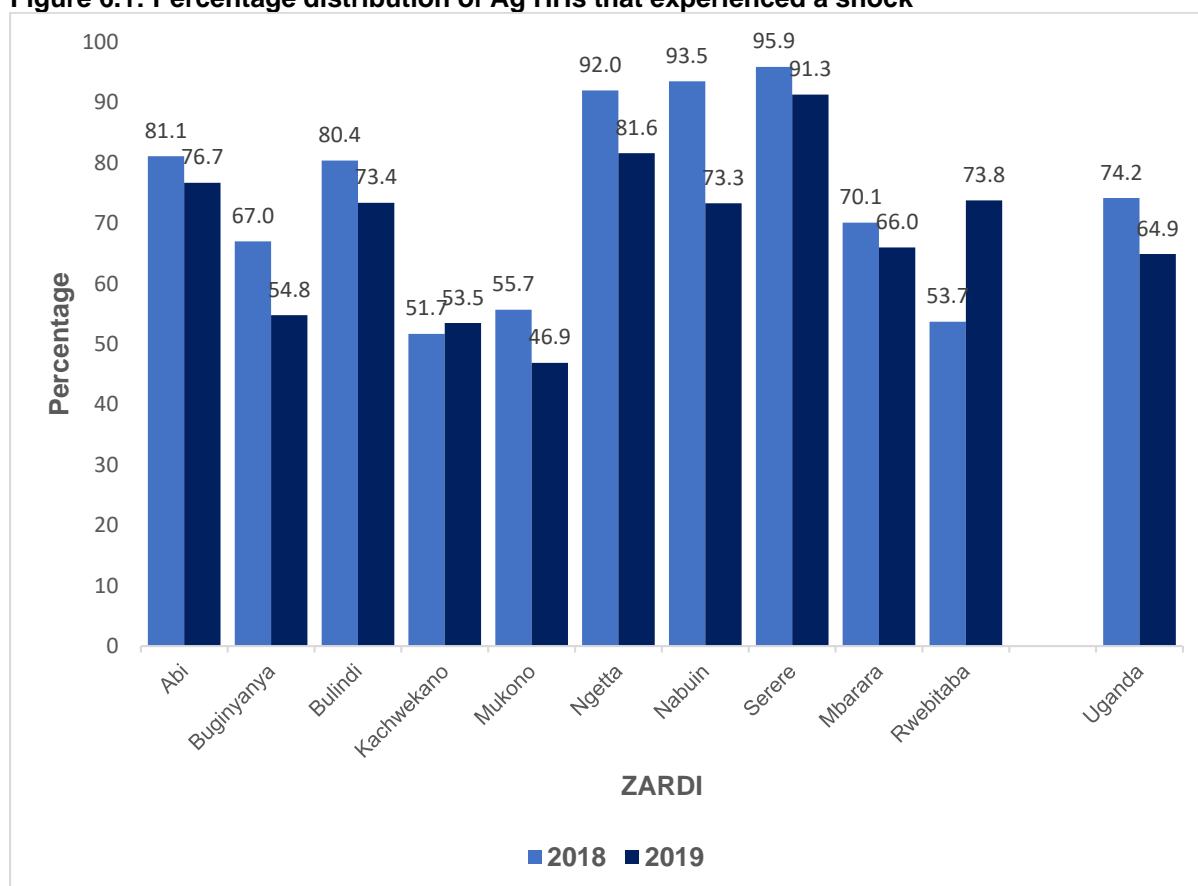


Table 6.1: Percentage of Ag HHs that experienced a shock, by type of shock and ZARD*

ZARD	Shock experienced							
	Floods	Drought	Hailstorms	Pests or disease outbreak	Erratic or heavy rains	Insecurity	Disease in the Ag HH	Other
Abi	15.4	51.2	1.6	37.8	34.6	1.0	7.7	0.5
Buginyanya	18.1	45.8	4.3	28.5	21.0	3.6	13.7	2.9
Bulindi	6.0	57.6	4.6	12.0	24.3	0.4	9.4	1.4
Kachwekano	23.1	27.4	4.2	16.0	34.9	3.8	4.5	-
Mukono	1.3	51.8	2.3	24.9	24.2	5.2	14.4	0.5
Ngetta	20.3	54.0	3.5	22.8	53.6	1.7	16.3	3.4
Nabuin	35.3	53.5	-	54.4	18.8	28.0	23.2	0.6
Serere	31.1	69.3	1.9	66.4	23.2	18.8	16.5	-
Mbarara	1.7	69.1	3.1	22.5	14.8	0.9	10.3	0.2
Rwebitaba	5.8	62.8	2.4	35.1	32.5	11.2	12.5	0.6
Uganda	13.2	55.4	3.0	29.8	28.5	5.4	12.9	1.3

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. Percentages computed on the Ag HHs that experienced at least one shock -No sampled unit under this category.

For each type of shock experienced in 2019, Ag HHs were asked to assess the extent of damage on crop and livestock production as either none, slight, moderate, or severe. Of the three main types of shocks experienced by Ag HHs in 2019, approximately 37 percent of Ag HHs that experienced a drought indicated that the extent of damage on crop and livestock production was severe (see **Table 6.2**). Similarly, approximately one third of the Ag HHs that experienced a pest or disease outbreak (33.7 percent) and 46 percent of Ag HHs that were inflicted with erratic or heavy rain, 45.6 percent indicated that the extent of damage on crop and livestock production was severe. Among the three main types of shocks experienced by Ag HHs in 2019, erratic or heavy rains tend to have a stronger impact on Ag HH farm production.

Table 6.2: Percentage of Ag HHs that experienced shock, by extent of damage*

Shock	Extent of damage				Total
	None	Slight	Moderate	Severe	
Floods	-	8.0	41.7	50.3	100.0
Drought	0.1	16.7	46.7	36.5	100.0
Hailstorms	4.1	13.7	39.1	43.0	100.0
Pests/disease outbreak	0.1	23.1	43.1	33.7	100.0
Erratic / heavy rains	0.3	12.8	41.4	45.6	100.0
Insecurity	-	22.2	18.6	59.2	100.0
Disease in the HH	0.1	15.9	32.1	51.9	100.0
Other	2.0	12.0	28.4	57.6	100.0
Total	0.2	16.5	41.9	41.4	100.0

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

6.2.2 Food shortage

The percentage of Ag HHs that suffered from a food shortage in 2019 are presented in **Figure 6.2**. Approximately 36 percent of Ag HHs (35.6 percent) in 2019 experienced a food shortage, a decline of over 10 percentage points from those that reported having experienced a food shortage in 2018 (47.3 percent).

At the ZARDI level, at the high end, more than 60 percent of Ag HHs in Serere (75.6 percent), Nabuin (70.7 percent) and Ngetta (61.3 percent), while, at the low end, approximately 14 percent of Ag HHs in Mukono (14.2 percent) reported that they had experienced a food shortage in 2019 (see **Figure 6.2**).

The percentage of Ag HHs that experienced a food shortage in 2019 by the sex of the Ag HH head are presented in **Figure 6.3**. More than a third of male-headed Ag HHs (35.0 percent) and female-headed Ag HHs (37.9 percent) experienced a food shortage. Notably, the percentage of female-headed Ag HHs was higher than male-headed Ag HHs, which appears to be a consistent trend across the ZARDIs, with the exception of Kachwekano.

Figure 6.2: Percentage distribution of Ag HHs that reported having experienced food shortage, by year

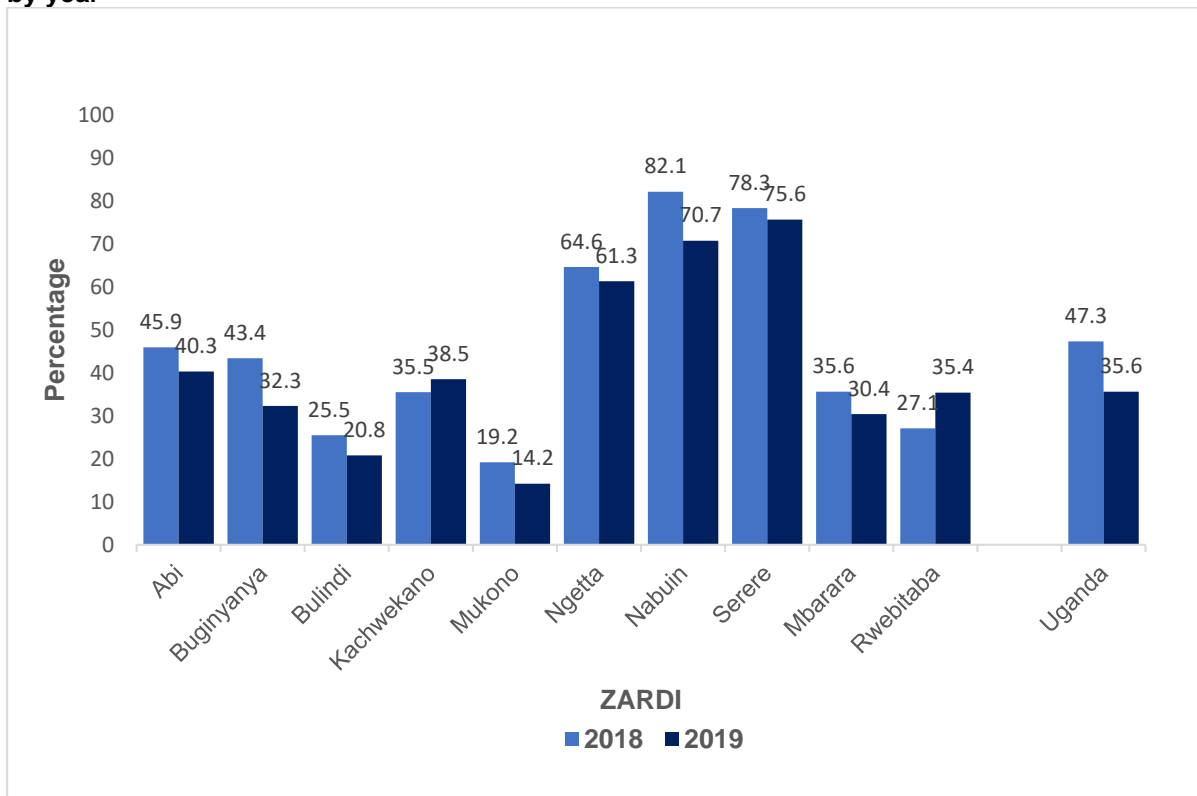
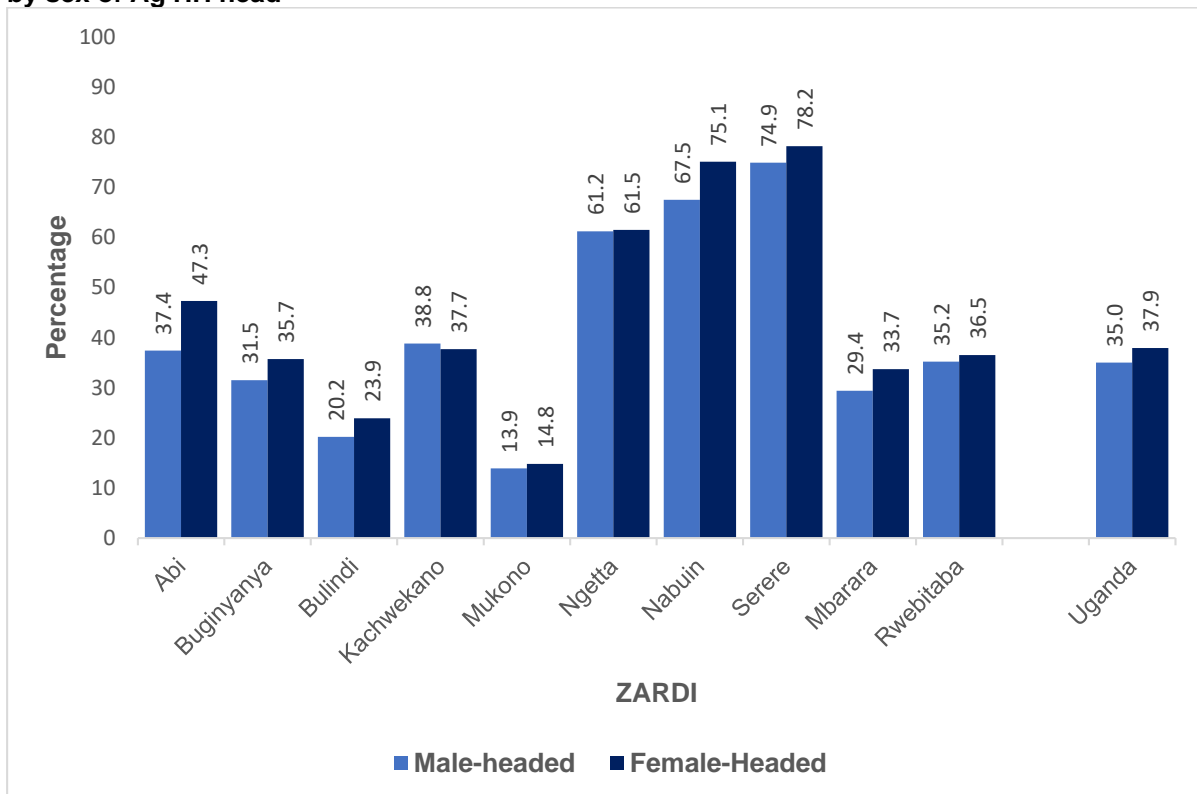


Figure 6.3: Percentage distribution of Ag HHs that reported having experienced food shortage, by sex of Ag HH head



6.2.3 Reasons for the food shortage

The Ag HHs that experienced a food shortage in 2019 were asked to give the reasons behind this. The percentage distribution of these Ag HHs by reason for a food shortage are presented in **Table 6.3**. Loss of crops/insufficient production was by far the most prominent reason given (90.5 percent), followed by lack of capital (30.1 percent) and lack of adequate land (26.9 percent). Ag HHs were also requested to rank the reasons as either main, second or third. More than 90 percent of the Ag HHs (94.8 percent) ranked loss of crops/insufficient production as the main most important reason. More than 50 percent of the Ag HHs (51.1 percent) ranked lack of capital as the second most important reason, while more than 60 percent of the Ag HHs (63.1 percent) ranked lack of adequate land as the second most important reason.

Table 6.3: Percentage distribution of Ag HHs, by reason of food shortage*

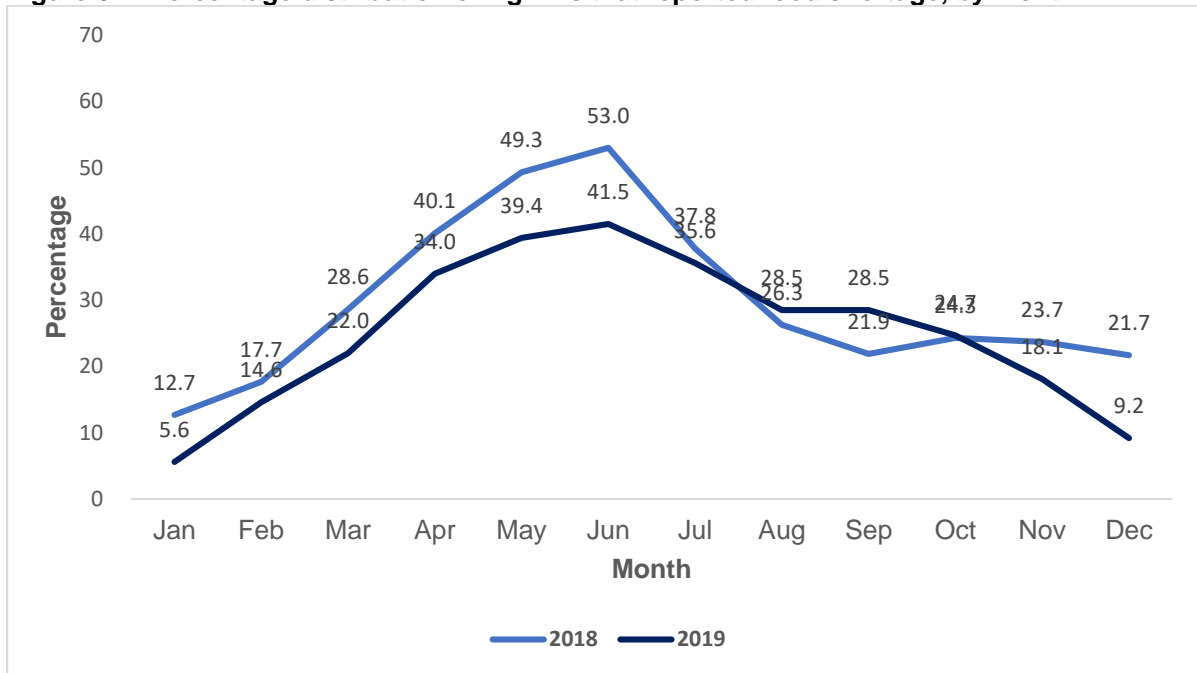
REASON	Yes (%)	Rank (%)		
		Main	Second	Third
Loss of crops/insufficient production	90.5	94.8	3.6	1.6
Over selling produce	6.6	20.7	67.2	12.1
Loss of livestock	2.2	16.1	64.1	19.8
Inability to work due to illness, disability, injury or old age	13.0	29.5	60.7	9.8
Lack of adequate land	26.9	16.7	63.1	20.2
Lack of capital	30.1	8.4	51.1	40.4
Lack of labourers on the farm	6.1	7.2	43.7	49.1
Lack of job opportunity outside the holding	7.3	6.0	43.8	50.2
Other reason	1.0	69.7	5.8	24.6

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

6.2.4 Timing of food shortage

The Ag HHs that experienced a food shortage in 2019 were asked to indicate the months in which the food shortage occurred (see **Figure 6.4**). More than one third of the Ag HHs responded that the food shortage occurred in April, May, June and July. By month, approximately 42 percent experienced a food shortage in June, 39 percent in May, 36 percent in July and 34 percent in April. These results were similar to the related findings in 2018. For details, see Annex 6, **table 6-12**.

Figure 6.4: Percentage distribution of Ag HHs that reported food shortage, by month

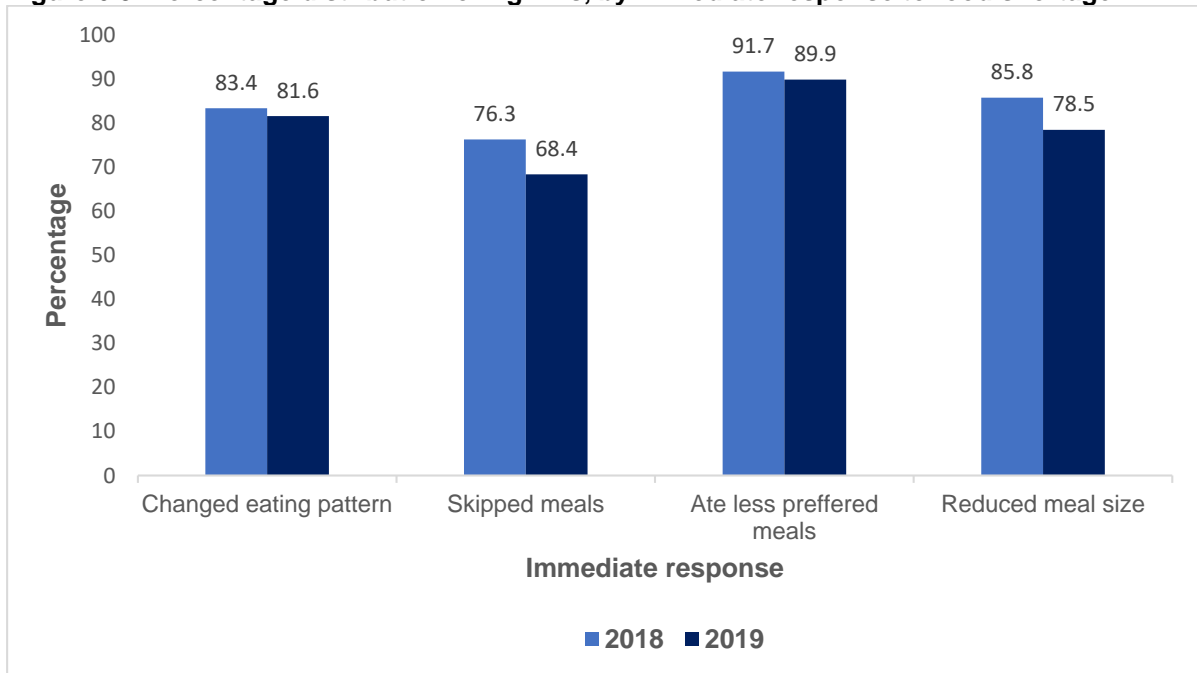


6.3 Immediate response to food shortage

Based on the AAS 2019 survey results, the immediate responses to a food shortage by Ag HHs were to change eating patterns, skip meals, eat a less preferred food and reduce the size of meals. The percentage of Ag HHs that experienced a food shortage in 2019 by immediate response are presented in **Figure 6.5**.

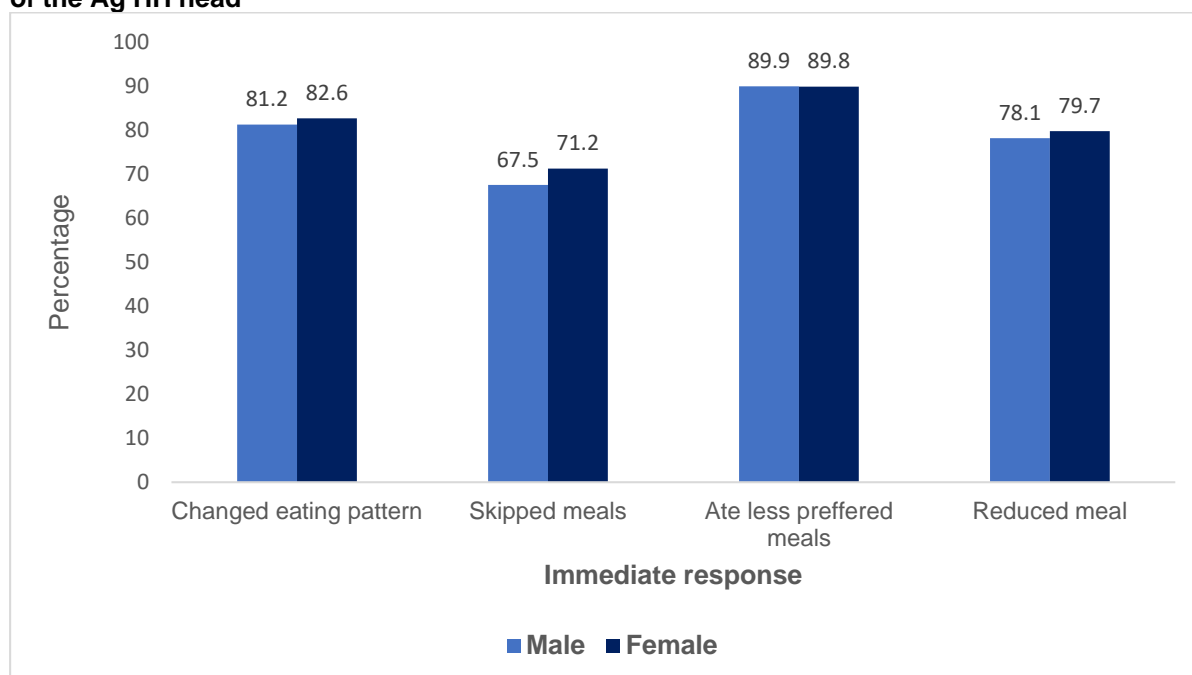
Eating a less preferred meal was the prominent immediate response of Ag HHs that faced a food shortage (89.9 percent). As for other immediate responses, 81.6 percent changed their eating patterns, 78.5 percent reduced the meal size and 68.4 percent skipped meals. Compared to the AAS 2018, the percentage of Ag HHs reporting either changing their eating pattern, skipping meals, eating a less preferred meals and reducing the size of meal was lower in 2019.

Figure 6.5: Percentage distribution of Ag HHs, by immediate response to food shortage



The percentage of Ag HHs that experienced a food shortage in 2019 by immediate response and by the sex of the household head are presented in **Figure 6.6**. To cope with the food shortage, the immediate responses were as follows: 89.9 percent of male-headed Ag HHs and 89.8 percent female-headed Ag HHs ate a less preferred meal; 81.2 percent of the male-headed Ag HHs and 82.6 percent of the female-headed Ag HHs changed their eating patterns; 78.1 percent of the male-headed Ag HHs and 79.7 percent female headed Ag HHs reduced the meal size; and 67.5 percent of the male-headed Ag HHs and 71.2 percent of the female-headed Ag HHs skipped meals. Notably, a slightly lower percentage of male-headed Ag HHs (1.4 points) compared to female-headed Ag HHs changed their eating patterns, skipped meals (3.7 points) and reduced the meal size (1.6 points).

Figure 6.6: Percentage distribution of Ag HHs, by immediate response to food shortage, by sex of the Ag HH head



6.3.1 Changing eating patterns

As discussed above, the immediate response for about 80 percent of Ag HHs in 2019 that experienced a food shortage was to change their eating patterns. **Table 6.4** shows the percentage of Ag HHs that changed their eating patterns as an immediate response to the food shortage, by age group and sex of the household members. The results are disaggregated by ZARDI.

At the ZARDI level, more than 70 percent of Ag HHs in all ZARDIs, except Kachwekano (54.2 percent) reported that their immediate response to the food shortage was to change their eating patterns. The highest percentage was reported in Nabuin (95 percent).

Across age groups and sex, the immediate response, by Ag HHs experiencing a food shortage, of changing eating patterns affected mainly adults, with approximately 73 percent of Ag HHs reporting that male adults and 78 percent of Ag HHs reporting that female adults had changed their eating patterns. The least affected age group was youth, with approximately 36 percent of the Ag HHs reporting that male youth and 39 percent of female youth had changed their eating patterns.

Table 6.4: Percentage distribution of Ag HHs that changed eating patterns, by age group and sex, by ZARDI

ZARDI	Sex-Age groups						
	All	Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	84.2	57.4	63.7	27.6	31.0	46.3	47.1
Buginyanya	83.9	77.8	84.9	36.3	40.4	47.2	44.4
Bulindi	74.0	74.9	66.0	40.2	46.4	61.7	58.4
Kachwekano	54.2	71.7	86.4	22.7	35.3	46.4	38.9
Mukono	71.4	71.7	79.6	21.4	28.0	37.4	35.1
Ngetta	88.1	73.9	77.6	46.6	46.3	58.9	56.0
Nabuin	95.4	53.3	83.6	31.1	36.6	58.8	57.5
Serere	87.6	75.7	76.1	34.3	41.2	37.5	33.4
Mbarara	71.8	76.4	85.2	41.1	39.9	63.7	60.5
Rwebitaba	83.1	79.9	72.9	26.7	24.7	16.0	8.4
Uganda	81.6	72.8	78.3	35.5	38.5	47.7	44.5

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

6.3.2 Skipping Meals

As indicated above, approximately 68 percent of Ag HHs in 2019 that experienced a food shortage reported skipping a meal as an immediate response to the food shortage. **Table 6.5** shows the percentage of Ag HHs that skipped meals as the immediate response to the food shortage, by age group and sex of the affected members. The results are disaggregated by ZARDI.

Table 6.5: Percentage distribution of Ag HHs that skipped meals, by age group and sex, by ZARDI*

ZARDI	All	Sex-Age group					
		Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	83.8	57.9	63.7	25.4	28.9	43.9	42.8
Buginyanya	73.6	78.7	85.3	34.9	41.8	46.1	46.1
Bulindi	38.9	75.8	54.0	33.0	54.8	41.5	44.0
Kachwekano	48.2	65.3	84.9	19.5	28.3	20.0	18.1
Mukono	56.9	68.1	73.0	24.1	17.9	25.7	24.7
Ngetta	71.8	73.7	78.2	41.6	40.4	55.8	51.0
Nabuin	95.7	54.6	83.5	30.0	37.3	53.1	51.1
Serere	80.7	76.0	77.4	32.3	36.8	33.1	29.8
Mbarara	29.9	68.1	88.7	33.3	29.0	38.3	40.9
Rwebitaba	85.5	77.3	74.1	29.8	26.9	15.8	12.9
Uganda	68.4	71.6	77.9	32.7	35.3	40.5	38.5

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

At the ZARDI level, Nabuin had the highest percentage (95.7 percent) while Mbarara had the lowest percentage (29.9 percent) of Ag HHs reporting that the immediate response to the food shortage was to skip meals.

Across age groups and sex, the immediate response of skipping meals affected mainly adults, with approximately 72 percent of Ag HHs reporting that male adults and 78 percent of Ag HHs reporting that female adults had skipped meals. The least affected age group was the youth, with approximately 33 percent of Ag HHs reporting that male youth and 35 percent of Ag HHs reporting that female youth had skipped meals.

6.3.3 Eating less preferred food

As explained earlier, approximately 90 percent of Ag HHs in 2019 that experienced a food shortage reported that the immediate response was to eat less preferred meals. **Table 6.6** shows the percentage of Ag HHs that ate less preferred meals as the immediate response to the food shortage, by age group and sex of the affected members. The results are disaggregated by ZARDI.

Table 6.6: Percentage distribution of Ag HHs that eat less preferred meals, by age group and sex, by ZARDI*

ZARDI	Yes	Sex-Age group					
		Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	91.2	59.2	65.3	29.0	33.0	51.4	54.3
Buginyanya	88.4	77.9	84.4	36.6	39.7	52.5	51.2
Bulindi	76.1	74.6	70.9	38.4	46.6	61.2	57.5
Kachwekano	88.8	74.2	85.5	29.7	35.6	57.8	54.0
Mukono	90.2	67.4	78.2	22.6	28.0	47.3	46.0
Ngetta	89.5	73.9	78.9	46.8	45.3	63.2	60.6
Nabuin	98.2	54.8	82.8	30.2	40.7	60.6	60.6
Serere	91.0	76.0	75.2	34.0	40.0	41.2	34.9
Mbarara	92.2	77.9	85.4	37.3	36.1	62.6	56.6
Rwebitaba	89.8	78.7	74.7	29.7	28.0	20.9	16.5
Uganda	89.9	73.0	78.9	35.4	38.1	52.1	49.3

Note: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

At the ZARDI level, more than 85 percent of Ag HHs in all ZARDIs, except Bulindi (76.1 percent) reported that their immediate response to the food shortage was to eat less preferred meals. The highest percentage was reported in Nabuin (98.2 percent).

Across age groups and sex, the immediate response of eating less preferred meals affected mainly adults, with approximately 73 percent of Ag HHs reporting that male adults and 79 percent of Ag HHs reporting that female adults had eaten less preferred meals. The least affected age group was youth, with approximately 35 percent of Ag HHs reporting that male youth and 38 percent of Ag HHs reporting that female youth had eaten less preferred meals.

6.3.4 Reduced size of a meal

As shown above, about 80 percent of Ag HHs in 2019 that experienced a food shortage reported that the immediate response was to reduce the meal size. **Table 6.7** shows the percentage of Ag HHs that reduced the meal size as the immediate response to the food shortage, by age group and sex of the affected members. The results are disaggregated by ZARDI.

Table 6.7: Percentage distribution of Ag HHs that reduced the meal size, by age group and sex, by ZARDI*

ZARDI	Yes	Sex-Age group					
		Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	87.1	59.0	65.0	27.4	33.2	52.8	52.6
Buginyanya	85.4	77.5	84.6	37.0	39.8	47.6	45.4
Bulindi	58.2	81.8	71.7	37.7	40.0	63.0	43.3
Kachwekano	85.6	78.2	87.9	25.8	37.7	51.0	56.0
Mukono	71.3	70.2	78.2	22.9	26.4	45.0	42.5
Ngetta	87.5	75.0	79.5	46.8	45.7	61.2	58.4
Nabuin	97.7	53.8	83.3	30.8	38.6	55.1	53.4
Serere	86.3	76.8	77.0	33.7	37.8	40.8	33.9
Mbarara	74.6	76.5	84.6	35.8	34.7	59.8	58.6
Rwebitaba	30.9	85.5	70.5	32.7	24.6	38.4	30.8
Uganda	78.5	73.5	79.5	35.6	38.1	52.1	49.1

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

At the ZARDI level, more than 70 percent of Ag HHs in all ZARDIs except Bulindi (58.2 percent) and Rwebitaba (30.9 percent) reported that the immediate response to the food shortage was to reduce the meal size. The highest percentage was reported in Nabuin (97.7 percent).

Across age groups and sex, the immediate response, of reducing the meal size affected mainly adults with approximately 74 percent of Ag HHs reporting that male adults and 80 percent of Ag HHs reporting that female adults had reduced the meal size. The least affected age group was the youth with approximately 36 percent of Ag HHs reporting that male youth and 38 percent of Ag HHs reporting that female youth had reduced the meal size.

The results of the immediate response to the food shortage across age groups and sex show that the most affected household members across age group and sex are adults, especially females, while the least affected or most protected household members across age groups and sex were youth, especially males.

CHAPTER 7: AREA, PRODUCTION AND DISPOSITION OF MAJOR CROPS

7.1 Introduction

The AAS collected information on crop area, production and disposition during the two seasons of the agricultural year 2019. It takes an objective measurement of the plots using GPS devices. When crops are cultivated in “pure stand”, the crop areas correspond to the plot areas; when crops are mixed with other crops, the crop areas are estimated using the plot areas and the farmer-declared proportion of the plot occupied by the crops. Production is collected through farmer declarations. To facilitate the reporting and ensure data quality, farmers report the harvests in different states and conditions, and use local units of measurements. Quantities are transformed in tonnes during data processing, using available conversion factors.

This chapter presents the major temporary and permanent crops investigated by the AAS 2019. Like in the previous agricultural year, maize, beans, sweet potatoes, cassava and banana-food are the main crops cultivated in the agricultural year 2019 (see **Figure 7.1** and **Figure 7.2**).

Figure 7.1: Percentage of Ag HHs growing temporary crops

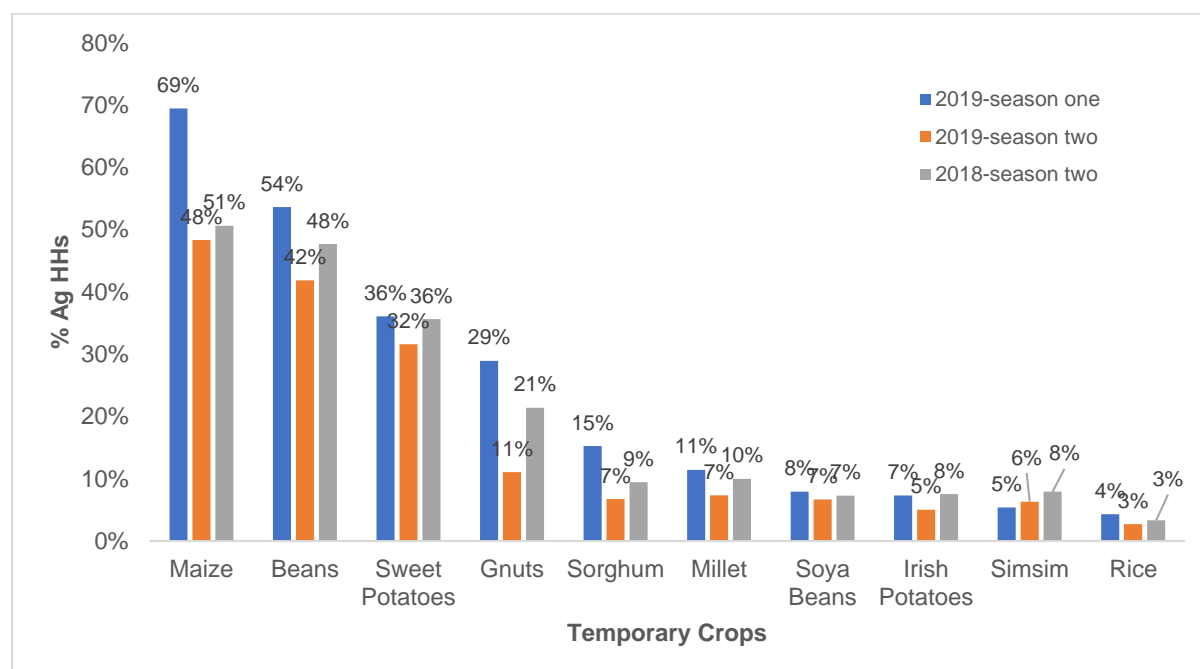
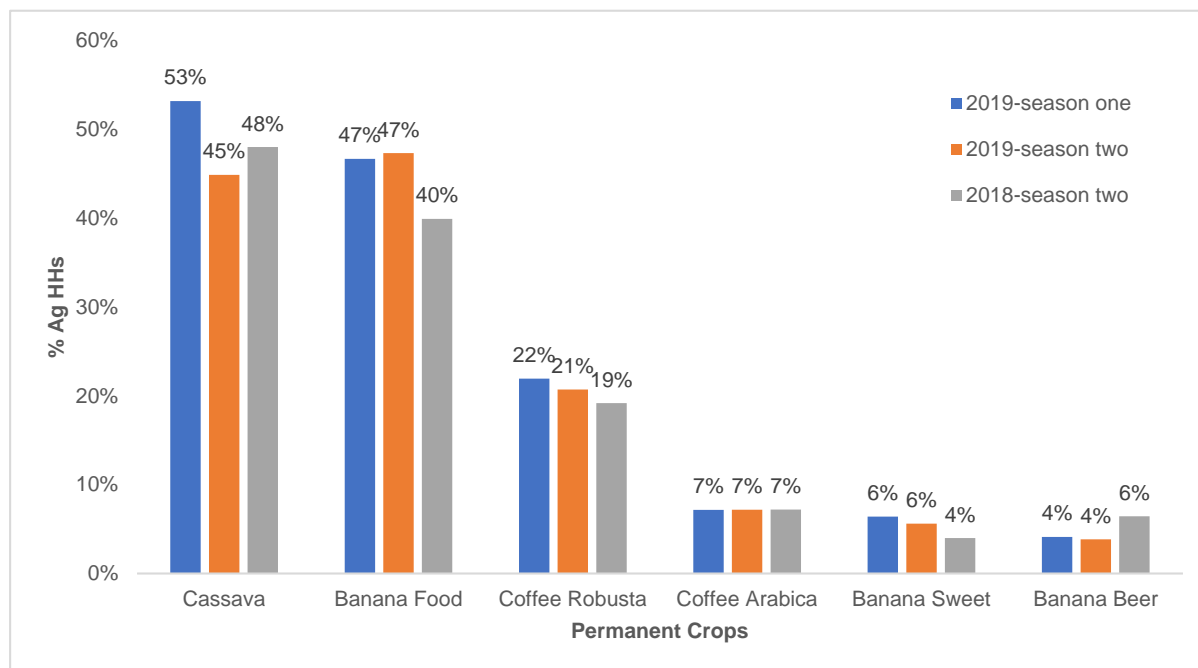


Figure 7.2: Percentage of Ag HHs growing permanent crops³⁰



For each crop, this chapter presents the areas, production and disposition by ZARDI and by Sub-region. The disaggregation by Sub-Region aims to facilitate the comparison with previous reports. The following tables report the area planted, the area harvested and production for the First and Second seasons and for the entire agricultural year; the corresponding coefficients of variation (CVs) are given in Annex 7. In addition, the tables below present the yield based on area harvested; the yield based on the area planted is available in Annex 7.³¹

For the seasonal crops, the annual areas are simply the sum of the seasonal values because crops are replanted every season. For the permanent crops and cassava, the annual areas are assumed equal to the Second Season areas because they are not replanted at the onset of a new season.³²

Because of the limited number of observations, some Sub-regional estimates have a Coefficient of Variation higher than 40 percent, indicating high variability. The description of findings focuses on the values with a Coefficients of Variation lower than 40, which are more reliable.

7.2 Maize

Maize is one of the priority commodities in the Agriculture Sector Strategic Plan – ASSP (MAAIF, 2016). Most small-scale farmers in Uganda grow maize either for own consumption or to generate income. In

³⁰ Cassava appears among the permanent crops due to its long maturation period.

³¹ The yield based on area harvested is the ratio between production (MT) and area (Ha) calculated only on observations where production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. The yield based on area planted includes all observations.

³² Other common strategies, such as using the area of the first season or calculating the average of the areas for the two seasons areas, would lead to similar results.

recent years, maize has become increasingly important in the export market. It is also an industrial crop for the animal feed industry and has high potential for value addition to support the agro-processing industry.

The AAS 2019 results indicate that 69 percent of Ag HHs cultivated maize during the First Season and 48 percent cultivated maize in the Second Season. The total production of maize in Uganda in the agricultural year 2019 was estimated to be approximately 2.8 million metric tonnes (MT) from an estimated planted area of approximately 1.9 million Ha. In the First Season, a slightly higher production (approximately 1.5 million MT) was recorded compared to the Second Season (1.3 million MT). At the national level, the maize yield was 1.5 MT/Ha in First Season and 1.7 MT/Ha in Second Season (see **Table 7.1**).

Looking at the sub-regions, North Buganda has the highest annual production, at 710,895 MT, followed by Bunyoro (560,948 MT). The sub-regions with the lowest annual production were Karamoja (10,085 MT) and Kigezi (10,373 MT). Tooro reported the highest annual yield (2.0 MT/Ha), followed by North Buganda, Bunyoro and Ankole (1.9 MT/ha); the lowest yield was in Karamoja (0.6 MT/Ha) and Teso (0.9 MT/Ha) (see **Table 7.1**).

The production trend shows a steady increase in maize production between 1999/2000 and 2018, and a decrease between 2018 and 2019 equal to 682 MT (corresponding to 20 percent of the 2018 production) (see **Figure 7.3**). The lower production appears to be the result of less planting; in fact, while the 2019 yield is similar to the 2018 yield (1.7 MT/Ha), the area planted with maize declined by 24 percent compared with the previous year (see Annex 7).

Finally, the data on the use (disposition) of the maize production reveals that this crop is mainly sold in unprocessed form (46.7 percent of total production in First Season and 63.4 percent in season two) and also used for own consumption (27.4 percent of total production in First Season one and 28.2 percent in Second Season) (see **Figure 7.4**)³³.

³³ The share of total production in storage in Second Season is much smaller because the fieldwork was conducted well after the completion of the Season when most of the farms had already used their stock.

Table 7.1: Area and production of maize, by sub-region

SubRegion-	First Season 2019				Second Season 2019				Total			
	Area Planted (ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
S. Buganda	89,328	85,168	127,887	1.5	77,340	75,703	138,305	1.8	166,668	160,871	266,192	1.7
N. Buganda	198,285	175,282	283,621	1.6	223,391	207,396	427,274	2.1	421,676	382,678	710,895	1.9
West Nile	43,766	37,465	45,271	1.2	5,210	5,121	6,974	1.4	48,976	42,586	52,245	1.2
Lango	79,683	75,210	92,444	1.2	86,366	85,582	113,313	1.3	166,049	160,792	205,757	1.3
Acholi	76,779	64,740	58,407	0.9	10,879	10,501	14,126	1.3	87,658	75,241	72,533	1.0
Kigezi	4,161	2,733	4,401	1.6	5,632	4,809	5,972	1.2	9,793	7,542	10,373	1.4
Bunyoro	150,959	147,255	298,527	2.0	155,198	151,191	262,421	1.7	306,157	298,446	560,948	1.9
Tooro	64,301	60,709	112,216	1.8	57,165	55,711	126,062	2.3	121,466	116,420	238,278	2.0
Busoga	102,431	91,621	130,011	1.4	74,874	68,000	84,648	1.2	177,305	159,621	214,659	1.3
Teso	55,785	49,118	43,263	0.9	32,348	29,756	26,696	0.9	88,133	78,874	69,959	0.9
Bukedi	58,627	53,880	58,526	1.1	39,887	38,079	39,827	1.0	98,514	91,959	98,353	1.1
Elgon	102,982	92,058	174,107	1.9	31,681 ^a	30,191 ^a	25,973 ^a	0.9	134,663	122,249 ^a	200,080 ^a	1.6
Karamoja	32,385	15,950	9,884	0.6	50 ^a	50 ^a	201 ^a	4.0	32,435	16,000	10,085	0.6
Ankole	13,958	13,275	25,009	1.9	13,628	12,900	24,215	1.9	27,586	26,175	49,224	1.9
Uganda	1,073,426	964,464	1,463,572	1.5	813,647	774,989	1,296,007	1.7	1,887,073	1,739,453	2,759,579	1.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.2: Area and production of maize, by ZARDI

ZARDI	First Season 2019				First Season 2019				Total			
	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	43,766	37,465	45,271	1.2	5,210	5,121	6,974	1.4	48,976	42,586	52,245	1.2
Buginyanya	264,039	237,559	362,644	1.5	146,441	136,271	150,447	1.1	410,480	373,830	513,091	1.4
Bulindi	150,959	147,255	298,527	2.0	155,198	151,191	262,421	1.7	306,157	298,446	560,948	1.9
Kachwekano	4,161	2,733	4,401	1.6	5,632	4,809	5,972	1.2	9,793	7,542	10,373	1.4
Mukono	245,722	219,702	351,301	1.6	269,634	252,313	507,889	2.0	515,356	472,015	859,190	1.8
Ngetta	156,462	139,949	150,850	1.1	97,245	96,083	127,440	1.3	253,707	236,032	278,290	1.2
Nabuin	32,385	15,950	9,884	0.6	50 ^a	50 ^a	201 ^a	4.0	32,435	16,000	10,085	0.6
Serere	55,785	49,118	43,263	0.9	32,348	29,756	26,696	0.9	88,133	78,874	69,959	0.9
Mbarara	55,848	54,022	85,215	1.6	44,724	43,686	81,906	1.9	100,572	97,708	167,121	1.7
Rwebitaba	64,301	60,709	112,216	1.8	57,165	55,711	126,062	2.3	121,466	116,420	238,278	2.0
Uganda	1,073,426	964,464	1,463,572	1.5	813,647	774,989	1,296,007	1.7	1,887,073	1,739,453	2,759,579	1.6

Notes: *The total area harvested is the total area planted - calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.3: Maize production trend ('000 MT), 1999/2000-2019

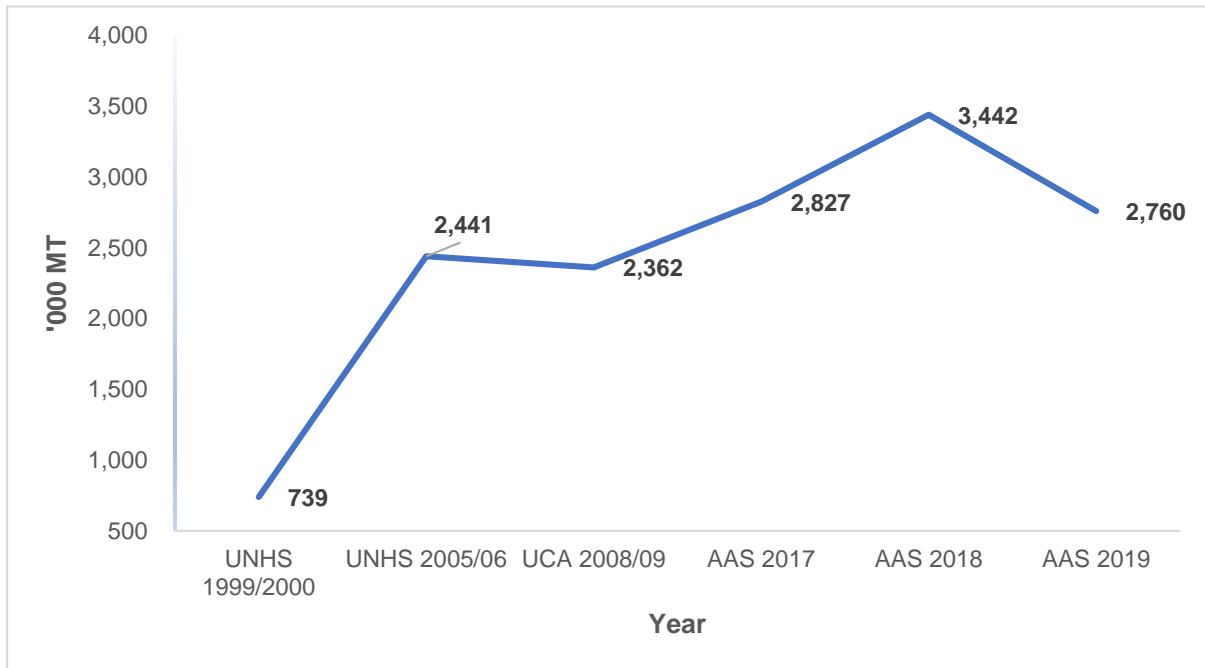
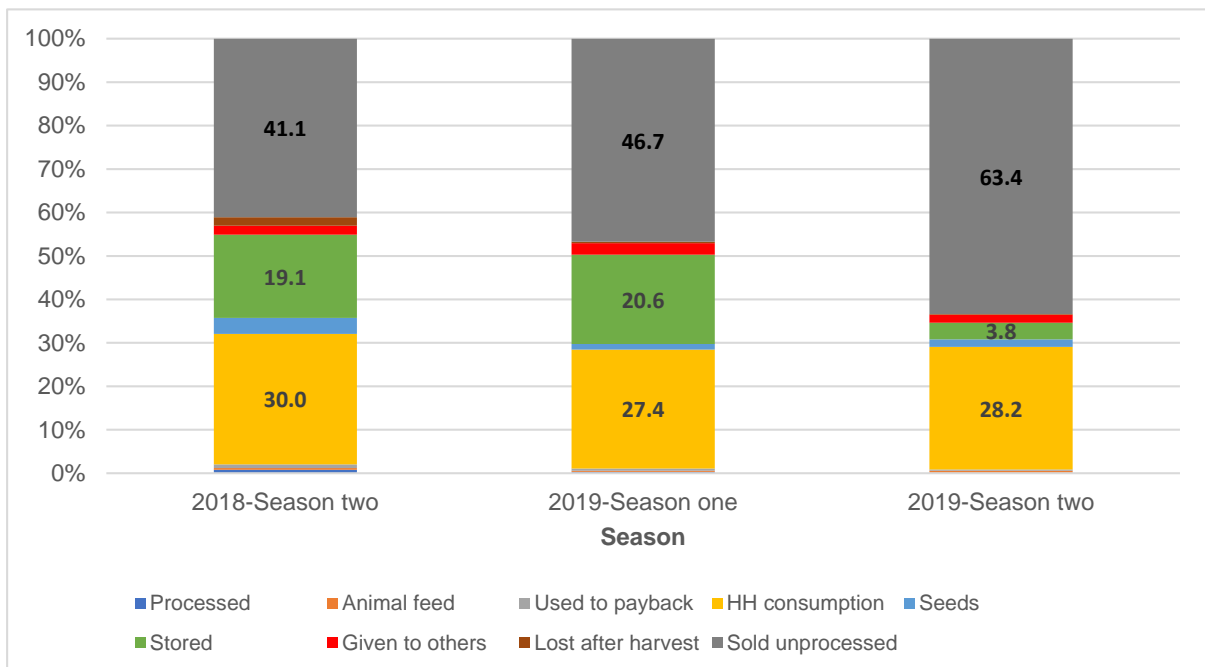


Figure 7.4: Use of maize production (share of total production)



7.3 Millet

Approximately 11 percent of Ag HHs cultivated millet during the First Season and 7 percent cultivated millet in the Second Season. The total production of millet in Uganda in the agricultural year 2019 was estimated to be approximately 73,000 MT from an estimated planted area of approximately 230,000 hectares (ha). The production of millet was substantially higher (46,597 MT) in the First Season compared to the Second Season (26,061 MT). At the national level, the millet yield was 0.3 MT/Ha in First Season and 0.4 MT/Ha in Second Season (see **Table 7.3**).

Ankole registered the highest annual production with 14,098 MT, followed by Acholi (13,415 MT). The Sub-regions with the lowest annual production were Bunyoro (1,382 MT) and Tooro (1,866 MT). The highest annual yields were recorded in Ankole and Kigezi (0.6 and 0.5 MT/Ha, respectively) and lowest was in Acholi (0.2 MT/Ha) (see **Table 7.3**).

Looking at the production trend, millet production peaked in 2008/09 (UCA 2008/9). Its decline in the following years was particularly large during the agricultural year 2019 (49 percent reduction compared with 2018) (see **Figure 7.5**). The lower production seems to be caused by a slightly lower yield (0.4 Mt/Ha in 2019 against 0.6 Mt/Ha in 2018) and by a 19 percent reduction in area planted (see Annex 7, Table 7- 4).

Finally, the data on the use (disposition) of the millet production reveals that the crop is mainly used for own consumption (29 percent of total production in First Season and 46.6 percent in Second Season). It is, however, also sold in unprocessed form (13 percent of total production in First Season and 26.7 percent in Second Season). In the Second Season, the share of total production in storage is much smaller because the fieldwork was conducted well after the completion of the season when most of the farms had already utilised their stock (see **Figure 7.6**).

Table 7.3: Area and production of millet, by sub-region

Sub-region	First Season 2019				First Season 2019				Total			
	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area Planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
S. Buganda	176 ^a	-	-		534 ^a	411 ^a	323 ^a	0.8	710 ^a	411 ^a	323 ^a	0.8
N. Buganda	1,768 ^a	1,707 ^a	871 ^a	0.5	1,549 ^a	1,336 ^a	838 ^a	0.6	3,317 ^a	3,043 ^a	1,709 ^a	0.6
West Nile	910 ^a	563 ^a	185 ^a	0.3	3,395 ^a	3,395 ^a	786 ^a	0.2	4,305 ^a	3,958 ^a	971 ^a	0.2
Lango	29,154	27,410	9,782	0.4	5,233	5,036	1,440	0.3	34,387	32,446	11,222	0.3
Acholi	60,613	47,048	11,090	0.2	8,398	8,121	2,325	0.3	69,011	55,169	13,415	0.2
Kigezi	1,359 ^a	1,057 ^a	467 ^a	0.4	6,083	5,368	2,443	0.5	7,442	6,425	2,910	0.5
Bunyoro	1,235	1,187	690 ^a	0.6	2,012 ^a	1,926 ^a	692 ^a	0.4	3,247	3,113	1,382	0.4
Tooro	661	661	321	0.5	3,931	3,677	1,545	0.4	4,592	4,338	1,866	0.4
Busoga	12,267 ^a	11,370 ^a	4,268 ^a	0.4	595 ^a	595 ^a	108 ^a	0.2	12,862 ^a	11,965 ^a	4,376 ^a	0.4
Teso	33,713	30,875	8,967	0.3	4,724	4,457	1,248	0.3	38,437	35,332	10,215	0.3
Bukedi	17,491	17,180	7,104	0.4	896 ^a	896 ^a	174 ^a	0.2	18,387	18,076	7,278	0.4
Elgon	3,147	3,112	2,001 ^a	0.6	671 ^a	671 ^a	114 ^a	0.2	3,818 ^a	3,783 ^a	2,115 ^a	0.6
Karamoja	5,250 ^a	2,568 ^a	781 ^a	0.3	-	-	-		5,250 ^a	2,568 ^a	781 ^a	0.3
Ankole	324 ^a	206 ^a	72 ^a	0.3	24,227	22,877	14,026	0.6	24,551	23,083	14,098	0.6
Uganda	168,068	144,945	46,597	0.3	62,248	58,767	26,061	0.4	230,316	203,712	72,658	0.4

Notes: *The total area harvested is the total area planted- calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.4: Area and production of millet, by ZARDI

ZARDI	First Season 2019				First Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area Planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	910	563	185	0.3	3,395 ^a	3,395 ^a	786 ^a	0.2	4,305	3,958 ^a	971 ^a	0.2
Buginyanya	32,905	31,662	13,372	0.4	2,162 ^a	2,162 ^a	396	0.2	35,067	33,824	13,768	0.4
Bulindi	1,235	1,187	690	0.6	2,012 ^a	1,926 ^a	692 ^a	0.4	3,247	3,113	1,382	0.4
Kachwekano	1,359	1,057	467	0.4	6,083	5,368	2,443	0.5	7,442	6,425	2,910	0.5
Mukono	1,768	1,707	871	0.5	1,775 ^a	1,561 ^a	917 ^a	0.6	3,543	3,268 ^a	1,788 ^a	0.5
Ngetta	89,768	74,458	20,872	0.3	13,631	13,157	3,765	0.3	103,399	87,615	24,637	0.3
Nabuin	5,250	2,568	781	0.3	-	-	-		5,250	2,568 ^a	781 ^a	0.3
Serere	33,713	30,875	8,967	0.3	4,724	4,457	1,248	0.3	38,437	35,332	10,215	0.3
Mbarara	500	206	72	0.3	24,535	23,062	14,269	0.6	25,035	23,268	14,341	0.6
Rwebitaba	661	661	321	0.5	3,931	3,677	1,545	0.4	4,592	4,338	1,866	0.4
Uganda	168,068	144,945	46,597	0.3	62,248	58,767	26,061	0.4	230,316	203,712	72,658	0.4

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.5: Millet production trend ('000 MT), 1999/2000-2019

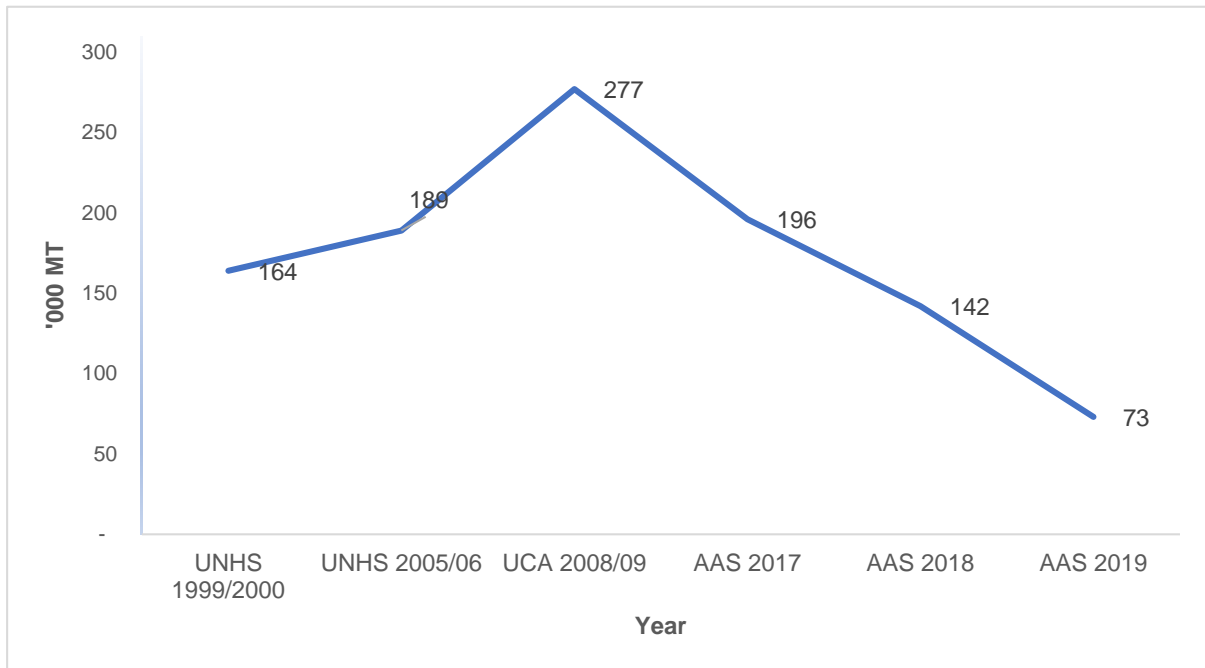
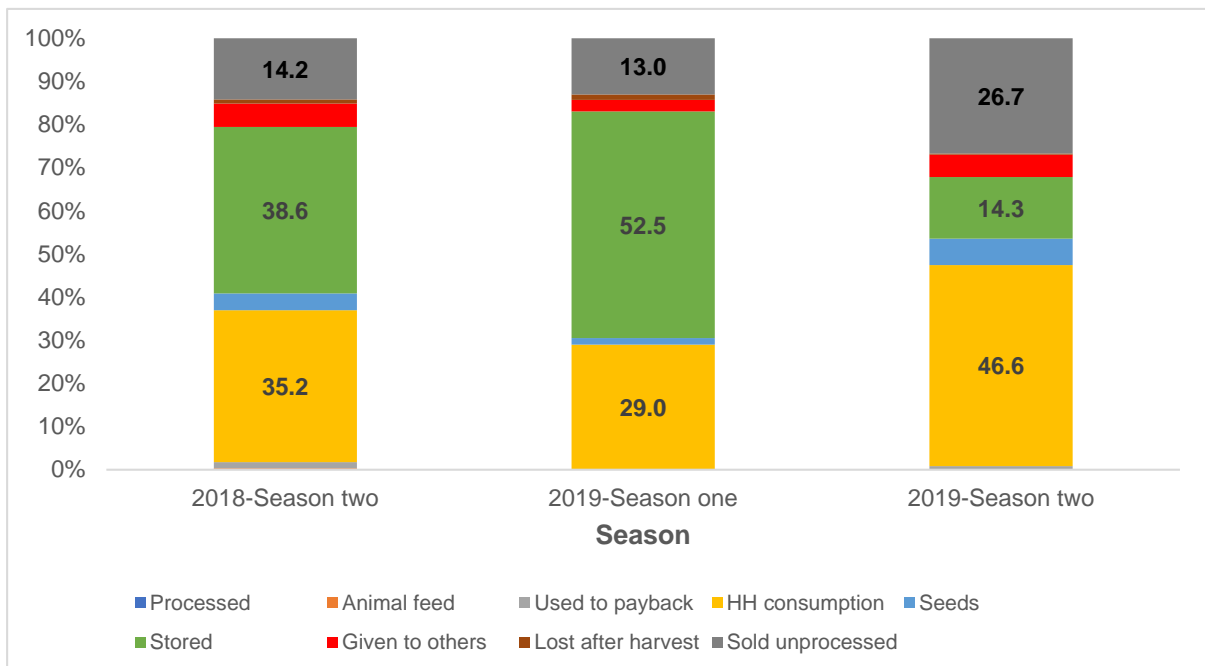


Figure 7.6: Use of millet production (share of total production)



7.4 Sorghum

Sorghum is a staple food that has increasingly become a source of income and a non-traditional export crop just like maize. It is also used as a raw material in the brewing industry.

The AAS 2019 results indicate that more Ag HHs cultivated sorghum in the First Season (15 percent of Ag HHs) than in the Second Season (7 percent of Ag HHs). The total production of sorghum in Uganda in the agricultural year 2019 was estimated to be approximately 97,000 MT from an estimated planted area of about 324,000 ha. The production in the first season (approximately 52,647 MT) was reported to be higher compared to the second season (44,661 MT). At the national level, the yield for sorghum was 0.6 MT/Ha in both seasons (see **Table 7.5**)

The highest production of sorghum was recorded in Teso (34,098 MT), followed by Acholi (10,337 MT). The Sub-region with the lowest annual production was North Buganda (522 MT). The highest yield was in Acholi and Kigezi, at 0.8 MT/ha, and the lowest yield was in Bukedi, at 0.4 MT/ha (see **Table 7.5**).

The trend over the years shows that sorghum production fluctuates significantly over time. While the AAS 2017 and 2018 estimates are quite similar (201 MT and 268 MT, respectively), the AAS 2019 reports a significant decrease in production (see **Figure 7.7**). Similar to maize, lower sorghum production likely depends on less planting; in fact, even though the 2018 and 2019 yields are similar, the area planted with sorghum declined by 34 percent compared with the previous year (see Annex 7, Table 7- 34).

The data on the use (disposition) of the sorghum production reveals that sorghum is mainly used for household consumption (35.3 percent of total production in First Season and 54.7 per cent in Second Season) and is also sold in unprocessed form (17.6 percent of total production in First Season and 24.6 percent in Second Season) (see **Figure 7.8**)³⁴.

³⁴ In the Second Season, the share of total production in storage was much smaller because the fieldwork was conducted well after the completion of the season when most of the farms had already utilised their stock

Table 7.5: Area and production of sorghum, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	85 ^a	85 ^a	49 ^a	0.6	3,325 ^a	3,316 ^a	552 ^a	0.2	3,410 ^a	3,401 ^a	601 ^a	0.2
North Buganda	1,058 ^a	693 ^a	287 ^a	0.4	365 ^a	365 ^a	235 ^a	0.6	1,423 ^a	1,058	522	0.5
West Nile	13,676	3,169 ^a	2,713 ^a	0.9	3,660	3,397	2,124	0.6	17,336	6,566	4,837	0.7
Lango	9,871	6,071	3,515	0.6	11,409	10,499	6,138	0.6	21,280	16,570	9,653	0.6
Acholi	65,859	1,183 ^a	931 ^a	0.8	11,712	11,175	9,406	0.8	77,571	12,358	10,337	0.8
Kigezi	12,371	11,686	8,836	0.8	506	334	326 ^a	1.0	12,877	12,020	9,162	0.8
Bunyoro	1,673 ^a	1,427 ^a	626	0.4	1,333 ^a	1,217 ^a	871 ^a	0.7	3,006	2,644	1,497 ^a	0.6
Tooro	3,241 ^a	2,752 ^a	3,427 ^a	1.2	2,099 ^a	2,099 ^a	2,968 ^a	1.4	5,340 ^a	4,851 ^a	6,395 ^a	1.3
Busoga	1,372 ^a	1,372 ^a	943 ^a	0.7	1,148 ^a	1,148 ^a	223 ^a	0.2	2,520	2,520	1,166 ^a	0.5
Teso	29,129	26,089	16,764	0.6	36,747	33,739	17,334	0.5	65,876	59,828	34,098	0.6
Bukedi	10,238	8,356	3,774	0.5	1,400	1,375	355	0.3	11,638	9,731	4,129	0.4
Elgon	521 ^a	382 ^a	205 ^a	0.5	499 ^a	4 ^a	1 ^a	0.3	1,020 ^a	386 ^a	206 ^a	0.5
Karamoja	90,816	24,409	6,500 ^a	0.3	-	-	-		90,816	24,409	6,500 ^a	0.3
Ankole	4,723	4,688	4,077 ^a	0.9	5,040	5,040	4,129	0.8	9,763	9,728	8,206 ^a	0.8
Uganda	244,634	92,363	52,647	0.6	79,244	73,709	44,661	0.6	323,878	166,072	97,308	0.6

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.6: Area and production of sorghum, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production(MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	13,676	3,169 ^a	2,713 ^a	0.9	3,660	3,397	2,124	0.6	17,336	6,566	4,837	0.7
Buginyanya	12,131	10,111	4,922	0.5	3,048	2,527	579	0.2	15,179	12,638	5,501	0.4
Bulindi	1,673 ^a	1,427 ^a	626	0.4	1,333 ^a	1,217 ^a	871 ^a	0.7	3,006	2,644	1,497 ^a	0.6
Kachwekano	12,371	11,686	8,836	0.8	506	334	326 ^a	1.0	12,877	12,020	9,162	0.8
Mukono	1,058 ^a	693 ^a	287 ^a	0.4	3,681 ^a	3,681 ^a	787 ^a	0.2	4,739 ^a	4,374 ^a	1,074 ^a	0.2
Ngetta	75,730	7,254	4,446	0.6	23,122	21,674	15,544	0.7	98,852	28,928	19,990	0.7
Nabuin	90,816	24,409	6,500 ^a	0.3	-	-	-	-	90,816	24,409	6,500 ^a	0.3
Serere	29,129	26,089	16,764	0.6	36,747	33,739	17,334	0.5	65,876	59,828	34,098	0.6
Mbarara	4,808	4,773	4,126 ^a	0.9	5,048	5,040	4,129	0.8	9,856	9,813	8,255 ^a	0.8
Rwebitaba	3,241 ^a	2,752 ^a	3,427 ^a	1.2	2,099 ^a	2,099 ^a	2,968 ^a	1.4	5,340 ^a	4,851 ^a	6,395 ^a	1.3
Uganda	244,634	92,363	52,647	0.6	79,244	73,709	44,661	0.6	323,878	166,072	97,308	0.6

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.7: Sorghum production trend ('000 MT), 1999/2000-2019

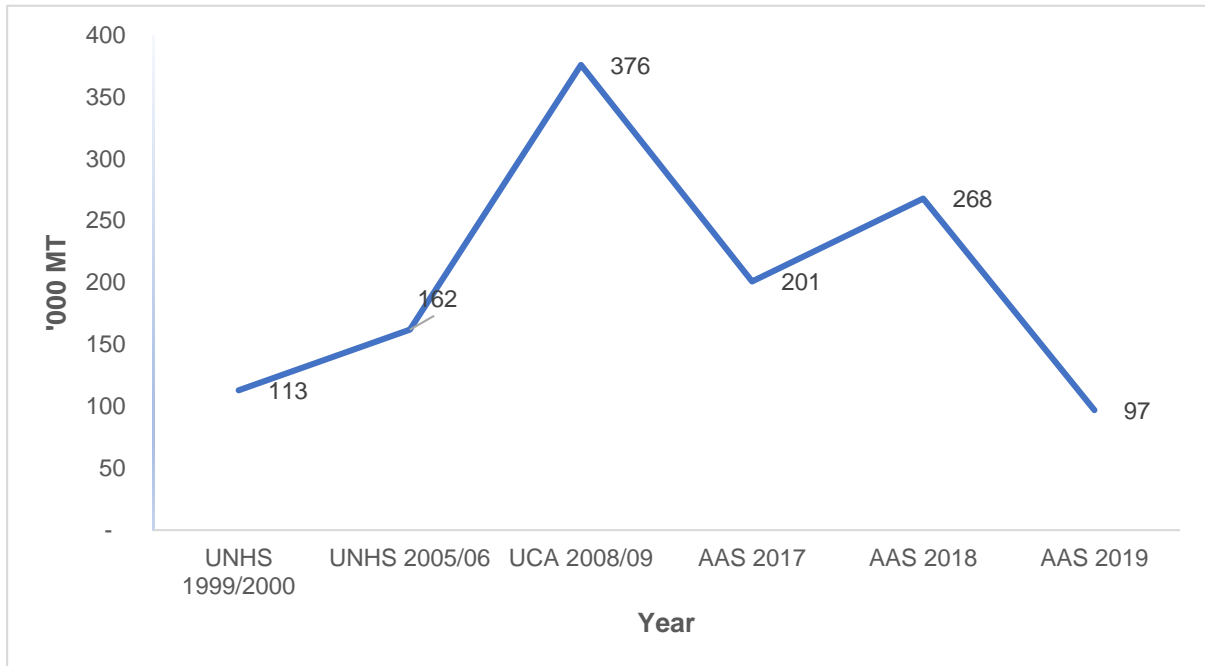
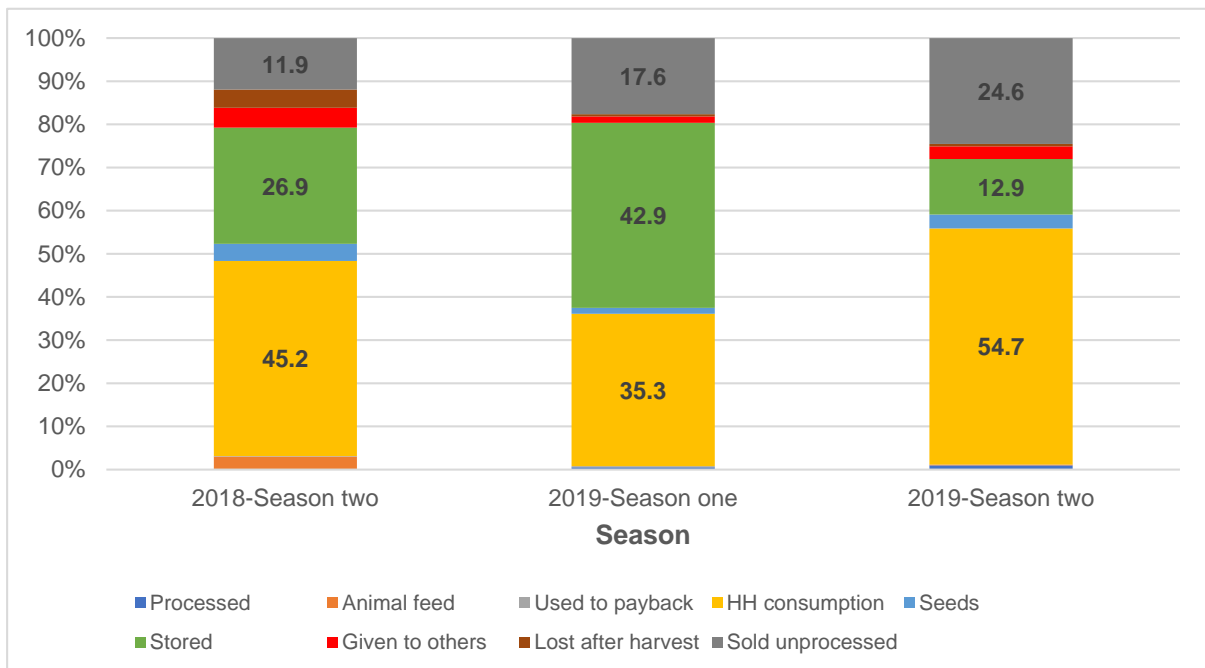


Figure 7.8: Use of sorghum production (share of total production)



7.5 Rice

In Uganda, rice is considered a strategic crop with the potential to contribute to increasing rural incomes. Two types of rice are grown in the country, paddy rice and upland rice. Paddy rice, which is more common than upland rice, requires wetlands to grow properly.

The AAS 2019 results indicate that rice was cultivated by 4 percent of Ag HHs during the First season and 3 percent in the Second Season. The total production of rice in Uganda in the agricultural year 2019 was estimated to be approximately 167,000 MT from an estimated planted area of approximately 178,000 Ha. Rice production in the First Season (approximately 75,608 MT) was lower than the production in the Second Season (90,988 MT). At the national level, the rice yield was 1.1 MT/ Ha in First Season and 1.5 MT/Ha in Second Season (see **Table 7.7**).

By Sub-region, the highest annual production by far was reported in Busoga, at 49,826 MT, followed by Bukedi (20,157 MT). Busoga also had the highest annual yield (1.5 MT/Ha) while Bukedi had a yield equal to 1.0 MT/Ha (see **Table 7.7**).

The production trend shows that rice production has been quite stable over time, including in 2019. In fact, the AAS 2019 data shows only a slight decrease of 32 MT between 2018 and 2019, which corresponds to 16 percent of 2018 production (see **Figure 7.9**).

The data concerning the use (destination) of rice production reveals that rice is mainly used for sales (59.5 percent of total production in First Season and 77.3 percent in Second Season), while only a residual part is used for own consumption (10.2 percent of total production in First Season and 9.4 percent in Second Season) (see **Figure 7.10**)³⁵.

³⁵ The share of total production in storage during Second Season was much smaller compared to the First Season, because the fieldwork was conducted well after the completion of the season when most of the farms had already utilised their stock.

Table 7.7: Area and production of rice, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	1,359 ^a	1,359 ^a	459 ^a	0.3	1,762 ^a	1,762 ^a	3,670 ^a	2.1	3,121 ^a	3,121 ^a	4,129 ^a	1.3
North Buganda	5,478 ^a	5,478 ^a	6,436 ^a	1.2	4,066 ^a	4,066 ^a	11,607 ^a	2.9	9,544 ^a	9,544 ^a	18,043 ^a	1.9
West Nile	5,489	233 ^a	174 ^a	0.7	2,280 ^a	2,280 ^a	2,205 ^a	1.0	7,769	2,513 ^a	2,379 ^a	0.9
Lango	11,038 ^a	2,548 ^a	2,034 ^a	0.8	8,848	8,538	9,549 ^a	1.1	19,886	11,086	11,583	1.0
Acholi	24,320	10,653 ^a	12,489 ^a	1.2	6,788 ^a	5,713	6,277 ^a	1.1	31,108	16,366 ^a	18,766 ^a	1.1
Kigezi	4,310 ^a	1,590 ^a	1,281 ^a	0.8	2,567 ^a	2,342 ^a	3,593 ^a	1.5	6,877 ^a	3,932 ^a	4,874 ^a	1.2
Bunyoro	2,032 ^a	2,032 ^a	3,854 ^a	1.9	7,766	7,570 ^a	7,559 ^a		9,798	9,602	11,413	1.2
Tooro	3,280 ^a	3,194 ^a	3,448 ^a	1.1	4,364 ^a	4,276 ^a	7,117 ^a	1.7	7,644 ^a	7,470 ^a	10,565 ^a	1.4
Busoga	23,321	21,405	27,499	1.3	13,216	12,938	22,327	1.7	36,537	34,343	49,826	1.5
Teso	13,166	3,974	3,766 ^a	0.9	2,117	1,918 ^a	2,257 ^a	1.2	15,283	5,892	6,023	1.0
Bukedi	14,888	11,761	10,953	0.9	8,613	8,073	9,204	1.1	23,501	19,834	20,157	1.0
Elgon	3,290 ^a	2,642 ^a	2,783 ^a	1.1	1,826 ^a	1,826 ^a	5,624 ^a	3.1	5,116 ^a	4,468 ^a	8,407 ^a	1.9
Karamoja	1,484 ^a	1,484 ^a	432 ^a	0.3	-	-	-		1,484 ^a	1,484 ^a	432 ^a	0.3
Ankole	-	-	-		-	-	-		-	-	-	
Uganda	113,454	68,352	75,608	1.1	64,212	61,300	90,988	1.5	177,666	129,652	166,596	1.3

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.8: Area and production of rice, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	5,489	233 ^a	174 ^a	0.7	2,280 ^a	2,280 ^a	2,205 ^a	1.0	7,769	2,513 ^a	2,379 ^a	0.9
Buginyanya	41,498	35,808	41,235	1.2	23,655 ^a	22,836	37,154	1.6	65,153	58,644	78,389	1.3
Bulindi	2,032 ^a	2,032 ^a	3,854 ^a	1.9	7,766	7,570 ^a	7,559 ^a	1.0	9,798	9,602	11,413	1.2
Kachwekano	4,310 ^a	1,590 ^a	1,281 ^a	0.8	2,567 ^a	2,342 ^a	3,593 ^a	1.5	6,877 ^a	3,932 ^a	4,874 ^a	1.2
Mukono	6,836	6,836	6,895	1.0	5,827 ^a	5,827 ^a	15,278 ^a	2.6	12,663 ^a	12,663 ^a	22,173 ^a	1.8
Ngetta	35,358	13,201 ^a	14,523 ^a	1.1	15,636	14,251	15,825	1.1	50,994	27,452	30,348	1.1
Nabuin	1,484 ^a	1,484 ^a	432 ^a	0.3	-	-	-	-	1,484 ^a	1,484 ^a	432 ^a	0.3
Serere	13,166	3,974	3,766 ^a	0.9	2,117	1,918 ^a	2,257 ^a	1.2	15,283	5,892	6,023	1.0
Mbarara	-	-	-	-	-	-	-	-	-	-	-	-
Rwebitaba	3,280 ^a	3,194 ^a	3,448 ^a	1.1	4,364 ^a	4,276 ^a	7,117 ^a	1.7	7,644 ^a	7,470 ^a	10,565 ^a	1.4
Uganda	113,454	68,352	75,608	1.1	64,212	61,300	90,988	1.5	177,666	129,652	166,596	1.3

Notes: *The total area harvested is the total area planted- calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.9: Rice production trend ('000 MT), 1999/2000-2019

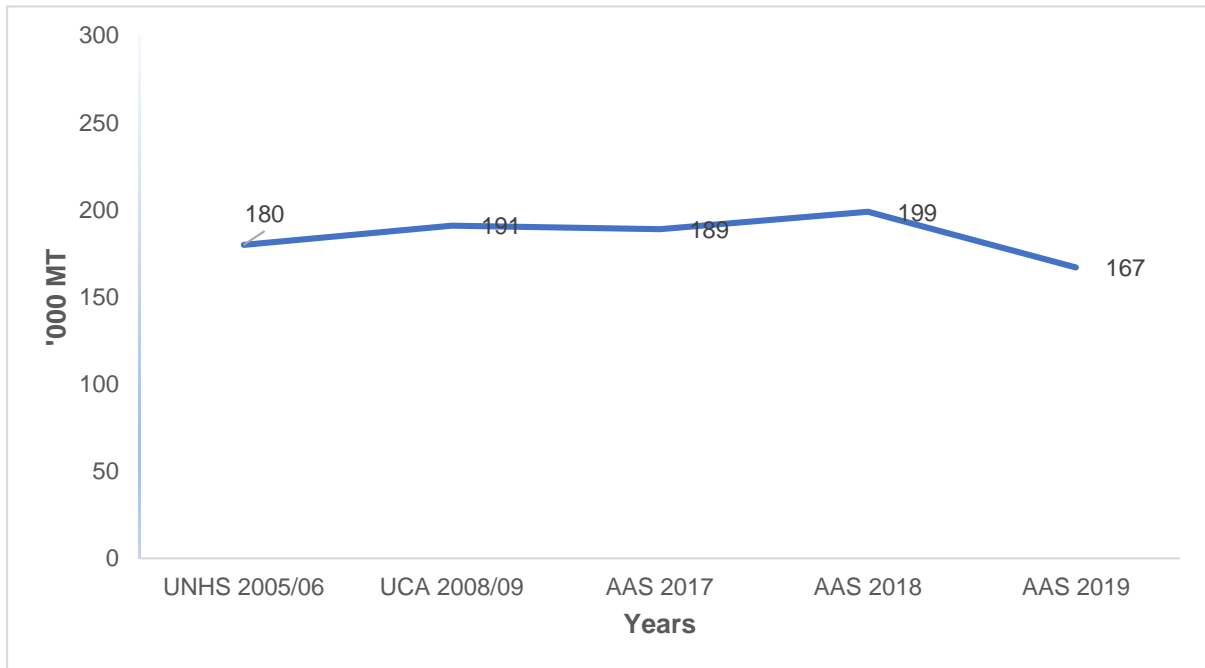
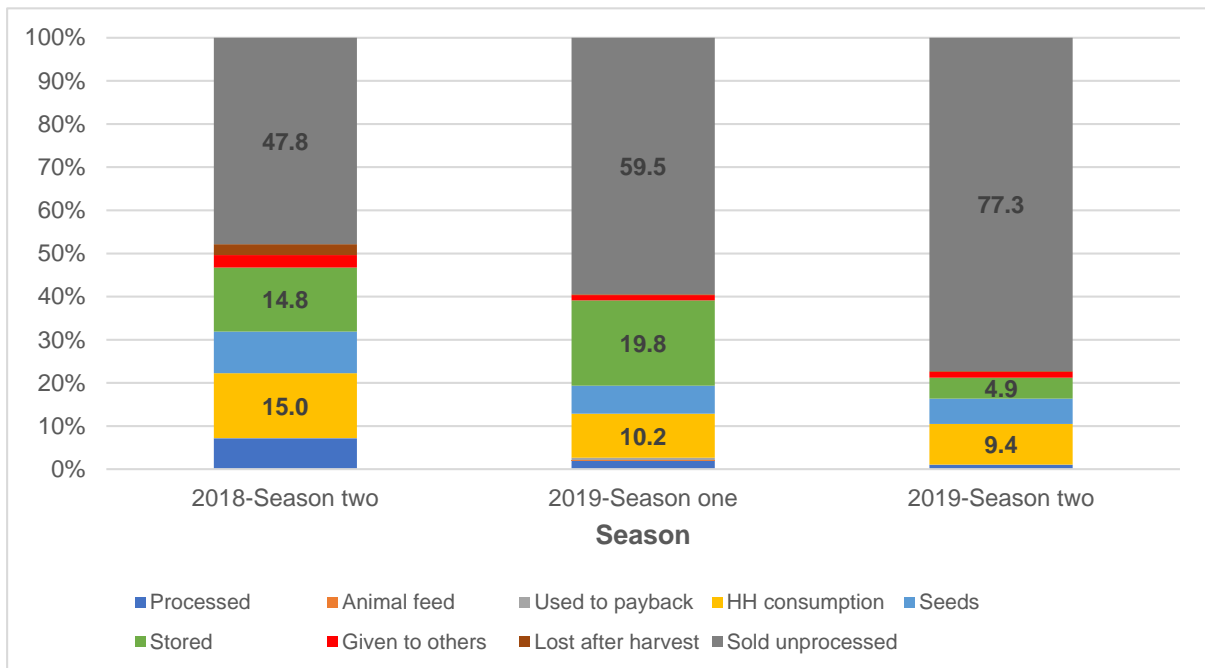


Figure 7.10: Use of rice production (share of total production)



7.6 Beans

Beans are a major source of protein for most households in Uganda and are widely grown throughout the country. The AAS 2019 shows that 54 percent of Ag HHs cultivated beans during the First Season and 42 percent cultivated beans in the Second Season.

The results of the survey indicate that the total production of beans in the agricultural year 2019 was approximately 438,000 MT from an estimated planted area of approximately 867,000 Greater production (approximately 238,000 MT) was recorded in the First Season compared to the Second Season (199,000 MT). At the national level, the annual yield of beans was 0.5 MT/Ha and 0.6 MT/Ha in First and Second Season, respectively (see **Table 7.9**).

At the Sub-regional level, the highest annual production was in Bunyoro (77,427 MT), Ankole (72,610 MT) and North Buganda (72,305 MT), while the least amount of beans was produced in Teso (2,697 MT). Ankole had the highest yield (0.8 MT/Ha) followed by Bunyoro (0.7MT/Ha) (see **Table 7.9**).

The trend shows that the production of beans has been declining since 2017. In particular, between 2018 and 2019, the production decreased by 40 percent from 728,000 MT in 2018 to 438,000 MT in 2019 (see **Figure 7.11**). Lower production is likely the result of less planting; in fact, even though the 2018 and 2019 yields are similar, The area planted with beans declined by 28 percent compared with the previous year (see Annex 7, Table 7- 9).

Regarding harvest disposition, the beans produced in the country were either consumed by the producing households (35.6 percent of production in First Season and 42.3 percent in Second Season) or sold unprocessed (38 percent of production in First Season and 42 percent in Second Season), while 11 percent was kept aside as seed for the following season (see **Figure 7.12**)³⁶.

³⁶ The share of total production in storage during Second Season was much smaller because the fieldwork was conducted well after the completion of the season when most of the farms had already utilised their stock.

Table 7.9: Area and production of beans, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	59,153	53,269	28,374	0.5	48,261	44,469	28,721	0.6	107,414	97,738	57,095	0.6
North Buganda	84,454	67,605	33,260	0.5	67,060	56,104	39,045	0.7	151,514	123,709	72,305	0.6
West Nile	14,196	12,046	7,657	0.6	6,133	5,869	3,081	0.5	20,329	17,915	10,738	0.6
Lango	58,016	48,528	19,691	0.4	16,928	14,553	4,915	0.3	74,944	63,081	24,606	0.4
Acholi	11,190	9,127	3,603	0.4	3,678	3,678	1,738	0.5	14,868	12,805	5,341	0.4
Kigezi	18,619	16,152	9,135	0.6	21,119	18,648	10,582	0.6	39,738	34,800	19,717	0.6
Bunyoro	70,179	66,114	44,027	0.7	53,612	51,233	33,400	0.7	123,791	117,347	77,427	0.7
Tooro	52,703	46,405	26,524	0.6	45,977	43,048	25,432	0.6	98,680	89,453	51,956	0.6
Busoga	17,732	13,510	5,130	0.4	7,222	6,180	2,565	0.4	24,954	19,690	7,695	0.4
Teso	8,080	6,174	2,099	0.3	1,870	1,564	598	0.4	9,950	7,738	2,697	0.3
Bukedi	7,886	5,710	1,619	0.3	4,698	3,761	1,221	0.3	12,584	9,471	2,840	0.3
Elgon	52,012	44,884	17,625	0.4	34,735	28,086	14,297	0.5	86,747	72,970	31,922	0.4
Karamoja	4,452	4,102 ^a	660 ^a	0.2	-	-	-	-	4,452	4,102 ^a	660 ^a	0.2
Ankole	51,415	49,114	38,826	0.8	45,829	44,917	33,784	0.8	97,244	94,031	72,610	0.8
Uganda	510,086	442,741	238,230	0.5	357,123	322,111	199,380	0.6	867,209	764,852	437,610	0.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.10: Area and production of beans, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	14,196	12,046	7,657	0.6	6,133	5,869	3,081	0.5	20,329	17,915	10,738	0.6
Buginyanya	77,630	64,104	24,374	0.4	46,656	38,028	18,083	0.5	124,286	102,132	42,457	0.4
Bulindi	70,179	66,114	44,027	0.7	53,612	51,233	33,400	0.7	123,791	117,347	77,427	0.7
Kachwekano	18,619	16,152	9,135	0.6	21,119	18,648	10,582	0.6	39,738	34,800	19,717	0.6
Mukono	122,318	100,817	49,534	0.5	97,723	83,690	54,192	0.6	220,041	184,507	103,726	0.6
Ngetta	69,206	57,655	23,294	0.4	20,607	18,231	6,653	0.4	89,813	75,886	29,947	0.4
Nabuin	4,452	4,102 ^a	660 ^a	0.2	-	-	-		4,452	4,102 ^a	660 ^a	0.2
Serere	8,080	6,174	2,099	0.3	1,870	1,564	598	0.4	9,950	7,738	2,697	0.3
Mbarara	72,704	69,171	50,925	0.7	63,426	61,800	47,359	0.8	136,130	130,971	98,284	0.8
Rwebitaba	52,703	46,405	26,524	0.6	45,977	43,048	25,432	0.6	98,680	89,453	51,956	0.6
Uganda	510,086	442,741	238,230	0.5	357,123	322,111	199,380	0.6	867,209	764,852	437,610	0.6

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.11: Beans production ('000 MT, 1999/2000-2019

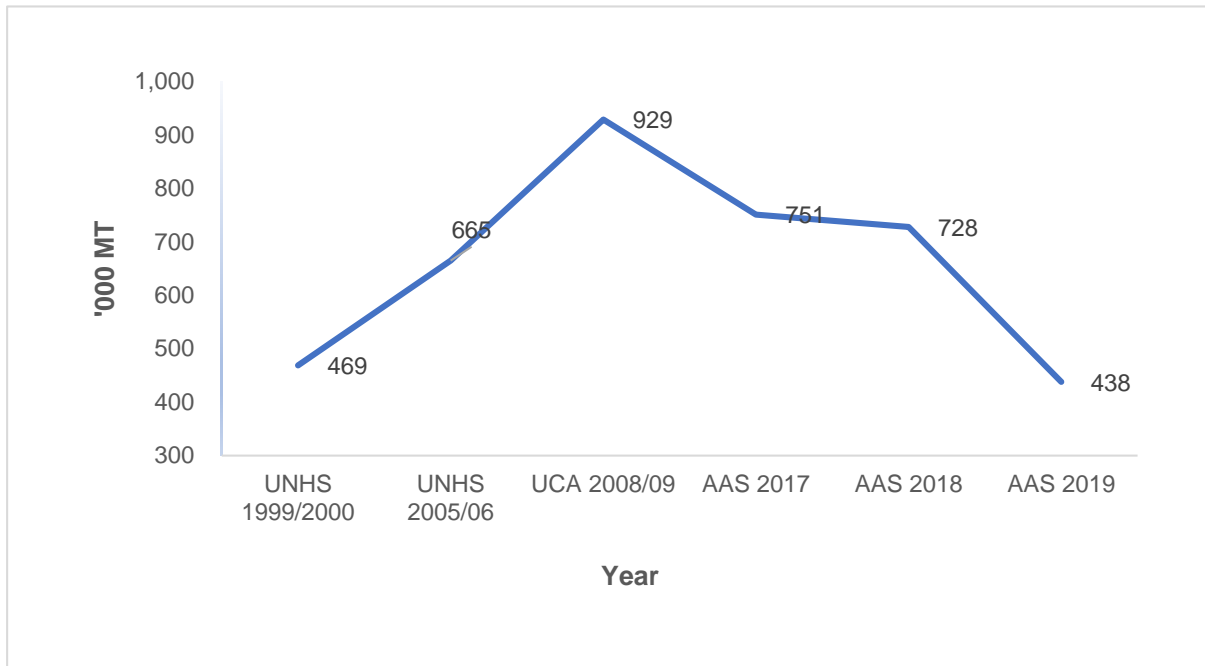
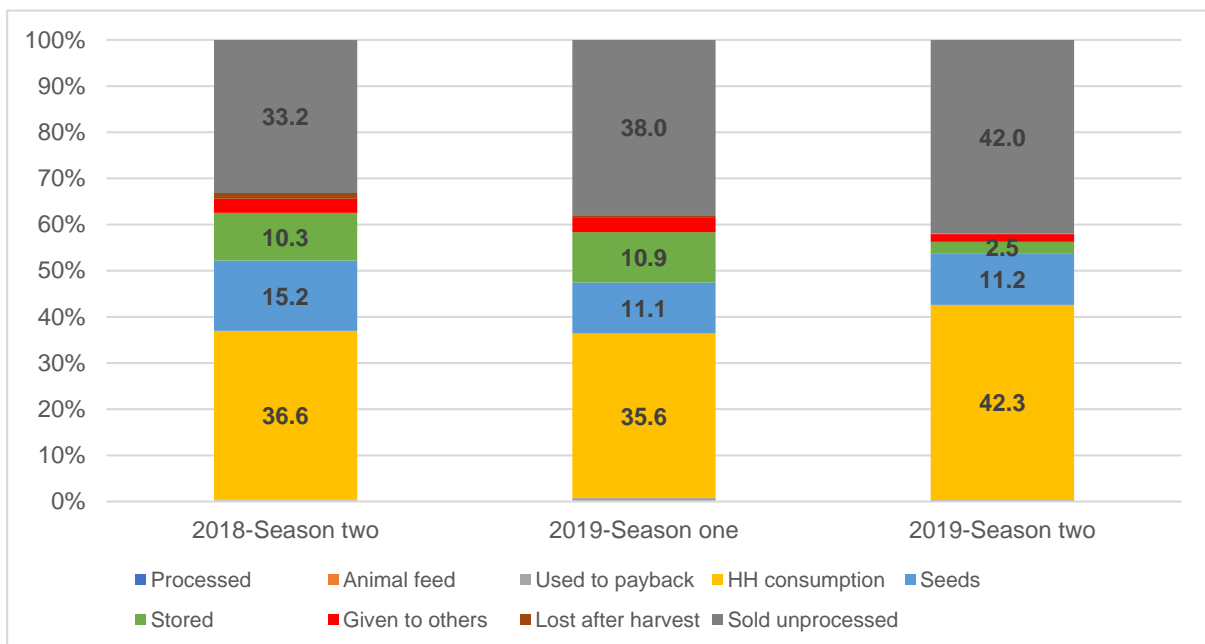


Figure 7.12: Use of beans production (share of total production)



7.7 Soya Beans

Soya beans are a major source of protein, and are useful for oil production and as a cover crop to increase soil fertility. Information collected during the 2019 AAS indicates that 8 percent and 7 percent of Ag HHs cultivated soya beans during the First and Second Seasons, respectively.

In the agricultural year 2019, the total production of soya beans was approximately 127,000 MT from an estimated planted area of approximately 216,000 Ha. Production in the first season (approximately 79,000 MT) was higher compared to Second Season (48,000 MT). At the national level, the annual soya bean yield was 0.7 MT/Ha and 0.6 MT/Ha in First and Second Season, respectively (See **Table 7.11**).

At the Sub-regional level, the largest annual production was recorded in Lango, at 89,000 MT, and the highest yield (0.7 MT/ha) was in Lango and Acholi (See **Table 7.11**).

The trends show that soya beans production has been rising since 2008/9. In particular, between 2018 and 2019, production increased by 18 percent from 108,000 MT in 2018 to 127,000 MT in 2019 (See **Figure 7.13**). Higher production appears to be the result of yield higher than previous year and area planted 14 percent larger than 2018 (see Annex 7, Table 7- 11).

In the agricultural year 2019, much of the soya beans production in the country was sold unprocessed (83.3 percent and 80.2 percent in First and Second Season, respectively). A residual part was consumed by the producing households (8.5 percent and 3.8 percent in First and Second Season, respectively) or kept aside for seeds (3.9 percent in First Season and 6 per cent in Second Season) (See **Figure 7.14**).

Table 7.11: Area and production of soya beans, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda					56 ^a	56 ^a	85 ^a	1.5	56 ^a	56 ^a	85 ^a	1.5
North Buganda	2,199 ^a	2,157 ^a	969 ^a	0.4	3,401 ^a	3,373 ^a	1,626 ^a	0.5	5,600 ^a	5,530 ^a	2,595 ^a	0.5
West Nile	1,715	969 ^a	564 ^a	0.6	855 ^a	737 ^a	510 ^a	0.7	2,570	1,706	1,074	0.6
Lango	79,296	73,870	55,721	0.8	49,562	48,983	33,128	0.7	128,858	122,853	88,849	0.7
Acholi	18,245	15,066	11,243	0.7	7,746	7,397	3,951	0.5	25,991	22,463	15,194	0.7
Kigezi	34 ^a	34 ^a	3 ^a	0.1	12 ^a	12 ^a	6 ^a	0.5	46 ^a	46 ^a	9 ^a	0.2
Bunyoro	1,548 ^a	1,526 ^a	689 ^a	0.5	1,374 ^a	1,369 ^a	382	0.3	2,922 ^a	2,895 ^a	1,071 ^a	0.4
Tooro	1,717	976	348	0.4	1,349	1,097	717	0.7	3,066	2,073	1,065	0.5
Busoga	11,311	10,511	5,427	0.5	7,161	6,744	2,603	0.4	18,472	17,255	8,030	0.5
Teso	5,528	5,122	2,118 ^a	0.4	6,427	5,293	1,482	0.3	11,955	10,415	3,600	0.3
Bukedi	5,990	3,705	1,567	0.4	6,066	5,945	2,246	0.4	12,056	9,650	3,813	0.4
Elgon	421 ^a	406 ^a	116	0.3	2,453	2,015	1,007	0.5	2,874	2,421	1,123	0.5
Karamoja	-	-	-		-	-	-		-	-	-	
Ankole	449 ^a	438 ^a	110 ^a	0.3	869 ^a	869 ^a	263 ^a	0.3	1,318	1,307	373 ^a	0.3
Uganda	128,453	114,781	78,875	0.7	87,330	83,889	48,004	0.6	215,783	198,670	126,879	0.6

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.12: Area and production of soya beans, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	1,715	969 ^a	564 ^a	0.6	855 ^a	737 ^a	510 ^a	0.7	2,570	1,706	1,074	0.6
Buginyanya	17,722	14,622	7,110	0.5	15,680	14,704	5,856	0.4	33,402	29,326	12,966	0.4
Bulindi	1,548 ^a	1,526 ^a	689 ^a	0.5	1,374 ^a	1,369 ^a	382	0.3	2,922 ^a	2,895 ^a	1,071 ^a	0.4
Kachwekano	34 ^a	34 ^a	3 ^a	0.1	12 ^a	12 ^a	6 ^a	0.5	46 ^a	46 ^a	9 ^a	0.2
Mukono	2,199 ^a	2,157 ^a	969 ^a	0.4	3,457 ^a	3,428 ^a	1,710 ^a	0.5	5,656 ^a	5,585 ^a	2,679 ^a	0.5
Ngetta	97,541 ^a	88,936	66,964	0.8	57,307	56,380	37,079	0.7	154,848	145,316	104,043	0.7
Nabuin	-	-	-	-	-	-	-	-	-	-	-	-
Serere	5,528	5,122	2,118 ^a	0.4	6,427	5,293	1,482	0.3	11,955	10,415	3,600	0.3
Mbarara	449 ^a	438 ^a	110 ^a	0.3	869 ^a	869 ^a	263 ^a	0.3	1,318	1,307	373 ^a	0.3
Rwebitaba	1,717	976	348	0.4	1,349	1,097	717	0.7	3,066	2,073	1,065	0.5
Uganda	128,453	114,781	78,875	0.7	87,330	83,889	48,004	0.6	215,783	198,670	126,879	0.6

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.13: Soya beans production trend ('000 MT), 1999/2000-2019

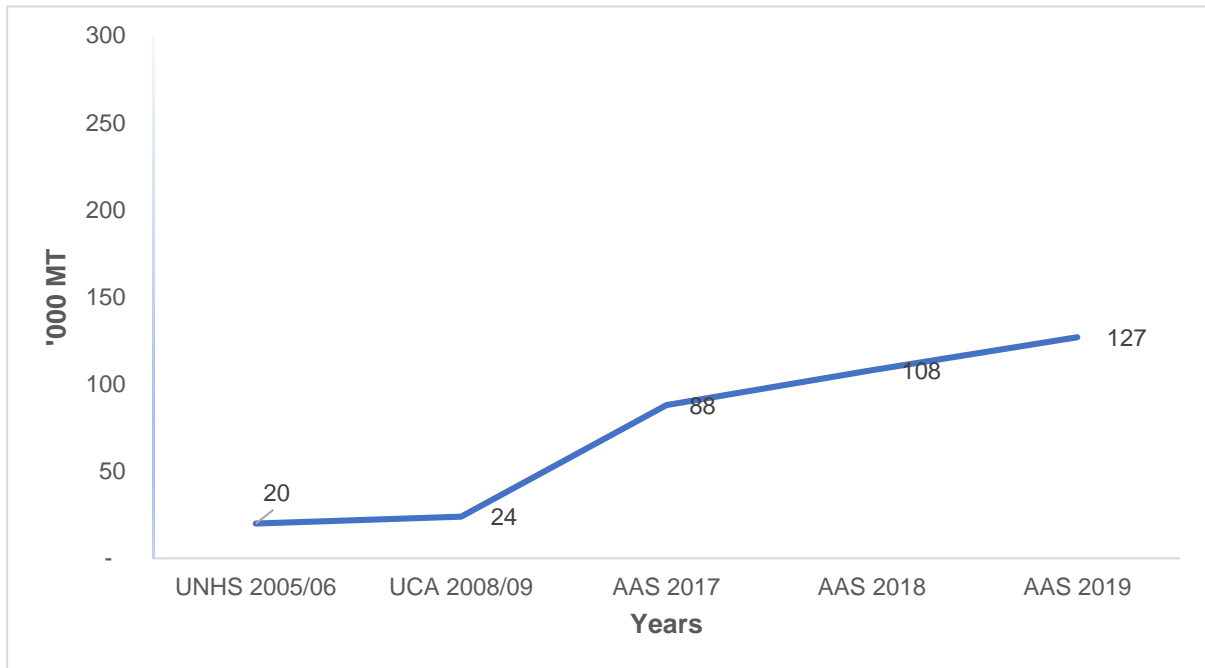
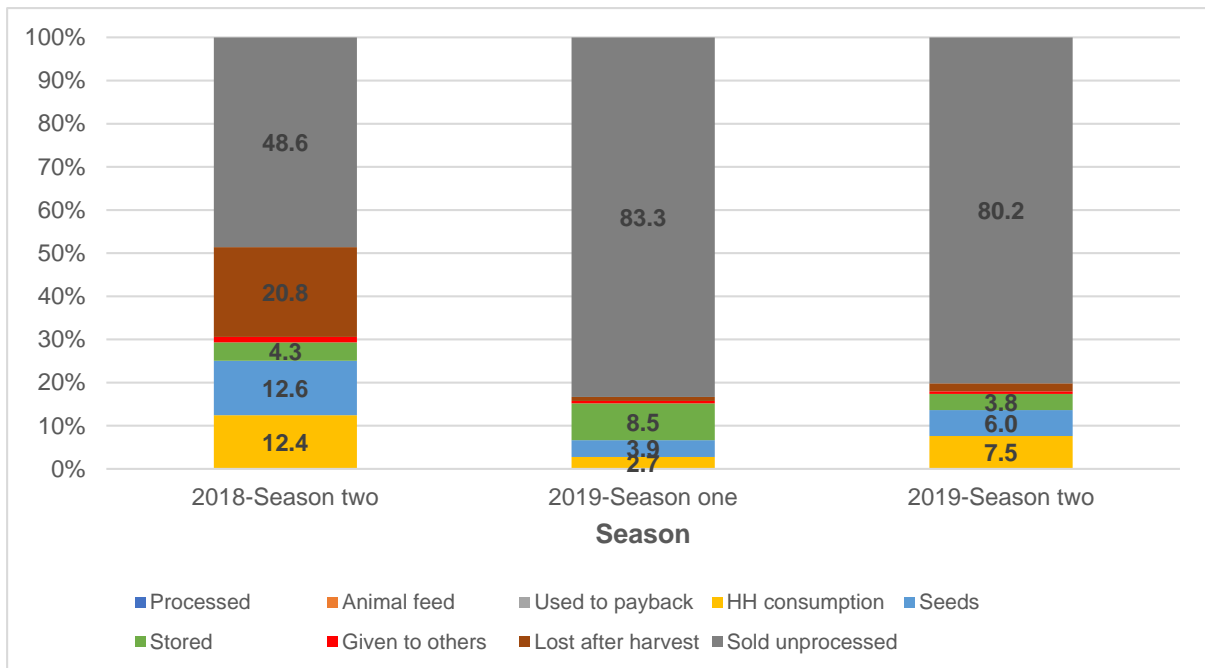


Figure 7.14: Use of soya beans production (share of total production)



7.8 Sweet potatoes

Sweet potatoes are widely grown across Uganda. The AAS 2019 results indicate that 36 percent and 32 percent of Ag HHs cultivated sweet potatoes during the First and the Second seasons, respectively.

The production of sweet potatoes during the agricultural year 2019 was approximately 1.1 million MT from an estimated planted area of approximately 504,000 Ha. It was lower in the First Season (approximately 296,000 MT) compared to the Second Season (776,000 MT). At the national level, the annual sweet potatoes yield was 1.9 MT/Ha and 3.6 MT/Ha in First and Second Season, respectively (See **Table 7.13**).

At the Sub-regional level, North Buganda (253,000 MT), Busoga (174,000 MT), and Lango (139,000 MT) recorded the highest annual sweet potato production while Elgon (11,000 MT) had the lowest production. The yield was the highest in Lango and Acholi (0.7 MT/Ha) (See **Table 7.13**).

Although sweet potatoes are extensively cultivated in Uganda, production has been declining in the recent years. In particular, between 2018 and 2019, production decreased by 28 percent from 1.48 million MT in 2018 to 1.07 million MT in 2019 (See **Figure 7.15**). Lower production appears to be the combined result of lower yield and less planting, as shown in Annex 7, Table 7- 13).

In the agricultural year 2019, the majority of sweet potatoes production was consumed by the producing households (77.2 percent and 78.6 percent in First and Second Season, respectively). Some was sold unprocessed (13.8 percent and 10.5 percent in First and Second Season, respectively) and a residual part was given away as gifts (7 percent in First Season and 8 percent in Second Season) (See **Figure 7.16**).

Table 7.13: Area and production of sweet potatoes, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	28,892	23,498	45,084	1.9	16,546	12,864	49,913	3.9	45,438	36,362	94,997	2.6
North Buganda	61,152	41,470	76,320	1.8	59,579	48,511	176,752	3.6	120,731	89,981	253,072	2.8
West Nile	8,611	4,547	11,424	2.5	5,783	5,244	23,400	4.5	14,394	9,791	34,824	3.6
Lango	25,618	8,223	14,870	1.8	35,168	34,555	123,925	3.6	60,786	42,778	138,795	3.2
Acholi	3,998	3,322	5,283	1.6	3,634	3,634	19,050	5.2	7,632	6,956	24,333	3.5
Kigezi	11,707	7,875	25,259	3.2	7,331	6,089	22,507	3.7	19,038	13,964	47,766	3.4
Bunyoro	16,684	9,650	17,556	1.8	19,855	17,342	54,935	3.2	36,539	26,992	72,491	2.7
Tooro	8,195	6,525	16,511	2.5	6,430	5,157	17,644	3.4	14,625	11,682	34,155	2.9
Busoga	46,525	29,525	40,070	1.4	40,147	35,270	134,320	3.8	86,672	64,795	174,390	2.7
Teso	19,728	6,736	9,559	1.4	22,637	21,473	74,668	3.5	42,365	28,209	84,227	3.0
Bukedi	14,000	11,332	15,035	1.3	20,268	18,886	49,539	2.6	34,268	30,218	64,574	2.1
Elgon	1,935	615 ^a	988 ^a	1.6	4,126	3,174	9,949	3.1	6,061	3,789	10,937	2.9
Karamoja	704 ^a	17 ^a	303 ^a	17.8	474 ^a	474 ^a	1,457 ^a	3.1	1,178 ^a	491 ^a	1,760 ^a	3.6
Ankole	7,708	5,136	17,554	3.4	6,236	5,493	18,133	3.3	13,944	10,629	35,687	3.4
Uganda	255,456	158,472	295,816	1.9	248,214	218,164	776,194	3.6	503,670	376,636	1,072,010	2.8

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.14: Area and production of sweet potatoes, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	8,611	4,547	11,424	2.5	5,783	5,244	23,400	4.5	14,394	9,791	34,824	3.6
Buginyanya	62,459	41,472	56,094	1.4	64,541	57,329	193,808	3.4	127,000	98,801	249,902	2.5
Bulindi	16,684	9,650	17,556	1.8	19,855	17,342	54,935	3.2	36,539	26,992	72,491	2.7
Kachwekano	11,707	7,875	25,259	3.2	7,331	6,089	22,507	3.7	19,038	13,964	47,766	3.4
Mukono	85,577	63,069	118,000	1.9	74,271	59,762	218,839	3.7	159,848	122,831	336,839	2.7
Ngetta	29,616	11,545	20,152	1.7	38,802	38,189	142,975	3.7	68,418	49,734	163,127	3.3
Nabuin	704 ^a	17 ^a	303 ^a	17.8	474 ^a	474 ^a	1,457 ^a	3.1	1,178 ^a	491 ^a	1,760 ^a	3.6
Serere	19,728	6,736	9,559	1.4	22,637	21,473	74,668	3.5	42,365	28,209	84,227	3.0
Mbarara	12,175	7,035	20,958	3.0	8,090	7,107	25,960	3.7	20,265	14,142	46,918	3.3
Rwebitaba	8,195	6,525	16,511	2.5	6,430	5,157	17,644	3.4	14,625	11,682	34,155	2.9
Uganda	255,456	158,472	295,816	1.9	248,214	218,164	776,194	3.6	503,670	376,636	1,072,010	2.8

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.15: Sweet potatoes production trend ('000 MT), 1999/2000-2019

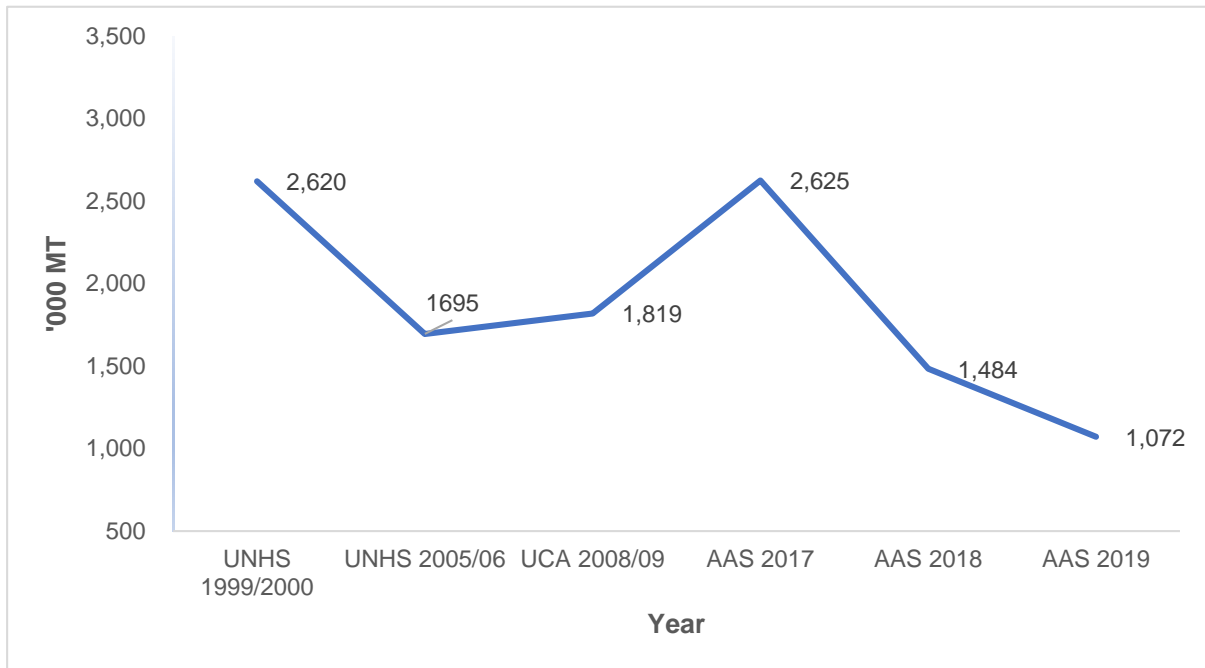
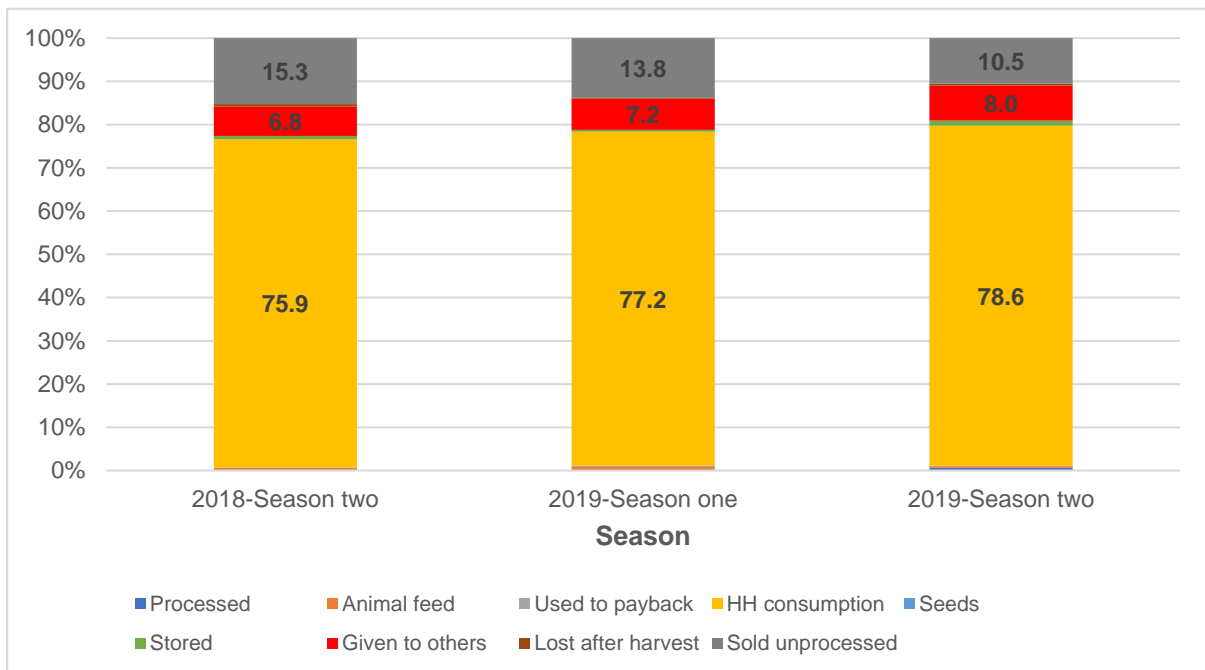


Figure 7.16: Use of sweet potatoes production (share of total production)



7.9 Irish Potatoes

Traditionally, Irish potatoes are mainly grown in Western Uganda, in the sub-regions of North Buganda and Elgon. The AAS 2019 results indicate that 7 percent of Ag HHs cultivated Irish potatoes during the First Season and 5 percent cultivated Irish potatoes in the Second Season.

During the agricultural year 2019, Irish potatoes production was approximately 261,000 MT from an estimated planted area of about 95,000 Ha. Production was higher in the First Season (approximately 155,000 MT) compared to the Second Season (106,000 MT). At the national level, the annual yield of Irish potatoes was 2.9 MT/Ha in First Season and 3.2 MT/Ha in Second Season (See **Table 7.15**).

At sub-regional level, Tooro and Kigezi (61,000 MT) recorded the highest production of Irish potatoes (94,000 MT and 61,000 MT, respectively) and the highest yields (3.0 MT/Ha and 4.2 MT/Ha respectively) (See **Table 7.15**).

The trends indicate that the production of Irish potato has been on the rise, except for the agricultural year 2019. In fact, between 2018 and 2019, the production decreased by 20 percent from 327,000 MT in 2018 to 261,000 MT in 2019 (See **Figure 7.17**).

In the agricultural year 2019, the highest portion of the production was sold unprocessed (44 percent and 55 percent in First and Second Season, respectively). Other uses were consumption by the producing households (24 percent and 26 percent in First and Second Season, respectively) and being set aside for seeds in the following seasons (21 percent and 17 percent in First and Second Season, respectively) (See **Figure 7.18**).

Table 7.15: Area and production of Irish potatoes, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	8,724	8,269	17,382 ^a	2.1	5,030	4,735 ^a	11,566	2.4	13,754	13,004	28,948	2.2
North Buganda	7,627	3,587 ^a	5,757 ^a	1.6	3,242	2,601	5,953 ^a	2.3	10,869	6,188	11,710 ^a	1.9
West Nile	1,401 ^a	1,187 ^a	1,629 ^a	1.4	669 ^a	669 ^a	1,188 ^a	1.8	2,070 ^a	1,856 ^a	2,817 ^a	1.5
Lango	-	-	-	-	-	-	-	-	-	-	-	-
Acholi	29 ^a	-	-	-	-	-	-	-	29 ^a	-	-	-
Kigezi	10,134	9,121	36,993	4.1	5,974	5,391	23,833	4.4	16,108	14,512	60,826	4.2
Bunyoro	4,873	4,873	10,259	2.1	1,910	1,773	4,206	2.4	6,783	6,646	14,465	2.2
Tooro	17,350	16,598	44,972	2.7	15,188	14,994	49,405	3.3	32,538	31,592	94,377	3.0
Busoga	-	-	-	-	-	-	-	-	-	-	-	-
Teso	-	-	-	-	-	-	-	-	-	-	-	-
Bukedi	-	-	-	-	-	-	-	-	-	-	-	-
Elgon	6,869 ^a	6,799 ^a	32,015 ^a	4.7	1,263 ^a	1,252 ^a	5,988 ^a	4.8	8,132 ^a	8,051 ^a	38,003 ^a	4.7
Karamoja	-	-	-	-	-	-	-	-	-	-	-	-
Ankole	2,810	2,705	5,841	2.2	1,502	1,251	3,860	3.1	4,312	3,956	9,701	2.5
Uganda	59,817	53,138	154,848	2.9	34,779	32,665	105,998	3.2	94,596	85,803	260,846	3.0

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.16: Area and production of Irish potatoes, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	1,401 ^a	1,187 ^a	1,629 ^a	1.4	669 ^a	669 ^a	1,188 ^a	1.8	2,070 ^a	1,856 ^a	2,817 ^a	1.5
Buginyanya	6,869 ^a	6,799 ^a	32,015 ^a	4.7	1,263 ^a	1,252 ^a	5,988 ^a	4.8	8,132 ^a	8,051 ^a	38,003 ^a	4.7
Bulindi	4,873	4,873	10,259	2.1	1,910	1,773	4,206	2.4	6,783	6,646	14,465	2.2
Kachwekano	10,134	9,121	36,993	4.1	5,974	5,391	23,833	4.4	16,108	14,512	60,826	4.2
Mukono	9,054	4,559	6,765 ^a	1.5	3,846	3,043	7,159	2.4	12,900	7,602	13,924 ^a	1.8
Ngetta	29 ^a	-	-		-	-	-		29 ^a	-	-	
Nabuin	-	-	-		-	-	-		-	-	-	
Serere	-	-	-		-	-	-		-	-	-	
Mbarara	10,107	10,002	22,215	2.2	5,929	5,544	14,220	2.6	16,036	15,546	36,435	2.3
Rwebitaba	17,350	16,598	44,972	2.7	15,188	14,994	49,405	3.3	32,538	31,592	94,377	3.0
Uganda	59,817	53,138	154,848	2.9	34,779	32,665	105,998	3.2	94,596	85,803	260,846	3.0

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation.**Ratio between production (MT) and area harvested (Ha). ^a(CV-) Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.17: Irish potatoes production trend ('000 MT), 1999/2000-2019

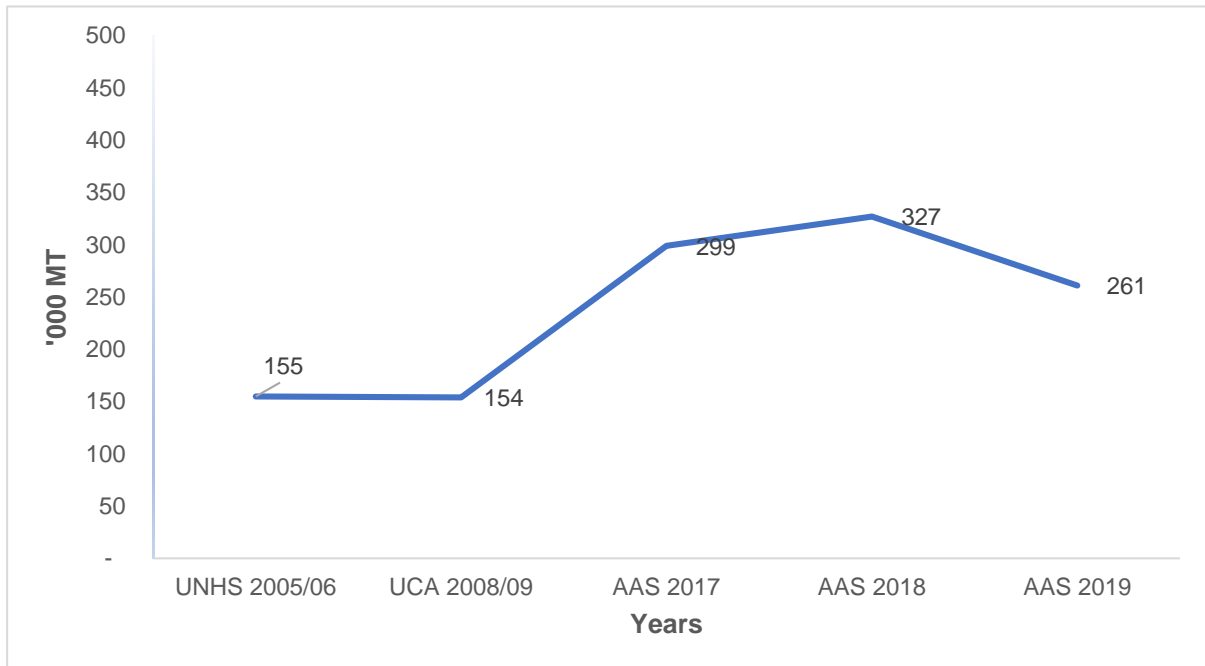
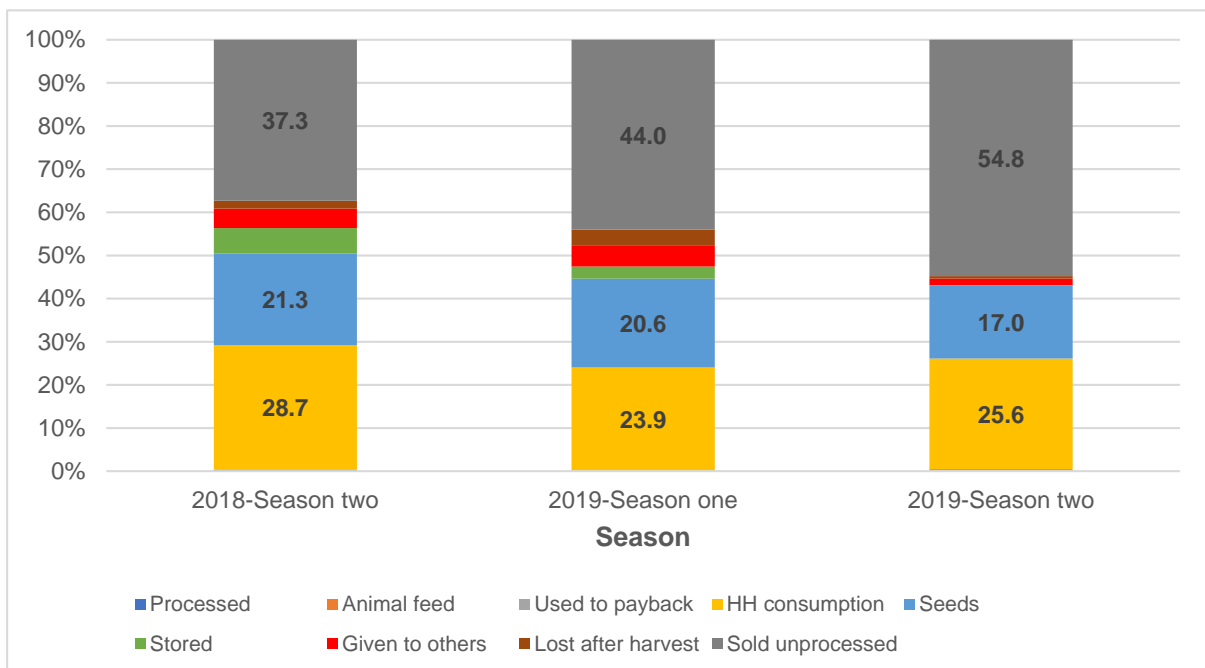


Figure 7.18: Use of Irish potatoes production (share of total production)



7.10 Simsim

Simsim, also known as sesame, is mainly grown in the warm areas of Northern Uganda. Under area-based agribusiness development, a programme encouraging the cultivation of simsim has been prioritized for the Acholi sub-region. According to the AAS 2019, 5 percent of Ag HHs cultivated simsim across the country during the First and Second agricultural seasons.

In the agricultural year 2019, simsim production was approximately 44,000 MT from an estimated planted area of approximately 222,000 Ha. Production during the First Season was lower (approximately 12,000 MT) compared to the Second Season (31,000 MT). At the national level, the yield of simsim was 0.2 MT/Ha and 0.3 MT/Ha in First and Second Season, respectively (see **Table 7.17**).

At the sub-regional level, Acholi and Lango were reported to have attained the highest annual simsim production (16,000 MT) and (15,000 MT), respectively, and yields. (0.3 MT/Ha) (see **Table 7.17**).

The trend shows that simsim production has generally been on the rise since 2008. However, between 2018 and 2019, production remained steady, at 45,000 MT in 2018 and 44,000 MT in 2019 (See **Figure 7.19**).

In the agricultural year 2019, much of the simsim production was sold unprocessed (39 percent and 46 percent in First and Second Season, respectively). Some was consumed by the producing households (16 percent and 28 percent in First and Second Season, respectively) and some was held in storage, 40 percent and 15 percent in First and Second Season, respectively (See **Figure 7.20**)³⁷.

³⁷ The share of total production in storage during Second Season was much smaller because the fieldwork was conducted well after the completion of the season when most of the farms had already utilised their stock.

Table 7.17: Area and production of simsim, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	-	-	-	-	-	-	-	-	-	-	-	-
North Buganda	733 ^a	633 ^a	120 ^a	0.2	120 ^a	120 ^a	12 ^a	0.1	853 ^a	753 ^a	132 ^a	0.2
West Nile	21,467	6,073 ^a	1,374 ^a	0.2	17,325	16,058	4,430	0.3	38,792	22,131	5,804	0.3
Lango	28,271	19,516	5,748	0.3	31,865	31,172	9,169	0.3	60,136	50,688	14,917	0.3
Acholi	22,021	3,474	1,035 ^a	0.3	61,967	59,335	14,806	0.2	83,988	62,809	15,841	0.3
Kigezi	-	-	-	-	-	-	-	-	-	-	-	-
Bunyoro	4,064 ^a	3,997 ^a	1,469 ^a	0.4	621 ^a	508 ^a	404 ^a	0.8	4,685 ^a	4,505 ^a	1,873 ^a	0.4
Tooro	7,005 ^a	5,554 ^a	307 ^a	0.1	2,545 ^a	2,413 ^a	478 ^a	0.2	9,550 ^a	7,967 ^a	785 ^a	0.1
Busoga	3,858 ^a	3,771 ^a	584	0.2	1,980 ^a	1,980 ^a	434 ^a	0.2	5,838 ^a	5,751 ^a	1,018 ^a	0.2
Teso	6,813	4,000	965 ^a	0.2	5,984	5,253	1,347	0.3	12,797	9,253	2,312	0.2
Bukedi	1,761	1,761	286	0.2	585 ^a	585 ^a	88 ^a	0.2	2,346	2,346	374	0.2
Elgon	12 ^a	12 ^a	7 ^a	0.6	-	-	-	-	12 ^a	12 ^a	7 ^a	0.6
Karamoja	2,554 ^a	2,213 ^a	522 ^a	0.2	-	-	-	-	2,554 ^a	2,213 ^a	522 ^a	0.2
Ankole	-	-	-	-	-	-	-	-	-	-	-	-
Uganda	98,560	51,002	12,416	0.2	122,992	117,426	31,169	0.3	221,552	168,428	43,585	0.3

Notes: ^aThe total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ^{**}Ratio between production (MT) and area harvested (Ha).^a(CV-) Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.18: Area and production of simsim, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	21,467	6,073 ^a	1,374 ^a	0.2	17,325	16,058	4,430	0.3	38,792	22,131	5,804	0.3
Buginyanya	5,631	5,544	876	0.2	2,566 ^a	2,566 ^a	522 ^a	0.2	8,197	8,110	1,398	0.2
Bulindi	4,064 ^a	3,997 ^a	1,469 ^a	0.4	621 ^a	508 ^a	404 ^a	0.8	4,685 ^a	4,505 ^a	1,873 ^a	0.4
Kachwekano	-	-	-		-	-	-		-	-	-	
Mukono	733 ^a	633 ^a	120 ^a	0.2	120 ^a	120 ^a	12 ^a	0.1	853 ^a	753 ^a	132 ^a	0.2
Ngetta	50,292	22,990	6,783	0.3	93,832	90,507	23,974	0.3	144,124	113,497	30,757	0.3
Nabuin	2,554 ^a	2,213 ^a	522 ^a	0.2	-	-	-		2,554 ^a	2,213 ^a	522 ^a	0.2
Serere	6,813	4,000	965 ^a	0.2	5,984	5,253	1,347	0.3	12,797	9,253	2,312	0.2
Mbarara	-	-	-		-	-	-		-	-	-	
Rwebitaba	7,005 ^a	5,554 ^a	307 ^a	0.1	2,545 ^a	2,413 ^a	478 ^a	0.2	9,550 ^a	7,967 ^a	785 ^a	0.1
Uganda	98,560	51,002	12,416	0.2	122,992	117,426	31,169	0.3	221,552	168,428	43,585	0.3

Notes: *The total area harvested is the total area planted -calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation.**Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.19: Simsim production trend ('000 MT), 1999/2000-2019

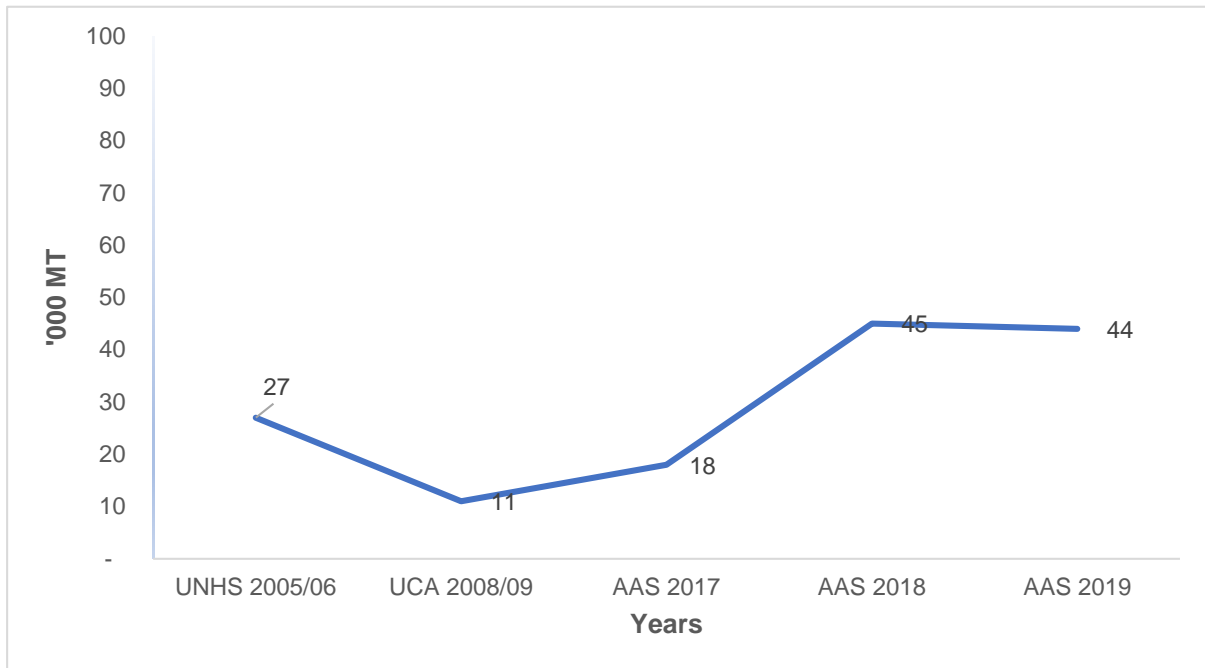
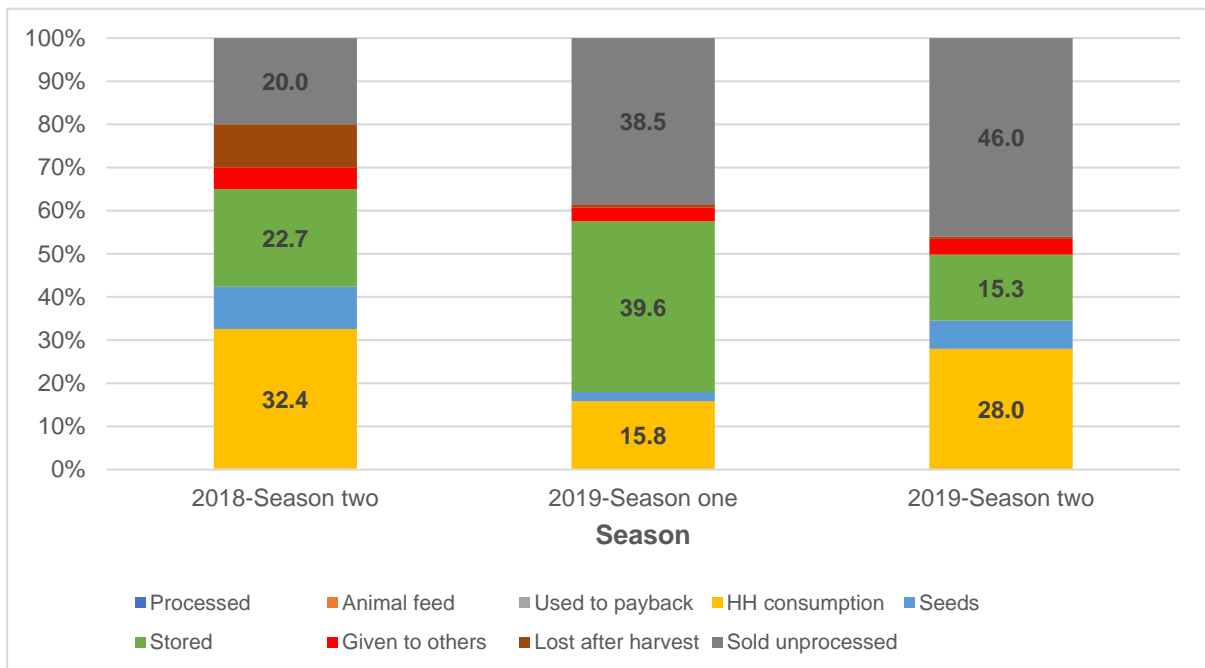


Figure 7.20: Use of simsim production (share of total production)



7.11 Groundnuts

Groundnuts are frequently grown throughout Uganda. The AAS 2019 results indicate that 29 percent of Ag HHs cultivated groundnuts during the First Season and 11 percent in the Second Season.

The production of groundnuts in the agricultural year 2019 was approximately 133,000 MT from an estimated planted area of about 420,000 Ha. It was approximately 92,000 MT in the First Season compared to 41,000 MT in the Second Season. At the national level, the production yielded 0.4 MT/Ha in First Season and 0.5 MT/Ha in Second Season (see **Table 7.19**).

At the Sub-regional level, the highest annual production was reported in Teso (20,000 MT), Acholi (15,000 MT) and Lango (13,000 MT) and the highest yield was in Bunyoro and Acholi, at 0.5 MT/Ha (see **Table 7.19**).

The production of Groundnuts has been trending higher over the past decade, but it decreased by 47 percent in the 2019 agricultural year, from 253,000 MT in 2018 to 133,000 MT in 2019 (see **Figure 7.21**). The lower production appears to be the result of less planting; in fact, while the 2019 yield is similar to the 2018 yield, the area planted with groundnuts declined by 18 percent compared with the previous year (see Annex 7, Table 7- 19).

In a breakdown of usage of the production, 29 percent and 40 percent was sold unprocessed in First and Second Season, respectively. Twenty-six percent and 32 percent were consumed by the producing households in First and Second Season, respectively. Nine percent and 17 percent were used for seeds in First and Second Season, respectively, and 33 percent and 7 percent was kept in storage in First and Second Season, respectively. As with the previous crops discussed, the share of total production in storage during Second Season was much smaller because the fieldwork was conducted well after the completion of the season when most of the farms had already utilised their stock (see **Figure 7.22**).

Table 7.19: Area and production of groundnuts, by sub-region

Sub-region	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	14,178	12,425	4,357	0.4	6,864	6,705	3,317	0.5	21,042	19,130	7,674	0.4
North Buganda	15,426	11,525	3,208	0.3	6,853	6,036	3,010	0.5	22,279	17,561	6,218	0.4
West Nile	23,153	19,861	7,258	0.4	11,220	11,069	6,006	0.5	34,373	30,930	13,264	0.4
Lango	24,663	21,509	7,558	0.4	5,902	5,843	3,268	0.6	30,565	27,352	10,826	0.4
Acholi	33,812	21,967	8,958	0.4	11,613	11,613	6,515	0.6	45,425	33,580	15,473	0.5
Kigezi	4,008	2,423	705	0.3	1,493 ^a	1,440 ^a	870 ^a	0.6	5,501	3,863	1,575	0.4
Bunyoro	17,120	13,189	5,604	0.4	11,622	11,211	7,245	0.6	28,742	24,400	12,849	0.5
Tooro	30,116	21,995	7,653	0.3	10,909	10,420	4,082	0.4	41,025	32,415	11,735	0.4
Busoga	42,150 ^a	33,098 ^a	9,723 ^a	0.3	10,932 ^a	10,489 ^a	2,706	0.3	53,082 ^a	43,587 ^a	12,429	0.3
Teso	60,327	50,109	20,132	0.4	1,153 ^a	1,153 ^a	329 ^a	0.3	61,480	51,262	20,461	0.4
Bukedi	33,554	26,238	5,852	0.2	1,583	1,531	598	0.4	35,137	27,769	6,450	0.2
Elgon	5,299	4,457	1,176 ^a	0.3	2,684	2,684	698	0.3	7,983	7,141	1,874	0.3
Karamoja	7,214	4,634	1,854	0.4	-	-	-	-	7,214	4,634	1,854	0.4
Ankole	19,981	19,137	8,066	0.4	6,502	6,149	2,553	0.4	26,483	25,286	10,619	0.4
Uganda	330,999	262,566	92,105	0.4	89,330	86,343	41,197	0.5	420,329	348,909	133,302	0.4

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.20: Area and production of groundnuts, by ZARDI

ZARDI	First Season 2019				Second Season 2019				Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area Harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	23,153	19,861	7,258	0.4	11,220	11,069	6,006	0.5	34,373	30,930	13,264	0.4
Buginyanya	81,003	63,792	16,751	0.3	15,198	14,704 ^a	4,001	0.3	96,201	78,496	20,752	0.3
Bulindi	17,120	13,189	5,604	0.4	11,622	11,211	7,245	0.6	28,742	24,400	12,849	0.5
Kachwekano	4,008	2,423	705	0.3	1,493 ^a	1,440 ^a	870 ^a	0.6	5,501	3,863	1,575	0.4
Mukono	24,618	20,137	6,183	0.3	13,045	12,069	6,152	0.5	37,663	32,206	12,335	0.4
Ngetta	58,475	43,476	16,516	0.4	17,516	17,457	9,782	0.6	75,991	60,933	26,298	0.4
Nabuin	7,214	4,634	1,854	0.4	-	-	-		7,214	4,634	1,854	0.4
Serere	60,327	50,109	20,132	0.4	1,153 ^a	1,153 ^a	329 ^a	0.3	61,480	51,262	20,461	0.4
Mbarara	24,967	22,950	9,449	0.4	7,175	6,821	2,729	0.4	32,142	29,771	12,178	0.4
Rwebitaba	30,116	21,995	7,653	0.3	10,909	10,420	4,082	0.4	41,025	32,415	11,735	0.4
Uganda	330,999	262,566	92,105	0.4	89,330	86,343	41,197	0.5	420,329	348,909	133,302	0.4

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.21: Groundnuts production trend ('000MT), 1999/2000-2019

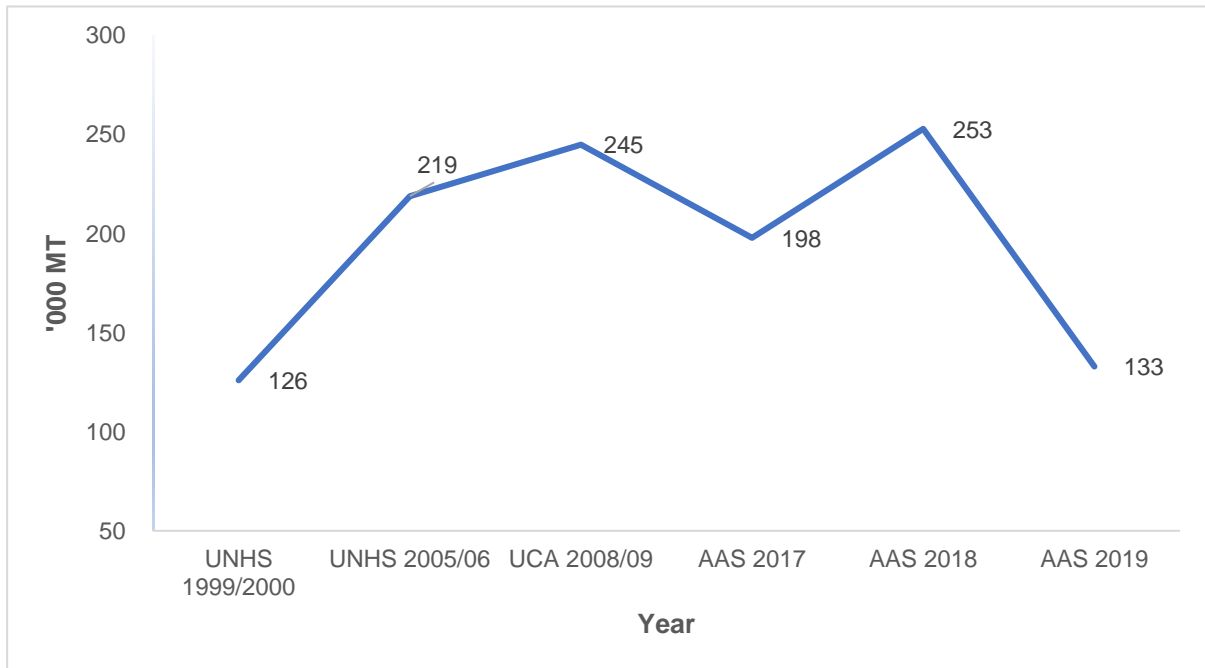
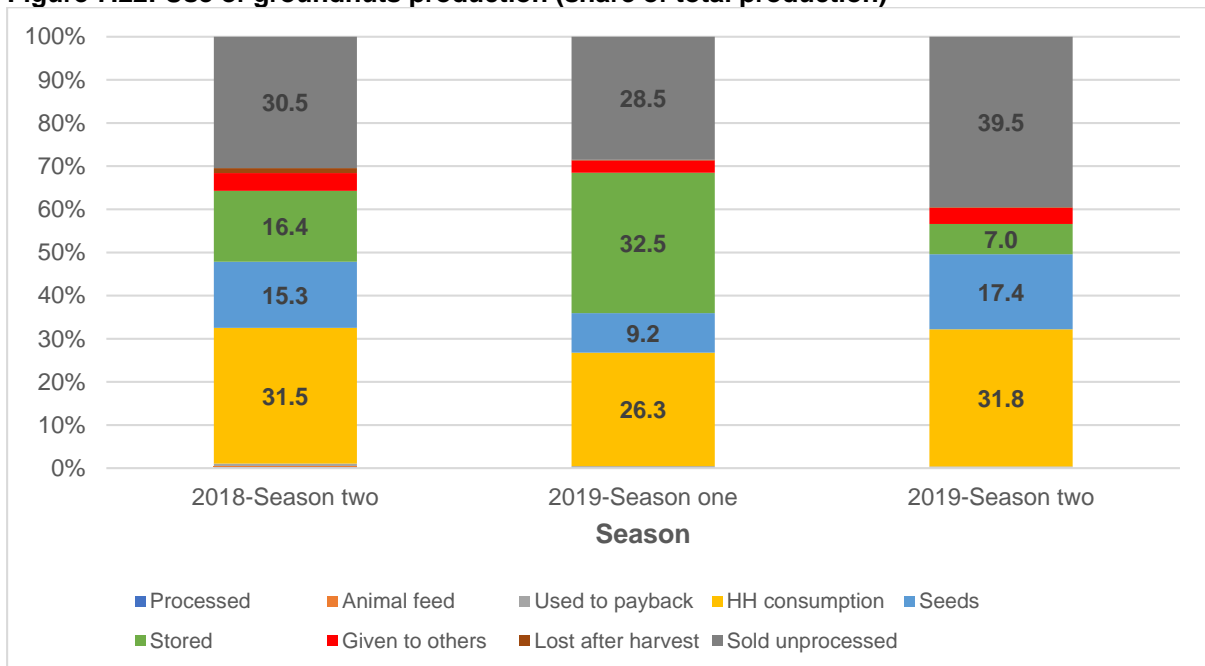


Figure 7.22: Use of groundnuts production (share of total production)



7.12 Banana-food

Banana-food (matooke) is one of the main contributors to food production in Uganda. Matooke is a staple food that has increasingly become a source of income and an important non-traditional export crop. The crop is also used as a raw material in the local brewing industry.

The AAS 2019 results indicate that approximately 47 percent of Ag HHs cultivated banana-food during the 2019 agricultural year. The total production of banana-food was estimated at approximately 9.4 million MT from an estimated planted area of approximately 589,000 Ha³⁸. Banana-food production was lower in the First Season (approximately 4.2 million MT), compared to the Second Season (approximately 5.2 million MT). At the national level, the banana-food yield was 16 MT/Ha (see **Table 7.21**).

The highest annual production was reported in Ankole, at 3.5 million MT, followed by South Buganda and Tooro (1.7 million MT), while the lowest annual production was reported in Acholi (3,414 MT). The highest yield was also reported in Ankole (22.7 MT/Ha), followed by Tooro (20.4 MT/Ha) and Kigezi (17.9 MT/Ha); the lowest yield was reported in Acholi (4.4 MT/Ha) (see **Table 7.21**).

Production trend shows that the banana-food production dipped to its lowest value in in 2008/09 (UCA), and has since been increasing steadily, including in 2019 (see **Figure 7.23**).

Finally, the data concerning the use (destination) of banana-food production reveals that the crop is mainly used for own-consumption (61.6 percent of total production in First Season and 62.1 percent in Second Season) or sold (32 percent of total production in both seasons) (see **Figure 7.24**).

³⁸ Being a permanent crop, banana-food occupies almost the same area in both seasons.

Table 7.21: Area and production of banana-food, by sub-region

Sub-region	First Season 2019		Second Season 2019		Total		
	Area Planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Yield*** (MT/Ha)
South Buganda	127,881	865,123	107,970	829,968	107,970	1,695,091	15.7
North Buganda	108,397	431,626	117,148	546,596	117,148	978,222	8.4
West Nile	5,544 ^a	60,945 ^a	5,598 ^a	42,661 ^a	5,598 ^a	103,606 ^a	18.5
Lango	632 ^a	397 ^a	229 ^a	384 ^a	229 ^a	781 ^a	3.4
Acholi	621	1,259 ^a	769	2,155	769	3,414	4.4
Kigezi	16,062	140,691	16,251	150,961	16,251	291,652	17.9
Bunyoro	42,933	244,314	47,485	377,455	47,485	621,769	13.1
Tooro	69,793	621,976	81,474	1,037,870	81,474	1,659,846	20.4
Busoga	15,423	55,448	19,067	96,326	19,067	151,774	8.0
Teso	752 ^a	1,922 ^a	1,457	2,613 ^a	1,457 ^a	4,535 ^a	3.1
Bukedi	1,106	2,764	2,257	12,306	2,257	15,070	6.7
Elgon	25,084	125,056	33,206	244,672	33,206	369,728	11.1
Karamoja	44 ^a	38 ^a	402 ^a	490 ^a	402 ^a	528 ^a	1.3
Ankole	163,128	1,626,189	156,066	1,916,203	156,066	3,542,392	22.7
Uganda	577,399	4,177,749	589,378	5,260,662	589,378	9,438,411	16.0

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area planted (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.22: Area and production of banana-food, by ZARDI

ZARDI	First Season 2019		Second Season 2019		Total		
	Area Planted (Ha)	Production (MT)	Area Planted (Ha)	Production (MT)	Area Planted (Ha)	Production (MT)	Yield*** (MT/Ha)
Abi	5,544 ^a	60,945 ^a	5,598 ^a	42,661 ^a	5,598 ^a	103,606 ^a	18.5
Buginyanya	41,612	183,268	54,529	353,305	54,529	536,573	9.8
Bulindi	42,933	244,314	47,485	377,455	47,485	621,769	13.1
Kachwekano	16,062	140,691	16,251	150,961	16,251	291,652	17.9
Mukono	172,184	859,785	176,800	1,001,386	176,800	1,861,171	10.5
Ngetta	1,253 ^a	1,656 ^a	998	2,539	998	4,195	4.2
Nabuin	44 ^a	38 ^a	402 ^a	490 ^a	402 ^a	528 ^a	1.3
Serere	752 ^a	1,922 ^a	1,457 ^a	2,613 ^a	1,457 ^a	4,535 ^a	3.1
Mbarara	227,221	2,063,154	204,383	2,291,382	204,383	4,354,536	21.3
Rwebitaba	69,793	621,976	81,474	1,037,870	81,474	1,659,846	20.4
Uganda	577,399	4,177,749	589,378	5,260,662	589,378	9,438,411	16.0

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area planted (Ha). ^a(CV-Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.23: Banana-food production trend ('000 MT), 1999/2000-2019

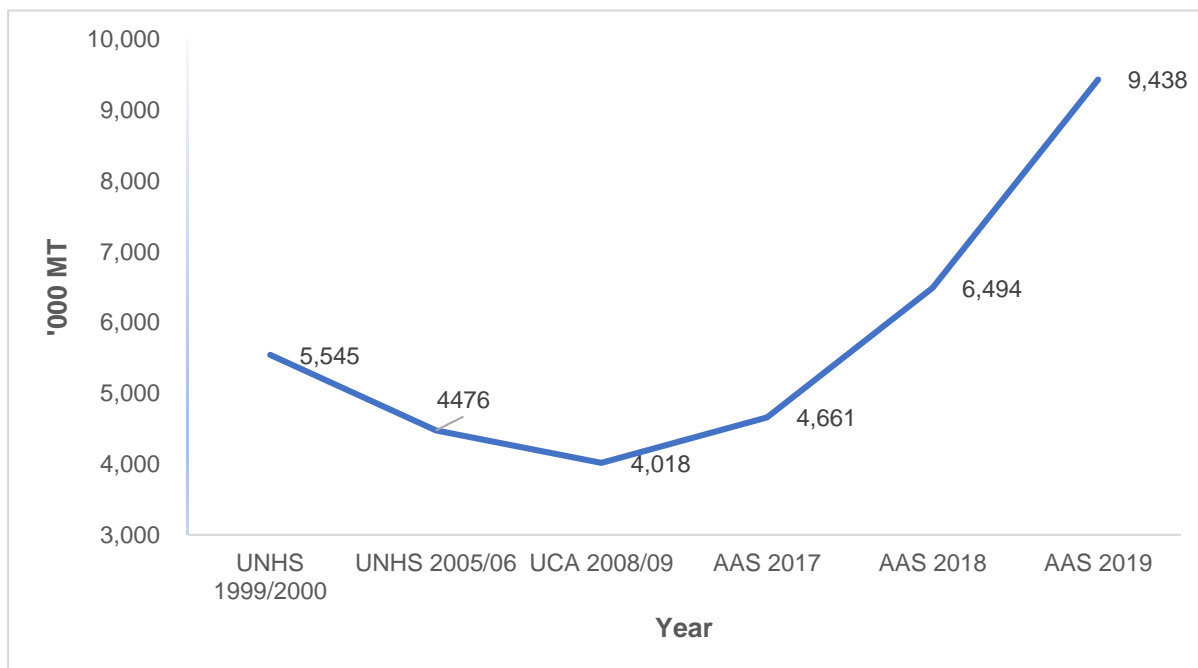
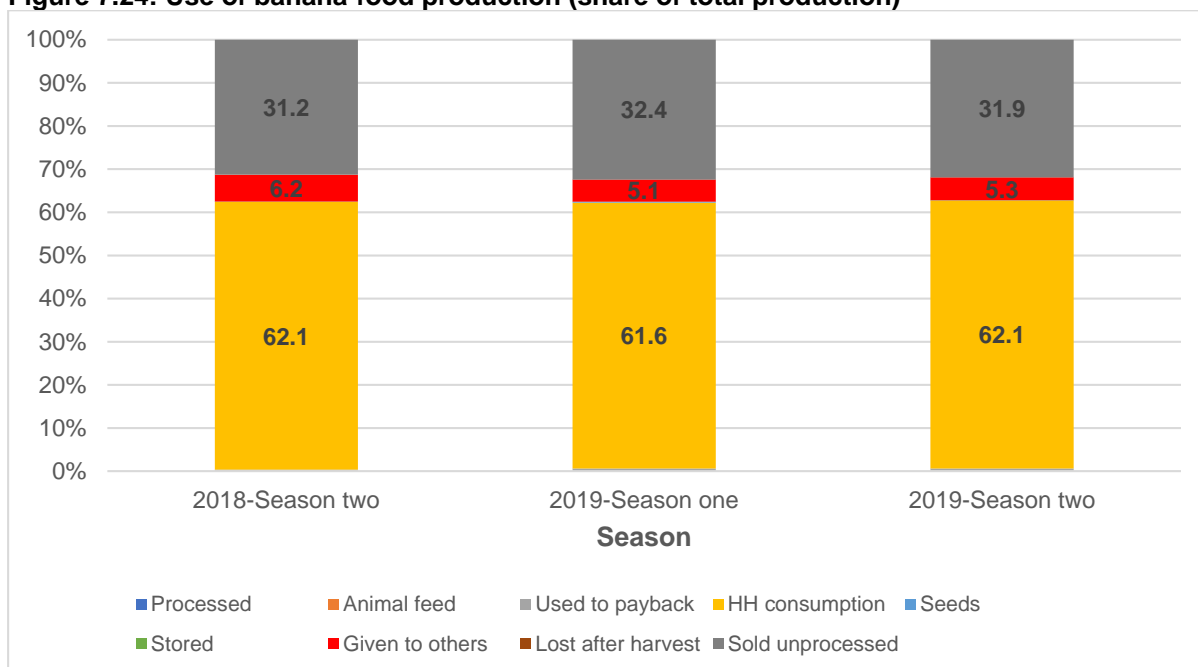


Figure 7.24: Use of banana-food production (share of total production)



7.13 Cassava

Cassava is one of ten commodities prioritized by the GoU to foster agro-industrialisation. This crop can be produced massively, is drought resistant, has potential for multi-industrial use and is key for food security. Once mature, cassava can be stored underground up to two years, which is an essential feature to mitigate adverse seasonal effects.³⁹ Cassava is widely grown across Uganda. The AAS 2019 results indicate that 53 percent of Ag HHs cultivated cassava during the First Season and 45 percent during the Second Season.

In the agricultural year 2019, the cassava production was approximately 2.6 million MT from an estimated planted area of about 659,000 Ha. It was higher in the First Season (approximately 1.7 million MT) compared to the Second Season (927,000 MT). At the national level, the annual yield of cassava was 7.5 MT/Ha (see **Table 7.23**). The highest annual production was reported in Busoga (297,000MT) and the highest annual yields were reported in South Buganda (15.4 MT/Ha) and Tooro (16.3 MT/Ha) (see **Table 7.23**).

The trend overtime shows that the cassava production fluctuates significantly over time. In particular, between 2018 and 2019, production declined by 39 percent, from 4.4 million MT in 2018 to 2.6 million MT in 2019 (see **Figure 7.25**). The lower production appears to be the result of lower yield and less planting, as shown in Annex 7, Table 7- 27).

During the agricultural year 2019, most of the cassava production was consumed by the producing households (58 percent in First Season and 60 percent in Second Season). Some was sold unprocessed (27 percent in First Season and 28 percent in Second Season) and a residual part was given away as gifts (6 percent in First Season and 5 percent in Second Season) (see **Figure 7.26**).

³⁹ National Development Plan III, 2020

Table 7.23: Area and production of cassava, by sub-region

Sub-region	First Season 2019			Second Season 2019			Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
South Buganda	38,392	29,386	130,875	17,867	12,261	58,455	17,867	12,261	189,330	15.4
North Buganda	81,017	32,595	142,608	67,103	23,552	123,084	67,103	23,552	265,692	11.3
West Nile	126,893	19,868	124,401	119,996	52,737	346,133	119,996	52,737	470,534	8.9
Lango	91,358	8,856	43,307	92,927	84,678	313,883	92,927	84,678	357,190	4.2
Acholi	41,909	13,644	80,696	35,863	23,503	137,134	35,863	23,503	217,830	9.3
Kigezi	2,808	1,545	8,060	1,978 ^a	528	3,725	1,978 ^a	528	11,785	22.3
Bunyoro	64,187	18,850	84,699	60,134	30,781	188,996	60,134	30,781	273,695	8.9
Tooro	32,192	8,035	44,286	20,153	4,119	23,025	20,153	4,119	67,311	16.3
Busoga	61,399	16,146	80,656	65,409	45,518	216,425	65,409	45,518	297,081	6.5
Teso	85,470	25,762	142,139	94,753	27,957	136,416	94,753	27,957	278,555	10.0
Bukedi	42,073	5,782	19,496	68,094	41,456	138,002	68,094	41,456	157,498	3.8
Elgon	6,734	832 ^a	6,399	6,864	3,823	16,518	6,864	3,823	22,917	6.0
Karamoja	2,171 ^a	269 ^a	1,376 ^a	1,151 ^a	1,063 ^a	4,188 ^a	1,151 ^a	1,063 ^a	5,564 ^a	5.2
Ankole	7,952	3,244	18,486	6,268	3,903	27,537	6,268	3,903	46,023	11.8
Uganda	684,554	184,814	927,484	658,561	355,878	1,733,522	658,561	355,878	2,661,006	7.5

Notes: *The total area harvested is the total area planted- calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area - harvested (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.24: Area and production of cassava, by ZARDI

ZARDI	First Season 2019			Second Season 2019			Total			
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)
Abi	126,893	19,868	124,401	119,996	52,737	346,133	119,996	52,737	470,534	8.9
Buginyanya	110,206	22,761	106,551	140,367	90,796	370,946	140,367	90,796	477,497	5.3
Bulindi	64,187	18,850	84,699	60,134	30,781	188,996	60,134	30,781	273,695	8.9
Kachwekano	2,808	1,545	8,060	1,978 ^a	528	3,725	1,978 ^a	528	11,785	22.3
Mukono	111,440	57,101	249,691	79,323	31,253	159,921	79,323	31,253	409,612	13.1
Ngetta	133,267	22,500	124,003	128,790	108,181	451,017	128,790	108,181	575,020	5.3
Nabuin	2,171 ^a	269 ^a	1,376 ^a	1,151 ^a	1,063 ^a	4,188 ^a	1,151 ^a	1,063 ^a	5,564 ^a	5.2
Serere	85,470	25,762	142,139	94,753	27,957	136,416	94,753	27,957	278,555	10.0
Mbarara	15,921	8,124	42,278	11,916	8,463	49,155	11,916	8,463	91,433	10.8
Rwebitaba	32,192	8,035	44,286	20,153	4,119	23,025	20,153	4,119	67,311	16.3
Uganda	684,554	184,814	927,484	658,561	355,878	1,733,522	658,561	355,878	2,661,006	7.5

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. **Ratio between production (MT) and area harvested (Ha). ^a(CV Caution. Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.25: Cassava production trend ('000 MT), 1999/2000-2019

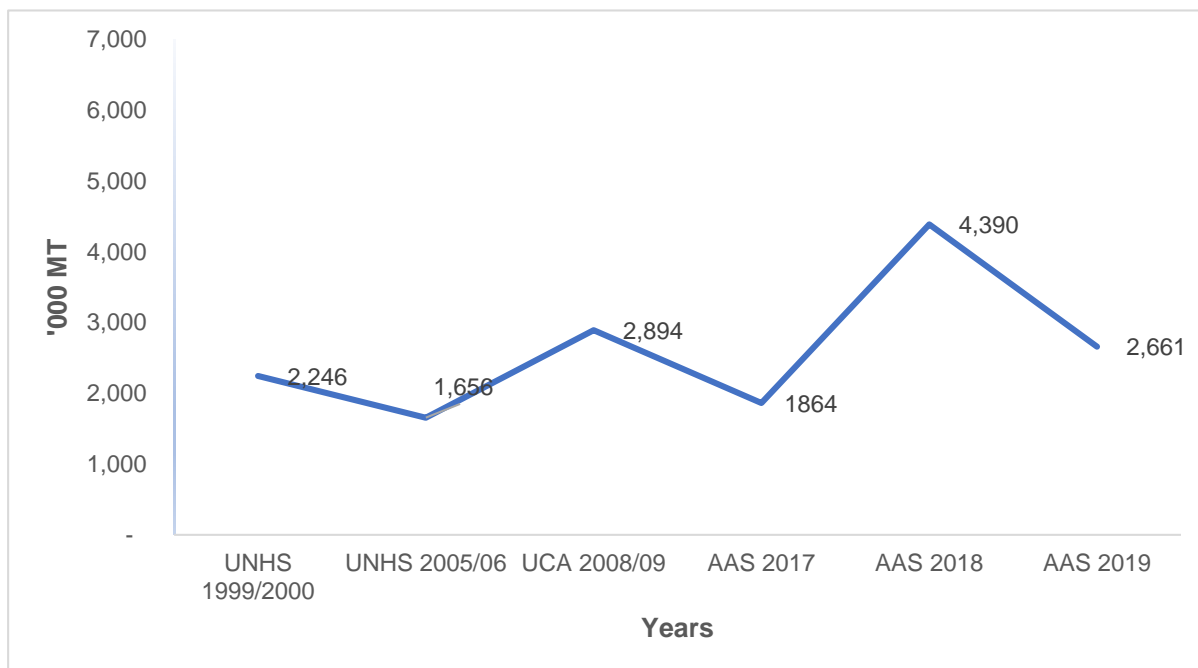
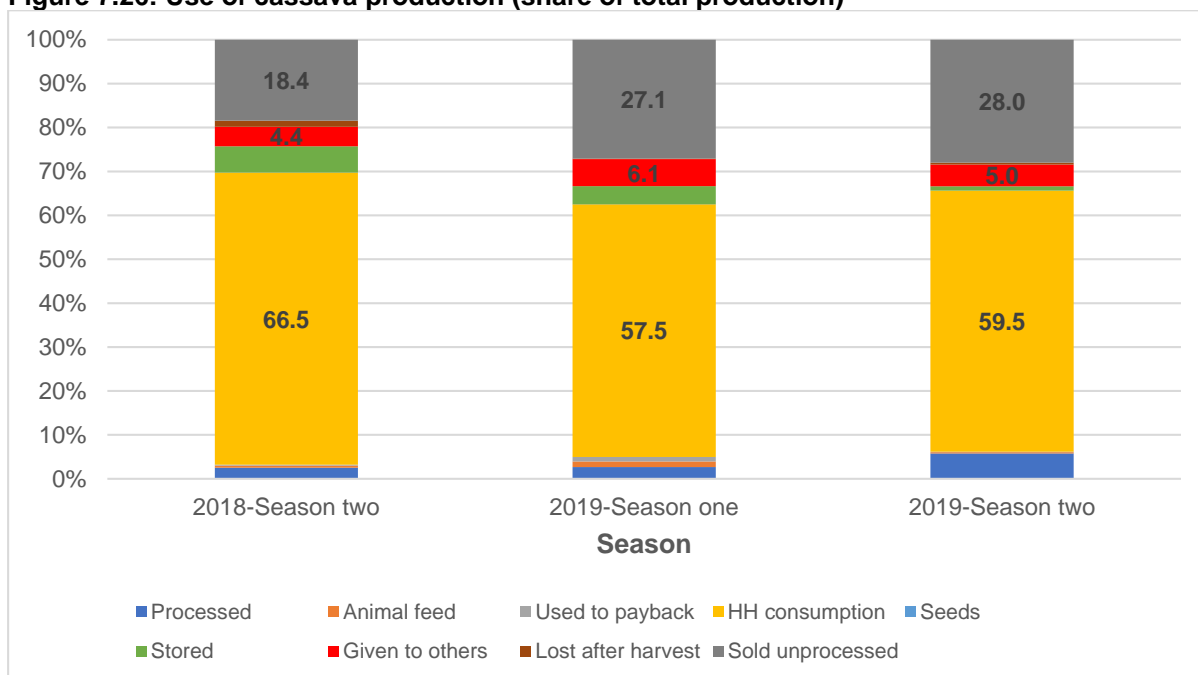


Figure 7.26: Use of cassava production (share of total production)



7.14 Coffee robusta

Coffee (robusta and arabica) is a major agricultural export from Uganda. Coffee robusta is traditionally grown in the sub-regions of Buganda, Ankole, Tooro and Kigezi. The AAS 2019 results indicate that 22 percent of Ag HHs cultivated coffee robusta during the agricultural year 2019.

In 2019, coffee robusta production was approximately 192,000 MT from an estimated planted area of about 310,000 Ha. Lower production was reported in the First Season (approximately 84,000 MT) compared to the Second Season (108,000 MT). At national level, the coffee robusta yield was 0.6 MT/Ha (see **Table 7.25**).

At Sub-regional level, the highest annual robusta production was reported in South Buganda (69,000 MT), North Buganda (52,000 MT) and Ankole (45,000 MT) and the highest yield was reported in Ankole, at 1.1 MT/Ha (see **Table 7.25**).

In the agricultural year 2019, the vast majority of coffee robusta was sold unprocessed (96 percent and 87 percent in First and Second Season, respectively) and the residual part was processed by the producing households (3 percent and 12 percent in First and Second Season, respectively (see **Figure 7.27**).

Table 7.25: Area and production of coffee robusta, by sub-region

Sub-region	First Season 2019		Second Season 2019		Total		
	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Yield*** (MT/Ha)
South Buganda	120,538	32,520	103,884	36,011	103,884	68,531	0.7
North Buganda	128,615	17,639	121,296	34,914	121,296	52,553	0.4
West Nile	26 ^a	-	38 ^a	-	38 ^a	-	0.0
Lango	-	-	80 ^a	-	80 ^a	-	0.0
Acholi	-	-	-	-	-	-	
Kigezi	9,197	3,108	7,917	4,240	7,917	7,348	0.9
Bunyoro	14,275	273 ^a	15,641	5,120	15,641	5,393	0.3
Tooro	7,991	2,698	5,729	2,413	5,729	5,111	0.9
Busoga	17,918	2,326	15,730	5,714	15,730	8,040	0.5
Teso	-	-	-	-	-	-	
Bukedi	-	-	216 ^a	21 ^a	216 ^a	21 ^a	0.1
Elgon	-	-	-	-	-	-	
Karamoja	-	-	-	-	-	-	
Ankole	39,267	25,598	39,411	19,556	39,411	45,154	1.1
Uganda	337,829	84,161	309,942	107,990	309,942	192,151	0.6

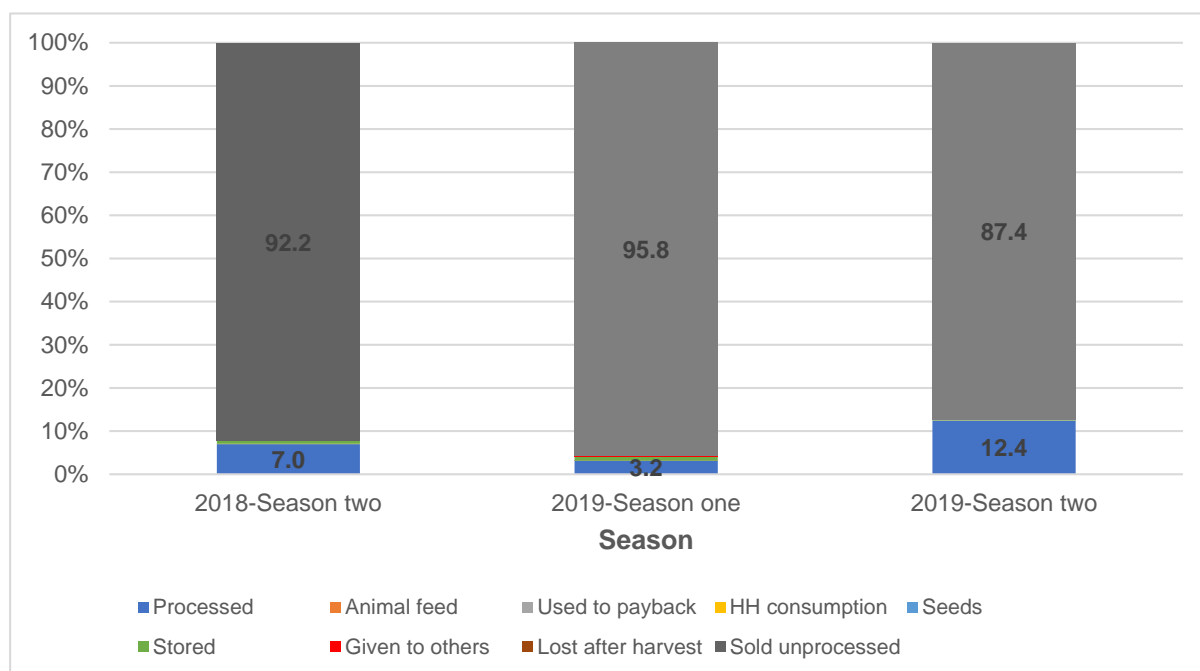
Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area planted (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.26: Area and production of coffee robusta, by ZARDI

ZARDI	First Season 2019		Second Season 2019		Total		
	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Yield*** (MT/Ha)
Abi	26 ^a	-	38 ^a	-	38 ^a	-	0.0
Buginyanya	17,918	2,326	15,947	5,736	15,947	8,062	0.5
Bulindi	14,275	273 ^a	15,641	5,120	15,641	5,393	0.3
Kachwekano	9,197	3,108	7,917	4,240	7,917	7,348	0.9
Mukono	217,043	41,165	192,316	59,712	192,316	100,877	0.5
Ngetta	-	-	80 ^a	-	80 ^a	-	0.0
Nabuin	-	-	-	-	-	-	-
Serere	-	-	-	-	-	-	-
Mbarara	71,378	34,591	72,275	30,769	72,275	65,360	0.9
Rwebitaba	7,991	2,698	5,729	2,413	5,729	5,111	0.9
Uganda	337,829	84,161	309,942	107,990	309,942	192,151	0.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area planted (Ha). ^a(CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.27: Use of coffee robusta production (share of total production)



7.15 Coffee arabica

Coffee arabica is mainly grown in the highland areas in the sub-regions of Elgon, Rwenzori, Muhabura and Okoro. During the agricultural year 2019, the AAS indicates that 7 percent of Ag HHs cultivated coffee arabica.

In the agricultural year 2019, the production of coffee arabica production was approximately 63,000 MT from an estimated planted annual area of approximately 83,000 Ha. It was lower in the First Season (approximately 21,000 MT) compared to the Second Season (42,000 MT). At the national level, the coffee arabica yield was 0.8 MT/Ha (see **Table 7.27**).

At the Sub-regional level, the highest production and yields were reported in Elgon and Tooro (21,000 MT and 33,000 MT, respectively) and (0.7MT/Ha and 0.8MT/Ha respectively) (see **Table 7.27**).

The vast majority of coffee arabica was sold unprocessed (91 percent and 94 seasons in First and Second Season, respectively) and a residual part was still in storage at the time of the visit (8 percent and 4 percent in First and Second Season, respectively) (see **Figure 7.28**).

Table 7.27: Area and production of coffee arabica, by sub-region

Sub-region	First Season 2019		Second Season 2019		Total		
	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Yield*** (MT/Ha)
South Buganda	-	-	-	-	-	-	-
North Buganda	1,763 ^a	1,362 ^a	21 ^a	45 ^a	21 ^a	1,407 ^a	67.0
West Nile	915 ^a	160 ^a	-	266 ^a	-	426 ^a	
Lango	40 ^a	-	941 ^a	-	941 ^a	-	0.0
Acholi	-	-	10 ^a	28 ^a	10 ^a	28 ^a	2.8
Kigezi	1,378 ^a	903 ^a	888 ^a	400 ^a	888 ^a	1,303 ^a	1.5
Bunyoro	3,466	110 ^a	4,395	2,033	4,395	2,143 ^a	0.5
Tooro	36,903	13,378	40,713	19,235	40,713	32,613	0.8
Busoga	2,756 ^a	376 ^a	2,620 ^a	882 ^a	2,620 ^a	1,258 ^a	0.5
Teso	-	-	-	-	-	-	-
Bukedi	-	-	-	-	-	-	-
Elgon	24,022	4,347 ^a	29,237	17,086	29,237	21,433	0.7
Karamoja	-	-	-	-	-	-	-
Ankole	3,881 ^a	750 ^a	3,950 ^a	1,660 ^a	3,950 ^a	2,410 ^a	0.6
Uganda	75,125	21,386	82,774	41,634	82,774	63,020	0.8

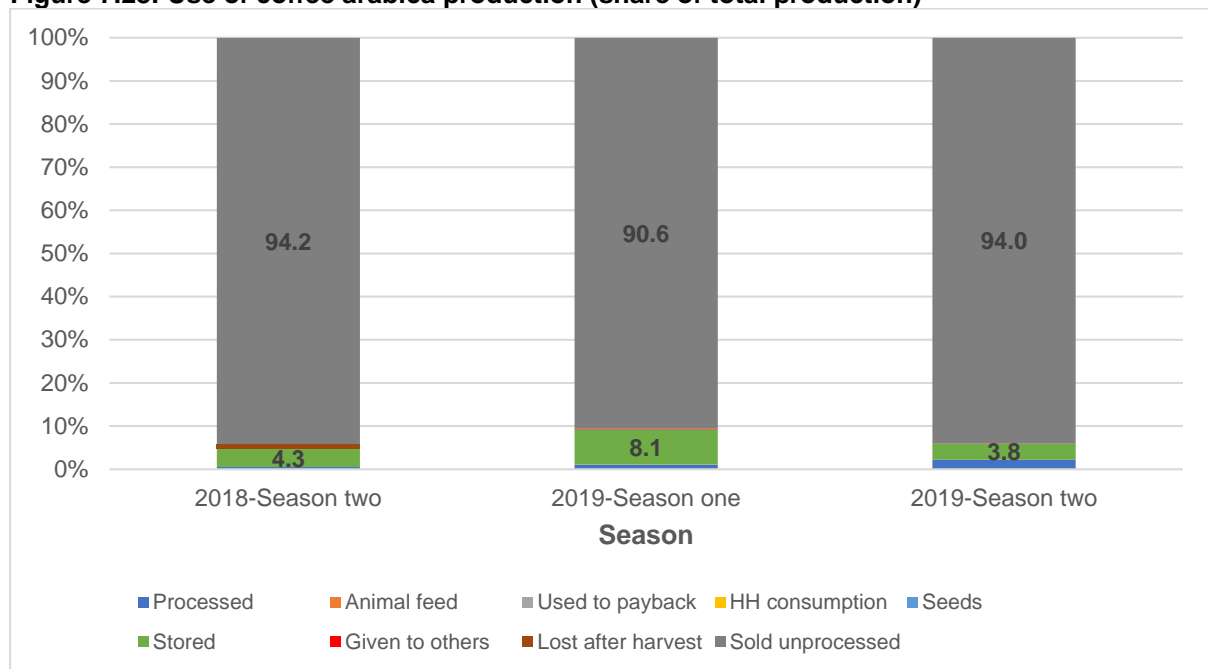
Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area planted (Ha). (CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Table 7.28: Area and production of coffee arabica, by ZARDI

ZARDI	First Season 2019		Second Season 2019		Total		
	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Area planted (Ha)	Production (MT)	Yield*** (MT/Ha)
Abi	915 ^a	160 ^a	941 ^a	266 ^a	941 ^a	426 ^a	0.5
Buginyanya	26,778	4,723 ^a	31,857	17,968	31,857	22,691	0.7
Bulindi	3,466	110 ^a	4,395	2,033	4,395	2,143	0.5
Kachwekano	1,378 ^a	903 ^a	888 ^a	400 ^a	888 ^a	1,303 ^a	1.5
Mukono	1,763 ^a	1,362 ^a	21 ^a	45 ^a	21 ^a	1,407 ^a	67.0
Ngetta	40 ^a	-	10 ^a	28 ^a	10 ^a	28 ^a	2.8
Nabuin	-	-	-	-	-	-	
Serere	-	-	-	-	-	-	
Mbarara	3,881 ^a	750 ^a	3,950 ^a	1,660 ^a	3,950 ^a	2,410 ^a	0.6
Rwebitaba	36,903	13,378	40,713	19,235	40,713	32,613	0.8
Uganda	75,125	21,386	82,774	41,634	82,774	63,020	0.8

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. Thus, the Ag HHs that had not started the harvest at the time of the interview or whose harvest was destroyed are not included in the calculation. ***Ratio between production (MT) and area planted (Ha). (CV- Caution). Coefficient of variation higher than 40 percent. -No sample unit under this category.

Figure 7.28: Use of coffee arabica production (share of total production)



Annexes

Annex 1

Table 1- 1: List of districts within the ZARDIs

Abi	Buginyanya	Bulindi	Kachwekano	Mukono	Ngetta	Nabuin	Serere	Mbarara	Rwebitaba
Adjumani	Bugiri	Hoima	Kabale	Kalangala	Apac	Kotido	Katakwi	Rakai	Bundibugyo
Arua	Busia	Kibaale	Kisoro	Kiboga	Gulu	Moroto	Kumi	Ssembabule	Kabarole
Moyo	Iganga	Masindi	Rukungiri	Luwero	Kitgum	Nakapiripirit	Soroti	Lyantonde	Kasese
Nebbi	Jinja	Buliisa	Kanungu	Masaka	Lira	Abim	Kaberamaido	Bushenyi	Kamwenge
Yumbe	Kamuli	Kiryandongo	Rubanda	Mpigi	Pader	Kaabong	Amuria	Mbarara	Kyenjojo
Koboko	Kapchorwa	Kagadi		Mubende	Amolatar	Amudat	Bukedea	Ntungamo	Kyegegwa
Maracha	Mbale	Kakumiro		Mukono	Amuru	Napak	Ngora	Ibanda	
Zombo	Pallisa			Nakasongola	Dokolo		Serere	Isingiro	
	Tororo			Kayunga	Oyam			Kiruhura	
	Mayuge			Wakiso	Agago			Buhweju	
	Sironko			Mityana	Alebtong			Mitooma	
	Budaka			Nakaseke	Kole			Rubirizi	
	Bududa			Buikwe	Lamwo			Sheema	
	Bukwo			Bukomansimbi	Nwoya				
	Butaleja			Butambala	Otuke				
	Kaliro			Buvuma	Omoro				
	Manafwa			Gomba					
	Namutumba			Kalungu					
	Bulambuli			Kyankwanzi					
	Buyende			Lwengo					
	Kibuku								
	Kween								
	Luuka								
	Namayingo								

Table 1- 2: List of districts within the sub-regions

S. Buganda	N. Buganda	West Nile	Lango	Acholi	Kigezi	Bunyoro	Tooro	Busoga	Teso	Bukedi	Elgon	Karamoja	Ankole
Kalangala	Kiboga	Adjumani	Apac	Gulu	Kabale	Hoima	Bundibugyo	Bugiri	Katakwi	Busia	Kapchorwa	Kotido	Bushenyi
Masaka	Luwero	Arua	Lira	Kitgum	Kisoro	Kibaale	Kabarole	Iganga	Kumi	Pallisa	Mbale	Moroto	Mbarara
Mpigi	Mubende	Moyo	Amolatar	Pader	Rukungiri	Masindi	Kasese	Jinja	Soroti	Tororo	Sironko	Nakapiripirit	Ntungamo
Rakai	Mukono	Nebbi	Dokolo	Amuru	Kanungu	Buliisa	Kamwenge	Kamuli	Kaberamaido	Budaka	Bududa	Abim	Ibanda
Ssembabule	Nakasongola	Yumbe	Oyam	Agago	Mitooma	Kiryandongo	Kyenjojo	Mayuge	Amuria	Butaleja	Bukwo	Kaabong	Isingiro
Wakiso	Kayunga	Koboko	Alebtong	Lamwo	Rubirizi	Kagadi	Kyegegwa	Kaliro	Bukedea	Kibuku	Manafwa	Amudat	Kiruhura
Lyantonde	Mityana	Maracha	Kole	Nwoya	Rubanda	Kakumiro		Namutumba	Ngora		Bulambuli	Napak	Buhweju
Bukomansimbi	Nakaseke	Zombo	Otuke	Omoro				Buyende	Serere		Kween		Sheema
Butambala	Buikwe							Luuka					
Gomba	Buvuma							Namayingo					
Kalungu	Kyankwanzi												
Lwengo													

Table 1- 3: Response rate, by visit and ZARDI*

ZARDI	Both visits	Post-Planting only	Post-Harvesting only	Complete non-response	Total	Response Rate
Abi	488	19	4	17	528	92.4
Buginyanya	1,166	92	117	137	1,512	77.1
Bulindi	464	22	22	32	540	85.9
Kachwekano	416	18	21	25	480	86.7
Mukono	783	79	51	106	1,019	76.8
Ngetta	781	16	23	44	864	90.4
Nabuin	291	10	26	33	360	80.8
Serere	369	17	20	26	432	85.4
Mbarara	698	34	36	72	840	83.1
Rwebitaba	505	4	5	26	540	93.5
Uganda	5,961	311	325	518	7,115	83.8

Notes: *Calculated from the post-planting and post-harvest data of season one. The figures are unweighted.

Annex 2

Table 2- 1: Distribution of agricultural households, by ZARDI *

ZARDI	2019						2018
	First Season		Second Season		Ag. year		Second Season
	Number	%	Number	%	Number	%	Number
Abi	502,614	7.4	473,848	7.2	505,252	7.3	497,260
Buginyanya	1,442,994	21.4	1,360,999	20.8	1,492,213	21.5	1,438,621
Bulindi	452,590	6.7	470,162	7.2	487,860	7.0	428,171
Kachwekano	300,668	4.5	293,163	4.5	304,804	4.4	333,577
Mukono	1,327,740	19.7	1,285,025	19.6	1,382,610	19.9	1,074,785
Ngetta	753,199	11.2	743,943	11.4	763,278	11.0	808,775
Nabuin	182,300	2.7	172,201	2.6	187,169	2.7	1,231,335
Serere	358,166	5.3	356,011	5.4	363,324	5.2	350,476
Mbarara	852,545	12.6	823,855	12.6	867,862	12.5	738,695
Rwebitaba	580,765	8.6	566,073	8.6	582,410	8.4	512,188
Uganda	6,753,580	100.0	6,545,280	100.0	6,936,782	100.0	7,413,883

Note: *Calculated on the post-planting and post-harvest data for each season.

Table 2- 2: Distribution of agricultural households, by sub-region*

Sub-Region	First Season		Second Season		Ag. year	
	Total number	%	Total number	%	Total number	%
South Buganda	788,367	11.7	751,327	11.5	832,647	12.0
North Buganda	790,174	11.7	765,745	11.7	806,354	11.6
West Nile	502,614	7.4	473,848	7.2	505,252	7.3
Lango	443,270	6.6	435,462	6.7	445,133	6.4
Acholi	309,929	4.6	308,480	4.7	318,145	4.6
Kigezi	300,667	4.5	293,163	4.5	304,803	4.4
Bunyoro	452,590	6.7	470,162	7.2	487,860	7.0
Tooro	580,765	8.6	566,073	8.6	582,410	8.4
Busoga	700,336	10.4	636,701	9.7	725,688	10.5
Teso	358,166	5.3	356,010	5.4	363,324	5.2
Bukedi	374,291	5.5	367,047	5.6	378,931	5.5
Elgon	368,367	5.5	357,252	5.5	387,595	5.6
Karamoja	182,300	2.7	172,201	2.6	187,169	2.7
Ankole	601,743	8.9	591,808	9.0	611,471	8.8
Uganda	6,753,580	100.0	6,545,280	100.0	6,936,782	100.0

Note: * Calculated on the post-planting and post-harvest data for each season.

Table 2- 3: Number and percentage of Ag HHs, by sex of the head and ZARDI

ZARDI		Male-headed HHs	Female-headed HHs	Total
Abi	Number	361,334	141,280	502,614
	Percentage	71.9	28.1	100
Buginyanya	Number	1,187,284	255,710	1,442,994
	Percentage	82.3	17.7	100
Bulindi	Number	383,074	69,516	452,590
	Percentage	84.6	15.4	100
Kachwekano	Number	236,791	63,876	300,667
	Percentage	78.8	21.2	100
Mukono	Number	984,538	343,202	1,327,740
	Percentage	74.2	25.8	100
Ngetta	Number	596,901	156,298	753,199
	Percentage	79.2	20.8	100
Nabuin	Number	109,849	72,451	182,300
	Percentage	60.3	39.7	100
Serere	Number	279,944	78,222	358,166
	Percentage	78.2	21.8	100
Mbarara	Number	654,005	198,540	852,545
	Percentage	76.7	23.3	100
Rwebitaba	Number	473,113	107,652	580,765
	Percentage	81.5	18.5	100
Uganda	Number	5,266,832	1,486,748	6,753,580
	Percentage	78.0	22.0	100

Table 2- 4: Percent distribution of literate Ag HH heads by sex and ZARDI

ZARDI	Sex	Literate	Illiterate	Total	% literate
Abi	Male	278,129	83,205	361,334	77
	Female	58,012	83,269	141,280	41.1
	Total	336,141	166,474	502,614	66.9
Buginyanya	Male	853,094	334,190	1,187,284	71.9
	Female	96,018	159,693	255,710	37.5
	Total	949,112	493,883	1,442,994	65.8
Bulindi	Male	262,384	120,690	383,074	68.5
	Female	25,565	43,951	69,516	36.8
	Total	287,949	164,641	452,590	63.6
Kachwekano	Male	192,252	44,539	236,791	81.2
	Female	27,346	36,530	63,877	42.8
	Total	219,598	81,069	300,668	73
Mukono	Male	721,568	258,553	980,120	73.6
	Female	176,128	167,074	343,202	51.3
	Total	897,696	425,627	1,323,322	67.8
Ngetta	Male	513,318	82,313	595,632	86.2
	Female	59,902	96,396	156,298	38.3
	Total	573,220	178,709	751,929	76.2
Nubin	Male	29,752	80,097	109,849	27.1
	Female	5,150	67,301	72,451	7.1
	Total	34,902	147,398	182,300	19.1
Serere	Male	195,286	84,658	279,944	69.8
	Female	23,372	54,849	78,222	29.9
	Total	218,658	139,507	358,166	61
Mbarara	Male	544,461	108,591	653,052	83.4
	Female	96,701	101,839	198,540	48.7
	Total	641,162	210,430	851,592	75.3
Rwebitaba	Male	371,357	101,756	473,113	78.5
	Female	54,537	53,115	107,652	50.7
	Total	425,894	154,871	580,765	73.3

ZARDI	Sex	Literate	Illiterate	Total	% literate
	Male	3,961,601	1,298,591	5,260,193	75.3
Uganda	Female	622,730	864,018	1,486,748	41.9
	Total	4,584,331	2,162,609	6,746,941	67.9

Note: *Obtained from the PP and PH of the First Season.

Table 2- 5: Percent distribution of Ag HH heads, by highest educational level, by sex and ZARDI*

ZARDI		No education		Primary		Secondary +		Total	
		N	%	N	%	N	%	N	%
Abi	Male	14,634	4.1	231,982	64.5	113,056	31.4	359,672	100
	Female	31,933	22.6	84,683	59.9	24,665	17.5	141,280	100
	Total	46,567	9.3	316,665	63.2	137,721	27.5	500,952	100
Buginyanya	Male	73,005	6.2	683,798	58.0	421,471	35.8	1,178,274	100
	Female	94,519	37.0	117,349	45.9	43,842	17.1	255,710	100
	Total	167,524	11.7	801,147	55.9	465,313	32.4	1,433,984	100
Bulindi	Male	40,888	10.7	235,914	61.9	104,436	27.4	381,239	100
	Female	22,337	32.1	41,828	60.2	5,351	7.7	69,516	100
	Total	63,225	14.0	277,742	61.6	109,787	24.4	450,755	100
Kachwekano	Male	20,525	8.8	130,454	55.7	83,214	35.5	234,193	100
	Female	33,145	51.9	24,301	38.0	6,431	10.1	63,877	100
	Total	53,670	18.0	154,755	51.9	89,645	30.1	298,070	100
Mukono	Male	73,595	7.7	512,054	53.4	373,167	38.9	958,816	100
	Female	92,218	27.1	179,143	52.6	69,101	20.3	340,463	100
	Total	165,813	12.8	691,197	53.2	442,268	34.0	1,299,279	100
Ngetta	Male	14,051	2.4	395,804	66.9	181,718	30.7	591,573	100
	Female	54,899	35.1	85,719	54.8	15,680	1-	156,298	100
	Total	68,950	9.2	481,523	64.4	197,398	26.4	747,871	100
Nabuin	Male	74,552	67.9	21,373	19.5	13,924	12.7	109,849	100
	Female	60,667	84.9	6,827	9.6	3,978	5.6	71,473	100
	Total	135,219	74.6	28,200	15.6	17,902	9.9	181,322	100
Serere	Male	20,543	7.3	175,949	62.9	83,451	29.8	279,944	100
	Female	32,730	41.8	38,148	48.8	7,344	9.4	78,222	100
	Total	53,273	14.9	214,097	59.8	90,795	25.4	358,166	100
Mbarara	Male	73,566	11.4	400,935	62.4	168,442	26.2	642,943	100

ZARDI		No education		Primary		Secondary +		Total	
		N	%	N	%	N	%	N	%
	Female	79,380	40.2	90,465	45.8	27,627	14.0	197,471	100
	Total	152,946	18.2	491,401	58.5	196,067	23.3	840,414	100
Rwebitaba	Male	40,008	8.5	308,376	65.3	123,611	26.2	471,995	100
	Female	37,865	35.2	53,034	49.3	16,753	15.6	107,652	100
	Total	77,873	13.4	361,410	62.3	140,364	24.2	579,647	100
Uganda	Male	445,367	8.6	3,096,639	59.5	1,666,491	32.0	5,208,498	100
	Female	539,694	36.4	721,497	48.7	220,771	14.9	1,481,962	100
	Total	985,061	14.7	3,818,136	57.1	1,887,262	28.2	6,690,460	100

Notes: * Obtained from the PP and PH of the First Season. Some Household heads did not respond as to their highest education level.

Table 2- 6: Percent distribution of Ag HH heads, by age class, sex and ZARDI*

ZARDI		0-24		25-34		35-44		45-64		65 +		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Abi	M	29,758	8.2	112,571	31.2	86,757	24.0	96,298	26.7	35,951	9.9	361,335	100
	F	2,449	1.7	22,466	15.9	29,637	21.0	61,562	43.6	25,167	17.8	141,280	100
	T	32,207	6.4	135,036	26.9	116,393	23.2	157,861	31.4	61,117	12.2	502,614	100
Buginyanya	M	87,070	7.3	311,868	26.3	299,203	25.2	381,982	32.2	107,162	9.0	1,187,283	100
	F	5,061	2.0	26,616	10.4	42,465	16.6	108,902	42.6	72,667	28.4	255,710	100
	T	92,131	6.4	338,484	23.5	341,666	23.7	490,884	34.0	179,829	12.5	1,442,994	100
Bulindi	M	38,239	1.0	113,938	29.7	94,543	24.7	100,984	26.4	35,370	9.2	383,074	100
	F	1,472	2.1	7,224	10.4	12,699	18.3	26,232	37.7	21,889	31.5	69,516	100
	T	39,711	8.8	121,162	26.8	107,242	23.7	127,216	28.1	57,258	12.7	452,590	100
Kachwekano	M	13,359	5.6	69,795	29.5	57,370	24.2	69,148	29.2	27,119	11.5	236,791	100
	F	1,198	1.9	5,254	8.2	5,791	9.1	29,677	46.5	21,958	34.4	63,877	100
	T	14,557	4.8	75,048	25.0	63,161	21.0	98,825	32.9	49,077	16.3	300,668	100
Mukono	M	57,467	5.8	226,807	23.0	277,281	28.2	313,122	31.8	109,861	11.2	984,538	100
	F	4,453	1.3	19,649	5.7	49,771	14.5	165,169	48.1	104,159	30.3	343,202	100
	T	61,920	4.7	246,456	18.6	327,052	24.6	478,291	36.0	214,021	16.1	1,327,740	100
Ngetta	M	55,891	9.4	152,388	25.5	164,020	27.5	166,078	27.8	58,525	9.8	596,901	100
	F	5,443	3.5	17,466	11.2	28,312	18.1	66,007	42.2	39,070	25.0	156,298	100
	T	61,334	8.1	169,854	22.6	192,332	25.5	232,084	30.8	97,595	13.0	753,199	100
Nabuin	M	11,302	10.3	26,815	24.4	30,229	27.5	26,252	23.9	15,251	13.9	109,849	100
	F	3,967	5.5	10,844	15.0	8,908	12.3	28,339	39.1	20,392	28.1	72,451	100
	T	15,269	8.4	37,659	20.7	39,137	21.5	54,591	29.9	35,644	19.6	182,300	100
Serere	M	27,619	9.9	65,077	23.2	64,952	23.2	89,175	31.9	33,121	11.8	279,944	100
	F	3,281	4.2	10,525	13.5	7,104	9.1	33,872	43.3	23,441	3-	78,222	100
	T	30,899	8.6	75,601	21.1	72,055	20.1	123,047	34.4	56,562	15.8	358,166	100
Mbarara	M	27,621	4.2	165,860	25.4	182,160	27.9	215,317	32.9	63,046	9.6	654,005	100
	F	1805.5	0.9	23,793	12.0	26,744	13.5	85,541	43.1	60,657	30.6	198,540	100
	T	29,427	3.5	189,653	22.2	208,903	24.5	300,858	35.3	123,703	14.5	852,545	100
Rwebitaba	M	31,821	6.7	138,540	29.3	115,415	24.4	138,459	29.3	48,878	10.3	473,113	100
	F	0	-	17,424	16.2	31,663	29.4	32,829	30.5	25,737	23.9	107,652	100
	T	31,821	5.5	155,964	26.9	147,079	25.3	171,288	29.5	74,614	12.8	580,765	100

ZARDI		0-24		25-34		35-44		45-64		65 +		Total	
		N	%	N	%	N	%	N	%	N	%	N	%
Uganda	M	380,146	7.2	1,383,657	26.3	1,371,929	26.0	1,596,815	30.3	534,284	10.1	5,266,832	100
	F	29,130	2.0	161,259	10.8	243,093	16.4	638,130	42.9	415,136	27.9	1,486,748	100
	T	409,276	6.1	1,544,917	22.9	1,615,021	23.9	2,234,946	33.1	949,420	14.1	6,753,580	100

Note: *Obtained from the PP and PH of the First Season.

Table 2- 7: Dependency rate by ZARDI*

ZARDI	Individuals 0-14 or 65+		Individuals 15-64		Dependency rate	Total Population
	Number	%	Number	%	%	
Abi	1,310,129	48.5	1,389,773	51.5	94.3	2,699,902
Buginyanya	4,197,689	51.0	4,034,968	49.0	104.0	8,232,657
Bulindi	1,250,055	48.7	1,314,710	51.3	95.1	2,564,765
Kachwekano	694,652	45.2	843,165	54.8	82.4	1,537,817
Mukono	3,636,131	49.8	3,664,225	50.2	99.2	7,300,356
Ngetta	1,999,145	46.3	2,315,593	53.7	86.3	4,314,738
Nabuin	531,023	57.6	390,254	42.4	136.1	921,276
Mbarara	1,142,877	47.2	1,276,536	52.8	89.5	2,419,413
Rwebitaba	2,175,327	46.1	2,547,687	53.9	85.4	4,723,014
Serere	1,564,495	48.3	1,672,095	51.7	93.6	3,236,590
Uganda	18,501,523	48.8	19,449,006	51.2	95.1	37,950,528

Note: *Obtained from the PP and PH of the First Season.

Table 2- 8: Percent distribution of Ag HH heads, by main economic activity and ZARDI*

ZARDI	Male headed			Female headed			All heads		
	Mainly in agriculture	Mainly not in agriculture	Total	Mainly in agriculture	Mainly not in agriculture	Total	Mainly in agriculture	Mainly not in agriculture	Total
Abi	86.5	13.5	100	90.7	9.3	100	87.7	12.3	100
Buginyanya	68.6	31.4	100	88.3	11.7	100	72.1	27.9	100
Bulindi	82.6	17.4	100	91.6	8.4	100	83.9	16.1	100
Kachwekano	60.2	39.8	100	85.8	14.2	100	65.6	34.4	100
Mukono	66.9	33.1	100	80.1	19.9	100	70.3	29.7	100
Ngetta	83.9	16.1	100	92.1	7.9	100	85.6	14.4	100
Nabuin	83.5	16.5	100	88.6	11.4	100	85.5	14.5	100
Serere	91.2	8.8	100	98.3	1.7	100	92.7	7.3	100
Mbarara	62.1	37.9	100	79.2	20.8	100	66.1	33.9	100
Rwebitaba	84.7	15.3	100	92.9	7.1	100	86.3	13.7	100
Uganda	74.0	26.0	100	86.7	13.3	100	76.8	23.2	100

Note: *This table is extracted from the First Season PP and PH data sets.

Table 2- 9: Percent distribution of adult* members that belong to a farmer organization, by sex and ZARDI**

ZARDI	sex	Belongs to farmer group		Does not belong to farmer group		Total	
		N	%	N	%	N	%
Abi	Male	45,140	8.1	514,305	91.9	559,446	100
	Female	45,649	7.2	592,172	92.8	637,821	100
	Total	90,789	7.6	1,106,478	92.4	1,197,267	100
Buginyanya	Male	90,721	5.4	1,581,634	94.6	1,672,355	100
	Female	72,536	4.1	1,707,479	95.9	1,780,014	100
	Total	163,256	4.7	3,289,112	95.3	3,452,369	100
Bulindi	Male	41,845	7.4	520,847	92.6	562,693	100
	Female	25,599	4.5	545,015	95.5	570,614	100
	Total	67,445	6.0	1,065,862	94.0	1,133,307	100
Kachwekano	Male	17,950	5.1	336,079	94.9	354,029	100
	Female	21,569	5.6	364,168	94.4	385,737	100
	Total	39,519	5.3	700,247	94.7	739,766	100
Mukono	Male	52,660	3.5	1,445,627	96.5	1,498,287	100
	Female	42,591	2.6	1,615,297	97.4	1,657,888	100
	Total	95,251	3.0	3,060,924	97.0	3,156,175	100
Ngetta	Male	161,566	16.8	799,430	83.2	960,996	100
	Female	175,027	17.7	815,534	82.3	990,560	100
	Total	336,593	17.2	1,614,964	82.8	1,951,557	100
Nabuin	Male	4,490	3.1	139,710	96.9	144,199	100
	Female	12,663	6.0	199,073	94.0	211,735	100
	Total	17,152	4.8	338,782	95.2	355,935	100

ZARDI	sex	Belongs to farmer group		Does not belong to farmer group		Total	
		N	%	N	%	N	%
Serere	Male	13,433	2.5	521,047	97.5	534,480	100
	Female	3,445	0.6	563,284	99.4	566,729	100
	Total	16,878	1.5	1,084,331	98.5	1,101,209	100
Mbarara	Male	55,340	5.2	1,015,437	94.8	1,070,778	100
	Female	54,639	4.8	1,080,710	95.2	1,135,349	100
	Total	109,979	5.0	2,096,147	95.0	2,206,127	100
Rwebitaba	Male	31,641	4.6	663,371	95.4	695,012	100
	Female	32,460	4.3	728,116	95.7	760,576	100
	Total	64,101	4.4	1,391,487	95.6	1,455,588	100
Uganda	Male	514,787	6.4	7,537,488	93.6	8,052,275	100
	Female	486,176	5.6	8,210,848	94.4	8,697,024	100
	Total	1,000,963	6.0	15,748,335	94.0	16,749,299	100

Notes: * 18 years old or more. **This table is extracted from the First Season PP and PH data sets.

Table 2- 10: Percent distribution of adult* members that belong to a farmer organization, by sex and sub-region**

Sub-region	sex	Belongs to farmer group		Does not belong to farmer group		Total	
		N	%	N	%	N	%
South Buganda	Male	25,939	2.9	854,114	97.1	880,052	100
	Female	15,166	1.6	933,054	98.4	948,221	100
	Total	41,105	2.2	1,787,168	97.8	1,828,273	100
North Buganda	Male	33,533	3.7	861,462	96.3	894,995	100
	Female	32,428	3.2	967,746	96.8	1,000,174	100
	Total	65,960	3.5	1,829,208	96.5	1,895,169	100
West Nile	Male	45,140	8.1	514,305	91.9	559,446	100
	Female	45,649	7.2	592,172	92.8	637,821	100
	Total	90,789	7.6	1,106,478	92.4	1,197,267	100
Lango	Male	92,322	18.0	419,848	82.0	512,170	100
	Female	101,193	18.3	451,054	81.7	552,247	100
	Total	193,514	18.2	870,902	81.8	1,064,417	100
Acholi	Male	69,245	15.4	379,582	84.6	448,826	100
	Female	73,834	16.8	364,480	83.2	438,314	100
	Total	143,079	16.1	744,061	83.9	887,140	100
Kigezi	Male	17,950	5.1	336,079	94.9	354,029	100
	Female	21,569	5.6	364,168	94.4	385,737	100
	Total	39,519	5.3	700,247	94.7	739,766	100
Bunyoro	Male	41,845	7.4	520,847	92.6	562,693	100
	Female	25,599	4.5	545,015	95.5	570,614	100
	Total	67,445	6.0	1,065,862	94.0	1,133,307	100
Tooro	Male	31,641	4.6	663,371	95.4	695,012	100
	Female	32,460	4.3	728,116	95.7	760,576	100
	Total	64,101	4.4	1,391,487	95.6	1,455,588	100
Busoga	Male	21,937	2.9	726,100	97.1	748,036	100
	Female	24,525	3.0	794,840	97.0	819,365	100
	Total	46,461	3.0	1,520,940	97.0	1,567,401	100
Teso	Male	13,433	2.5	521,047	97.5	534,480	100
	Female	3,445	0.6	563,284	99.4	566,729	100
	Total	16,878	1.5	1,084,331	98.5	1,101,209	100
Bukedi	Male	21,411	4.9	417,924	95.1	439,335	100
	Female	20,531	4.3	457,859	95.7	478,391	100
	Total	41,943	4.6	875,783	95.4	917,726	100

Sub-region	sex	Belongs to farmer group		Does not belong to farmer group		Total	
		N	%	N	%	N	%
Elgon	Male	47,373	9.8	437,610	90.2	484,983	100
	Female	27,479	5.7	454,779	94.3	482,259	100
	Total	74,853	7.7	892,390	92.3	967,242	100
Karamoja	Male	4,490	3.1	139,710	96.9	144,199	100
	Female	12,663	6.0	199,073	94.0	211,735	100
	Total	17,152	4.8	338,782	95.2	355,935	100
Ankole	Male	48,529	6.1	745,489	93.9	794,018	100
	Female	49,635	5.9	795,207	94.1	844,842	100
	Total	98,164	6.0	1,540,695	94.0	1,638,860	100
Uganda	Male	514,787	6.4	7,537,488	93.6	8,052,275	100
	Female	486,176	5.6	8,210,848	94.4	8,697,024	100
	Total	1,000,963	6.0	15,748,335	94.0	16,749,299	100

Notes: *18 years old or more. **This table is extracted from the season one PP and PH data sets.

Table 2- 11: Percent distribution of adult members, by employment status, by sex and ZARDI*

		Own account		Employer		Salaried worker		Task worker		Unpaid		Trainee/volunteer/intern		Other		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Abi	Male	408,661	80.2	0	-	31,512	6.2	11,859	2.3	53,258	10.5	4,161	0.8	0	-	509,452	100
	Female	532,776	86.2	0	-	7,203	1.2	6,739	1.1	68,117	11.0	3,117	0.5	0	-	617,952	100
	Total	941,437	83.5	0	-	38,715	3.4	18,598	1.6	121,376	10.8	7,278	0.6	0	-	1,127,404	100
Buginyanya	Male	1,030,028	72.6	20,892	1.5	151,752	10.7	87,415	6.2	128,599	9.1	0	-	0	-	1,418,685	100
	Female	1,086,927	68.8	2,062	0.1	60,340	3.8	116,300	7.4	310,415	19.6	4,160	0.3	0	-	1,580,204	100
	Total	2,116,956	70.6	22,953	0.8	212,092	7.1	203,714	6.8	439,014	14.6	4,160	0.1	0	-	2,998,890	100
Bulindi	Male	401,834	74.2	14,614	2.7	50,710	9.4	43,230	8.0	28,481	5.3	2,436	0.5	0	-	541,306	100
	Female	457,626	83.3	5,371	1.0	19,628	3.6	13,168	2.4	52,336	9.5	1,418	0.3	0	-	549,548	100
	Total	859,460	78.8	19,985	1.8	70,339	6.4	56,398	5.2	80,817	7.4	3,854	0.4	0	-	1,090,854	100
Kachwekano	Male	159,263	49.2	1,398	0.4	85,308	26.3	57,137	17.6	20,926	6.5	0	-	0	-	324,032	100
	Female	258,257	70.8	1,409	0.4	48,964	13.4	18,967	5.2	36,439	1.0	535	0.1	0	-	364,571	100
	Total	417,521	60.6	2,806	0.4	134,272	19.5	76,103	11.1	57,365	8.3	535	0.1	0	-	688,603	100
Mukono	Male	925,925	69.1	2,114	0.2	129,480	9.7	212,112	15.8	68,259	5.1	1,175	0.1	0	-	1,339,064	100
	Female	947,094	64.7	4,427	0.3	106,623	7.3	49,183	3.4	350,164	23.9	7,387	0.5	0	-	1,464,880	100
	Total	1,873,019	66.8	6,541	0.2	236,102	8.4	261,295	9.3	418,423	14.9	8,563	0.3	0	-	2,803,944	100
Ngetta	Male	523,556	60.5	5,861	0.7	64,281	7.4	26,184	3.0	245,137	28.3	0	-	0	-	865,019	100
	Female	395,968	42.3	0	-	32,435	3.5	1,984	0.2	504,648	53.9	1,024	0.1	712	0.1	936,772	100
	Total	919,524	51.0	5,861	0.3	96,715	5.4	28,168	1.6	749,785	41.6	1,024	0.1	712	0.1	1,801,791	100

		Own account		Employer		Salaried worker		Task worker		Unpaid		Trainee/volunteer/intern		Other		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Nabuin	Male	112,596	66.0	0	-	6,051	3.5	2,227	1.3	49,414	28.9	415	0.2	0	-	170,702	100
	Female	133,068	53.2	0	-	4,046	1.6	2,482	1.0	109,530	43.8	820	0.3	356	0.1	250,302	100
	Total	245,664	58.4	0	-	10,097	2.4	4,709	1.1	158,944	37.8	1,234	0.3	356	0.1	421,004	100
Serere	Male	312,494	68.2	0	-	30,604	6.7	1,623	0.4	112,667	24.6	0	-	929	0.2	458,317	100
	Female	198,796	37.5	0	-	18,605	3.5	0	-	310,846	58.7	779	0.1	654	0.1	529,680	100
	Total	511,291	51.8	0	-	49,209	5.0	1,623	0.2	423,512	42.9	779	0.1	1,583	0.2	987,997	100
Mbarara	Male	575,989	58.9	3,439	0.4	148,018	15.1	159,856	16.4	81,501	8.3	8,875	0.9	0	-	977,678	100
	Female	656,256	64.4	1,748	0.2	96,403	9.5	65,464	6.4	198,134	19.4	1,664	0.2	0	-	1,019,669	100
	Total	1,232,245	61.7	5,187	0.3	244,421	12.2	225,320	11.3	279,635	14.0	10,539	0.5	0	-	1,997,347	100
Rwebitaba	Male	538,165	79.6	3,868	0.6	53,951	8.0	16,466	2.4	63,794	9.4	0	-	0	-	676,245	100
	Female	619,074	83.7	0	-	28,436	3.8	7,670	1	84,314	11.4	0	-	0	-	739,495	100
	Total	1,157,240	81.7	3,868	0.3	82,387	5.8	24,136	1.7	148,108	10.5	0	-	0	-	1,415,739	100
Uganda	Male	4,988,511	68.5	52,186	0.7	751,666	10.3	618,109	8.5	852,036	11.7	17,062	0.2	929	-	7,280,500	100
	Female	5,285,844	65.6	15,017	0.2	422,684	5.2	281,957	3.5	2,024,943	25.1	20,905	0.3	1,722	-	8,053,072	100
	Total	10,274,355	67.0	67,203	0.4	1,174,350	7.7	900,067	5.9	2,876,979	18.8	37,967	0.2	2,651	-	15,333,572	100

Table 2- 12: Percentage of Ag HHs with at least one member trained in agriculture by ZARDI*

ZARDI	At least One person trained in agriculture		No person trained in agriculture		Total	
	Number	%	Number	%	Number	%
Abi	15,042	3.2	458,806	96.8	473,848	100.0
Buginyanya	80,369	5.9	1,280,630	94.1	1,360,999	100.0
Bulindi	36,727	7.9	427,547	92.1	464,274	100.0
Kachwekano	24,736	8.4	268,427	91.6	293,163	100.0
Mukono	65,094	5.1	1,219,931	94.9	1,285,025	100.0
Ngetta	52,854	7.2	686,090	92.8	738,944	100.0
Nabuin	6,594	3.8	165,606	96.2	172,200	100.0
Serere	4,151	1.2	351,859	98.8	356,010	100.0
Mbarara	35,994	4.4	787,861	95.6	823,855	100.0
Rwebitaba	24,726	4.4	541,346	95.6	566,072	100.0
Uganda	346,287	5.3	6,188,103	94.7	6,534,390	100.0

Notes: *Reference period is the last 12 months. Table generated from the post-harvest data of the Second Season.

Table 2- 13: Distribution of adult* members trained in agriculture by sex and ZARDI***

		Adult males	Adult females	Total
Abi	Number	12,784	2,739	15,523
	Percentage	2.7	0.5	1.5
Buginyanya	Number	50,085	39,796	89,881
	Percentage	3.4	2.5	2.9
Bulindi	Number	32,057	7,552	39,609
	Percentage	5.8	1.3	3.5
Kachwekano	Number	13,926	17,624	31,550
	Percentage	4.3	4.9	4.6
Mukono	Number	37,536	29,176	66,712
	Percentage	2.9	1.9	2.4
Ngetta	Number	42,334	20,166	62,500
	Percentage	4.7	2.2	3.4
Nabuin	Number	3,916	4,603	8,519
	Percentage	3.1	2.5	2.7
Serere	Number	4,952	-	4,952
	Percentage	1.0	-	0.5
Mbarara	Number	23,411	20,405	43,815
	Percentage	2.3	1.9	2.1
Rwebitaba	Number	19,598	8851.2	28,449
	Percentage	2.9	1.2	2.0
Uganda	Number	240,598	150,912	391,511
	Percentage	3.3	1.9	2.5

Notes: *18 years old or more. Table generated from the post-harvest data of the Second Season. **Reference period is the last 12 months. –No sampled elements under this category.

Table 2- 14: Distribution of Ag HHs engaged in crop production, by sex of the head and ZARDI*

ZARDI		First Season			Second Season		
		Total number of Ag HHs	Number of Ag HHs engaged in crop production	% of Ag HHs engaged in crop production	Total number of Ag HHs	Number of Ag HHs engaged in crop production	% of Ag HHs engaged in crop production
Abi	Male headed	361,334	361,334	100	341,511	332,715	97.4
	Female headed	141,280	141,280	100	132,336	129,209	97.6
	Total	502,614	502,614	100	473,847	461,924	97.5
Buginyanya	Male headed	1,187,284	1,179,085	99.3	1,126,530	1,099,218	97.6
	Female headed	255,710	255,710	100	234,469	226,985	96.8
	Total	1,442,993	1,434,795	99.4	1,360,999	1,326,203	97.4
Bulindi	Male headed	383,074	381,656	99.6	396,282	383,392	96.7
	Female headed	69,516	69,516	100	73,881	70,840	95.9
	Total	452,590	451,172	99.7	470,163	454,232	96.6
Kachwekano	Male headed	236,791	234,193	98.9	229,766	229,766	100
	Female headed	63,876	63,877	100	63,398	63,398	100
	Total	300,667	298,070	99.1	293,164	293,164	100
Mukono	Male headed	984,538	963,234	97.8	934,741	914,659	97.9
	Female headed	343,202	340,463	99.2	350,284	340,721	97.3
	Total	1,327,740	1,303,697	98.2	1,285,025	1,255,380	97.7
Ngetta	Male headed	596,901	595,031	99.7	590,664	575,977	97.5
	Female headed	156,298	156,298	100	153,279	149,892	97.8
	Total	753,199	751,329	99.8	743,943	725,869	97.6
Nabuin	Male headed	109,849	109,849	100	106,971	11,437	10.7

	First Season			Second Season			
	Total number of Ag HHs	Number of Ag HHs engaged in crop production	% of Ag HHs engaged in crop production	Total number of Ag HHs	Number of Ag HHs engaged in crop production	% of Ag HHs engaged in crop production	
ZARDI	Female headed	72,451	71,473	98.6	65,230	3,527	5.4
	Total	182,300	181,322	99.5	172,201	14,964	8.7
Serere	Male headed	279,944	279,944	100	278,967	273,273	98.0
	Female headed	78,222	78,222	100	77,043	75,759	98.3
	Total	358,166	358,166	100	356,010	349,032	98.0
Mbarara	Male headed	654,005	648,950	99.2	621,803	620,705	99.8
	Female headed	198,540	197,471	99.5	202,052	202,052	100
	Total	852,545	846,421	99.3	823,855	822,757	99.9
Rwebitaba	Male headed	473,113	471,995	99.8	462,056	462,056	100
	Female headed	107,652	107,652	100	104,017	103,208	99.2
	Total	580,765	579,647	99.8	566,073	565,264	99.9
Uganda	Male headed	5,266,832	5,225,270	99.2	5,089,291	4,903,198	96.3
	Female headed	1,486,748	1,481,962	99.7	1,455,989	1,365,591	93.8
	Total	6,753,580	6,707,232	99.3	6,545,280	6,268,789	95.8

Note: *Reference period is the First and Second Season of 2019.

Table 2- 15: Distribution of Ag HHs raising livestock by sex of the head and ZARDI*

ZARDI		First Season			Second Season		
		Total number of Ag HHs	Number of Ag HHs engaged in livestock production	% of Ag HHs engaged in livestock production	Total number of Ag HHs	Number of Ag HHs engaged in livestock production	% of Ag HHs engaged in livestock production
Abi	Male headed	361,334	305,201	84.5	341,511	294,479	86.2
	Female headed	141,280	106,688	75.5	132,336	101,227	76.5
	Total	502,614	411,889	81.9	473,847	395,706	83.5
Buginyanya	Male headed	1,187,284	913,898	77.0	1,126,530	810,658	72.0
	Female headed	255,710	163,683	64.0	234,469	124,250	53.0
	Total	1,442,993	1,077,581	74.7	1,360,999	934,908	68.7
Bulindi	Male headed	383,074	291,717	76.2	396,282	293,229	74.0
	Female headed	69,516	46,347	66.7	73,881	46,966	63.6
	Total	452,590	338,064	74.7	470,163	340,195	72.4
Kachwekano	Male headed	236,791	152,797	64.5	229,766	144,116	62.7
	Female headed	63,876	30,864	48.3	63,398	33,459	52.8
	Total	300,668	183,661	61.1	293,164	177,575	60.6
Mukono	Male headed	984,538	707,954	71.9	934,741	617,415	66.1
	Female headed	343,202	208,513	60.8	350,284	190,212	54.3
	Total	1,327,740	916,467	69.0	1,285,025	807,627	62.8
Ngetta	Male headed	596,901	492,825	82.6	590,664	528,717	89.5
	Female headed	156,298	116,908	74.8	153,279	119,946	78.3
	Total	753,199	609,733	81.0	743,943	648,663	87.2
Nabuin	Male headed	109,849	85,982	78.3	106,971	96,055	89.8
	Female headed	72,451	44,489	61.4	65,230	55,124	84.5

ZARDI	First Season			Second Season			
	Total number of Ag HHs	Number of Ag HHs engaged in livestock production	% of Ag HHs engaged in livestock production	Total number of Ag HHs	Number of Ag HHs engaged in livestock production	% of Ag HHs engaged in livestock production	
Serere	Total	182,300	130,471	71.6	172,201	151,179	87.8
	Male headed	279,944	254,478	90.9	278,967	253,165	90.8
	Female headed	78,222	68,613	87.7	77,043	64,044	83.1
Mbarara	Total	358,166	323,091	90.2	356,010	317,209	89.1
	Male headed	654,005	427,948	65.4	621,803	399,656	64.3
	Female headed	198,540	105,164	53.0	202,052	89,808	44.4
Rwebitaba	Total	852,545	533,112	62.5	823,855	489,464	59.4
	Male headed	473,113	377,258	79.7	462,056	363,568	78.7
	Female headed	107,652	71,405	66.3	104,017	68,508	65.9
	Total	580,765	448,663	77.3	566,073	432,076	76.3
Uganda	Male headed	5,266,832	4,010,058	76.1	5,089,291	3,801,057	74.7
	Female headed	1,486,748	962,676	64.8	1,455,989	893,545	61.4
	Total	6,753,580	4,972,734	73.6	6,545,280	4,694,602	71.7

Note: *Reference period is the First and Second Season of 2019.

Table 2- 16: Distribution of Ag HHs practicing aquaculture, by sex of the head and ZARDI *

ZARDI		First Season			Second Season		
		Total number of Ag HHs	Number of Ag HHs engaged in aquaculture	% of Ag HHs engaged in aquaculture	Total number of Ag HHs	Number of Ag HHs engaged in aquaculture	% of Ag HHs engaged in aquaculture
Abi	Male headed	361,334	0	-	341,511	0	-
	Female headed	141,280	0	-	132,336	0	-
	Total	502,614	0	-	473,847	0	-
Buginyanya	Male headed	1,187,284	0	-	1,126,530	0	-
	Female headed	255,710	0	-	234,469	0	-
	Total	1,442,994	0	-	1,360,999	0	-
Bulindi	Male headed	383,074	2,914	0.8	396,282	0	-
	Female headed	69,516	0	-	73,881	0	-
	Total	452,590	2,914	0.6	470,163	0	-
Kachwekano	Male headed	236,791	0	-	229,766	0	-
	Female headed	63,876	0	-	63,398	0	-
	Total	300,667	0	-	293,164	0	-
Mukono	Male headed	984,538	2,778	0.3	934,741	0	-
	Female headed	343,202	0	-	350,284	0	-
	Total	1,327,740	2,778	0.2	1,285,025	0	-
Ngetta	Male headed	596,901	0	-	590,664	0	-
	Female headed	156,298	0	-	153,279	0	-
	Total	753,199	0	-	743,943	0	-
Nabuin	Male headed	109,849	0	-	106,971	0	-
	Female headed	72,451	0	-	65,230	0	-

		First Season			Second Season		
ZARDI		Total number of Ag HHs	Number of Ag HHs engaged in aquaculture	% of Ag HHs engaged in aquaculture	Total number of Ag HHs	Number of Ag HHs engaged in aquaculture	% of Ag HHs engaged in aquaculture
Serere	Total	182,300	0	-	172,201	0	-
	Male headed	279,944	0	-	278,967	0	-
	Female headed	78,222	0	-	77,043	0	-
Mbarara	Total	358,166	0	-	356,010	0	-
	Male headed	654,005	0	-	621,803	0	-
	Female headed	198,540	0	-	202,052	0	-
Rwebitaba	Total	852,545	0	-	823,855	0	-
	Male headed	473,113	1,435	0.3	462,056	0	-
	Female headed	107,652	0	-	104,017	0	-
	Total	580,765	1,435	0.2	566,073	0	-
Uganda	Male headed	5,266,832	7,127	0.1	5,089,291	0	-
	Female headed	1,486,748	0	-	1,455,989	0	-
	Total	6,753,580	7,127	0.1	6,545,280	0	-

Note: *Reference period is the First and Second Season of 2019.

Table 2- 17: Distribution of Ag HHs practicing apiculture, by sex of the head and ZARDI *

ZARDI		Season One			Season Two		
		Total number of Ag HHs	Number of Ag HHs engaged in apiculture	% of Ag HHs engaged in apiculture	Total number of Ag HHs	Number of Ag HHs engaged in apiculture	% of Ag HHs engaged in apiculture
Abi	Male headed	359,450	14,898	4.1	334,308	3,325	1.0
	Female headed	140,273	1,799	1.3	128,836	0	-
	Total	499,722	16,698	3.3	463,144	3,325	0.7
Buginyanya	Male headed	1,093,818	5,939	0.5	1,058,853	3,490	0.3
	Female headed	232,538	0	-	220,532	0	-
	Total	1,326,355	5,939	0.4	1,279,386	3,490	0.3
Bulindi	Male headed	387,044	4,051	1.0	375,231	2,172	0.6
	Female headed	69,516	1,472	2.1	68,981	2,153	3.1
	Total	456,560	5,524	1.2	444,213	4,325	1.0
Kachwekano	Male headed	222,677	14,018	6.3	219,034	3,695	1.7
	Female headed	61,351	0	-	61,420	0	-
	Total	284,028	14,018	4.9	280,454	3,695	1.3
Mukono	Male headed	944,587	16,039	1.7	869,269	10,472	1.2
	Female headed	331,532	1,036	0.3	317,413	1,036	0.3
	Total	1,276,119	17,074	1.3	1,186,682	11,508	1.0
Ngetta	Male Headed	572,841	49,440	8.6	582,938	22,047	3.8
	Female Headed	156,298	4,630	3.0	149,759	0	-
	Total	729,139	54,070	7.4	732,697	22,047	3.0
Nabuin	Male headed	103,068	535	0.5	98,010	924	0.9
	Female headed	68,849	0	-	56,637	201	0.4
	Total	171,917	535	0.3	154,647	1,125	0.7
Serere	Male headed	266,190	2,424	0.9	271,518	0	-
	Female headed	76,148	0	-	75,182	0	-
	Total	342,338	2,424	0.7	346,700	0	-

		Season One			Season Two		
ZARDI		Total number of Ag HHs	Number of Ag HHs engaged in apiculture	% of Ag HHs engaged in apiculture	Total number of Ag HHs	Number of Ag HHs engaged in apiculture	% of Ag HHs engaged in apiculture
Mbarara	Male headed	631,913	15,107	2.4	604,822	8,123	1.3
	Female headed	188,966	595	0.3	194,775	0	-
	Total	820,879	15,702	1.9	799,597	8,123	1.0
Rwebitaba	Male headed	466,344	1,118	0.2	461,205	851	0.2
	Female headed	107,652	0	-	102,251	1,022	1.0
	Total	573,996	1,118	0.2	563,457	1,872	0.3
Uganda	Male Headed	5,266,832	123,570	2.4	5,089,201	55,099	1.1
	Female Headed	1,486,748	9,532	0.7	1,455,989	4,411	0.3
	Total	6,753,580	133,102	2.1	6,545,280	59,511	1.0

Note: *Reference period is the First and Second Season of 2019.

Table 2- 18: Distribution of Ag HHs engaged in forestry*, by sex of the head and ZARDI*

ZARDI		First Season			Second Season		
		Total Number of Ag HHs	Number of Ag HHs engaged in forestry	% of Ag HHs engaged in forestry	Total Number of Ag HHs	Number of Ag HHs engaged in forestry	% of Ag HHs engaged in forestry
Abi	Male headed	361,334	7,023	1.9	341,511	2,169	0.6
	Female headed	141,280	0	0	132,336	0	0
	Total	502,614	7,023	1.4	473,848	2,169	0.5
Buginyanya	Male headed	1,187,283	13,988	1.2	1,126,530	2,250	0.2
	Female headed	255,710	8,104	3.2	234,469	0	0
	Total	1,442,994	22,092	1.5	1,360,999	2,250	0.2
Bulindi	Male headed	383,074	29,351	7.7	396,282	19,244	4.9
	Female headed	69,516	6,965	10	73,881	2,618	3.5
	Total	452,590	36,315	8	470,162	21,862	4.6
Kachwekano	Male headed	236,791	48,510	20.5	229,766	27,747	12.1
	Female headed	63,877	8,889	13.9	63,398	2,886	4.6
	Total	300,667	57,400	19.1	293,163	30,632	10.4
Mukono	Male headed	984,538	108,724	11	934,741	90,122	9.6
	Female headed	343,202	34,178	10	350,284	19,314	5.5
	Total	1,327,740	142,902	10.8	1,285,025	109,436	8.5
Ngetta	Male headed	596,901	28,598	4.8	590,664	10,408	1.8
	Female headed	156,298	5,910	3.8	153,279	3,120	2
	Total	753,199	34,508	4.6	743,943	13,528	1.8
Nabuin	Male headed	109,849	0	0	106,971	0	0
	Female headed	72,451	0	0	65,230	0	0
	Total	182,300	0	0	172,201	0	0

		First Season			Second Season		
		Total Number of Ag HHs	Number of Ag HHs engaged in forestry	% of Ag HHs engaged in forestry	Total Number of Ag HHs	Number of Ag HHs engaged in forestry	% of Ag HHs engaged in forestry
ZARDI	Male headed	279,944	2,270	0.8	278,967	932	0.3
	Female headed	78,222	0	0	77,043	0	0
	Total	358,166	2,270	0.6	356,010	932	0.3
Serere	Male headed	654,005	4,655	0.7	621,803	4,818	0.8
	Female headed	198,540	889	0.4	202,052	0	0
	Total	852,545	5,544	0.7	823,854	4,818	0.6
Mbarara	Male headed	473,113	1,679	0.4	462,056	1,022	0.2
	Female headed	107,652	0	0	104,017	0	0
	Total	580,765	1,679	0.3	566,073	1,022	0.2
Rwebitaba	Male headed	5,266,832	244,797	4.6	5,089,291	158,712	3.1
	Female headed	1,486,748	64,935	4.4	1,455,989	27,937	1.9
	Total	6,753,580	309,732	4.6	6,545,280	186,650	2.9

Notes: * Table extracted from the PP First Season and Second Season data set. -No sampled unit under this category.

Table 2- 19: Distribution of Ag HHs, by type of enterprise by, sex of the head and ZARDI*

ZARDI	Sex	Only crop production		Crop production + other agricultural activities		Only other agricultural activities		Total	
		Number	%	Number	%	Number	%	Number	%
Abi	Male	54,249	15	307,085	85	0	-	361,334	100
	Female	34,593	24.5	106,688	75.5	0	-	141,280	100
	Total	88,842	17.7	413,773	82.3	0	-	502,614	100
Buginyanya	Male	184,111	15.5	994,974	83.8	8,199	0.7	1,187,283	100
	Female	71,640	28	184,071	72	0	-	255,710	100
	Total	255,751	17.7	1,179,045	81.7	8,199	0.6	1,442,993	100
Bulindi	Male	85,325	22.3	296,331	77.4	1,418	0.4	383,074	100
	Female	23,169	33.3	46,347	66.7	0	-	69,516	100
	Total	108,494	24	342,678	75.7	1,418	0.3	452,590	100
Kachwekano	Male	63,963	27	170,230	71.9	2,598	1.1	236,791	100
	Female	26,665	41.7	37,212	58.3	0	-	63,877	100
	Total	90,628	30.1	207,442	69	2,598	0.9	300,668	100
Mukono	Male	225,470	22.9	737,764	74.9	21,304	2.2	984,538	100
	Female	116,331	33.9	224,132	65.3	2,739	0.8	343,202	100
	Total	341,801	25.7	961,896	72.4	24,043	1.8	1,327,740	100
Ngetta	Male	81,028	13.6	514,003	86.1	1,871	0.3	596,901	100
	Female	38,424	24.6	117,874	75.4	0	-	156,298	100
	Total	119,452	15.9	631,877	83.9	1,871	0.2	753,199	100
Nabuin	Male	17,748	16.2	92,101	83.8	0	-	109,849	100
	Female	24,360	33.6	47,112	65	978	1.4	72,451	100
	Total	42,108	23.1	139,213	76.4	978	0.5	182,300	100

ZARDI	Sex	Only crop production		Crop production + other agricultural activities		Only other agricultural activities		Total	
		Number	%	Number	%	Number	%	Number	%
Serere	Male	11,713	4.2	268,231	95.8	0	-	279,944	100
	Female	7,535	9.6	70,687	90.4	0	-	78,222	100
	Total	19,248	5.4	338,918	94.6	0	-	358,166	100
Mbarara	Male	199,776	30.5	449,174	68.7	5,055	0.8	654,005	100
	Female	84,900	42.8	112,571	56.7	1,068	0.5	198,540	100
	Total	284,676	33.4	561,745	65.9	6,123	0.7	852,545	100
Rwebitaba	Male	87,630	18.5	384,365	81.2	1,118	0.2	473,113	100
	Female	36,247	33.7	71,405	66.3	0	-	107,652	100
	Total	123,877	21.3	455,770	78.5	1,118	0.2	580,765	100
Uganda	Male	1,011,011	19.2	4,214,259	80	41,562	0.8	5,266,832	100
	Female	463,863	31.2	1,018,100	68.5	4,786	0.3	1,486,748	100
	Total	1,474,874	21.8	5,232,359	77.5	46,347	0.7	6,753,580	100

Notes: *Table extracted from the PP First Season data set. -No sampled unit under this category.

Table 2- 20: Percent distribution of Ag HHs, by type of enterprise and main purpose*

Enterprise purpose	Crop production	Livestock production	Aquaculture production	Apiculture production	Agroforestry production
Only for sale	0.5	26.3	39.0	22.9	37.8
Mainly for sale with some own consumption	16.7	52.4	61.0	49.4	19.8
Mainly for own consumption and some for sale	68.4	18.4	-	13.8	24.3
Only for own consumption	14.4	3.0	-	13.9	18.1
Total	100	100	100	100	100

Notes: *Table generated from the post-planting data of the First Season. -No sampled unit under this category.

Table 2- 21: Percent distribution of Ag HHs, by enterprise type and sex of members involved *

SEX	Crop Production	Livestock production	Aquaculture production	Apiculture production	Agroforestry production
Only males	5.7	8.9	49.5	66.3	21.0
Only females	13.5	12.8	-	3.7	15.0
Mostly males	9.1	16.6	9.6	14.8	18.0
Mostly females	21.1	17.3	-	2.8	10.9
Men and women equally	50.5	44.4	40.9	12.5	35.1
Total	100	100	100	100	100

Notes: **Table generated from the post-planting data of the First Season. -No sampled unit under this category.*

Annex 3

NOTE: All the tables in this Annex were extracted from data collected in the First Season of the agricultural year 2019 and refer to the First Season.

Table 3- 1: Average number of parcels and average parcel size (Ha), by ZARDI

ZARDI	Average number of parcels				Total number of parcels				Average parcel size			
	Mean	SE*	Lower 95	Upper 95	Total	SE*	Lower 95	Upper 95	Mean	SE*	Lower 95	Upper 95
Abi	2.47	0.06	2.35	2.6	1,242,878	68,583	1,108,175	1,377,581	0.29	0.03	0.24	0.34
Buginyanya	1.95	0.04	1.86	2.04	2,819,900	116,529	2,591,026	3,048,773	0.39	0.02	0.35	0.42
Bulindi	1.73	0.06	1.62	1.84	794,416	58,259	679,990	908,841	1.07	0.15	0.78	1.36
Kachwekano	2.81	0.13	2.54	3.07	844,247	57,779	730,765	957,729	0.16	0.02	0.13	0.18
Mukono	1.8	0.04	1.72	1.89	2,396,531	131,539	2,138,177	2,654,884	0.76	0.09	0.59	0.93
Ngetta	2.45	0.07	2.32	2.58	1,853,349	103,459	1,650,146	2,056,552	1.05	0.11	0.85	1.26
Nabuin	2.09	0.05	1.98	2.19	380,908	31,940	318,176	443,641	0.56	0.04	0.48	0.64
Serere	1.83	0.06	1.71	1.94	657,733	31,922	595,035	720,432	0.77	0.06	0.65	0.89
Mbarara	2.23	0.07	2.1	2.37	1,916,022	133,024	1,654,751	2,177,292	0.67	0.16	0.36	0.98
Rwebitaba	1.93	0.06	1.82	2.05	1,122,050	82,501	960,012	1,284,088	0.4	0.02	0.36	0.45
Uganda	2.07	0.02	2.03	2.11	14,028,033	250,184	13,500,000	14,500,000	0.62	0.03	0.55	0.68

Notes: *Standard error (SE). Table extracted from the PP and PH First Season data set

Table 3- 2: Average number of parcels and average parcel size (Ha), by Sub-region

Sub-region	Average number of parcels				Total number of parcels				Average parcel size			
	Mean	SE*	Lower 95	Upper 95	Total	SE*	Lower 95	Upper 95	Mean	SE*	Lower 95	Upper 95
S. Buganda	1.72	0.05	1.62	1.81	1,365,777	76,315	1,215,887	1,515,667	0.57	0.05	0.47	0.68
N. Buganda	1.88	0.06	1.77	2	1,488,784	83,321	1,325,134	1,652,434	0.89	0.14	0.62	1.16
West Nile	2.47	0.06	2.35	2.6	1,242,878	68,583	1,108,175	1,377,581	0.29	0.03	0.24	0.34
Lango	1.89	0.05	1.79	2	843,592	44,802	755,597	931,586	0.75	0.03	0.69	0.81
Acholi	3.26	0.12	3.03	3.49	1,009,758	93,256	826,596	1,192,920	1.3	0.19	0.93	1.67
Kigezi	2.81	0.13	2.54	3.07	844,247	57,779	730,765	957,729	0.16	0.02	0.13	0.18
Bunyoro	1.73	0.06	1.62	1.84	794,416	58,259	679,990	908,841	1.07	0.15	0.78	1.36
Tooro	1.93	0.06	1.82	2.05	1,122,050	82,501	960,012	1,284,088	0.4	0.02	0.36	0.45
Busoga	1.67	0.04	1.58	1.76	1,172,544	68,208	1,038,579	1,306,510	0.47	0.03	0.42	0.53
Teso	1.83	0.06	1.71	1.94	657,733	31,922	595,035	720,432	0.77	0.06	0.65	0.89
Bukedi	1.98	0.06	1.87	2.09	742,303	42,645	658,544	826,061	0.37	0.03	0.31	0.42
Elgon	2.45	0.13	2.2	2.71	905,053	84,310	739,461	1,070,646	0.29	0.03	0.23	0.35
Karamoja	2.09	0.05	1.98	2.19	380,908	31,940	318,176	443,641	0.56	0.04	0.48	0.64
Ankole	2.42	0.07	2.28	2.57	1,457,992	72,533	1,315,531	1,600,452	0.68	0.21	0.28	1.08
Uganda	2.07	0.02	2.03	2.11	14,028,033	250,184	13,500,000	14,500,000	0.62	0.03	0.55	0.68

Note: *Standard Error Table extracted from the PP and PH First Season data set.

Table 3- 3: Average number of plots and average plot size (Ha)

ZARDI	Average number of plots per parcel				Total number of plots				Average plot size			
	Mean	SE*	Lower 95	Upper 95	Total	SE**	Lower 95	Upper 95	Mean	SE*	Lower 95	Upper 95
Abi	2	0.06	1.88	2.13	2,488,037	118,838	2,254,630	2,721,445	0.27	0.02	0.23	0.32
Buginyanya	1.78	0.04	1.71	1.85	5,002,529	187,857	4,633,562	5,371,497	0.37	0.02	0.34	0.41
Bulindi	2.93	0.11	2.71	3.16	2,294,658	163,646	1,973,244	2,616,072	0.85	0.08	0.69	1.01
Kachwekano	1.65	0.04	1.56	1.73	1,388,001	85,346	1,220,374	1,555,627	0.15	0.01	0.12	0.18
Mukono	2.07	0.06	1.96	2.18	4,900,780	273,993	4,362,634	5,438,926	0.58	0.03	0.51	0.65
Ngetta	2.51	0.07	2.37	2.64	4,625,260	208,271	4,216,199	5,034,321	0.96	0.07	0.84	1.09
Nabuin	1.26	0.04	1.18	1.35	481,024	43,747	395,102	566,946	0.51	0.03	0.45	0.56
Serere	3.43	0.14	3.16	3.7	2,240,104	103,537	2,036,749	2,443,460	0.74	0.06	0.63	0.85
Mbarara	1.86	0.04	1.78	1.94	3,533,047	232,665	3,076,074	3,990,020	0.65	0.16	0.34	0.96
Rwebitaba	2.3	0.09	2.12	2.49	2,584,316	165,224	2,259,802	2,908,831	0.39	0.02	0.35	0.43
Uganda	2.12	0.02	2.08	2.16	29,537,757	486,102	28,600,000	30,500,000	0.55	0.03	0.5	0.6

Notes: *Standard errors. Table extracted from the PP and PH First Season data set.

Table 3- 4: Percent distribution of Ag HHs, by number of parcels and ZARDI*

ZARDI	2 parcels or less	3 to 4 parcels	5 or more parcels	Total
Abi	57.3	39.8	2.9	100.0
Buginyanya	78.3	19.3	2.5	100.0
Bulindi	85.0	14.0	1.0	100.0
Kachwekano	50.7	38.6	10.7	100.0
Mukono	81.2	16.9	1.9	100.0
Ngetta	60.9	30.1	9.0	100.0
Nabuin	73.4	26.3	0.3	100.0
Serere	80.2	18.8	1.0	100.0
Mbarara	65.8	29.5	4.7	100.0
Rwebitaba	79.1	19.8	1.1	100.0
Uganda	73.0	23.6	3.4	100.0

Note: *Calculated from the post-planting and post-harvest data of First Season.

Table 3- 5: Percent distribution of Ag HHs, by number of plots and ZARDI*

ZARDI	Number of plots per parcel			Total
	1 or 2 plots	3 to 5 plots	6 or more plots	
Abi	76.3	20.5	3.2	100.0
Buginyanya	81.7	16.9	1.4	100.0
Bulindi	54.5	33.2	12.3	100.0
Kachwekano	86.1	13.1	0.8	100.0
Mukono	74.3	22.3	3.4	100.0
Ngetta	63.2	28.7	8.1	100.0
Nabuin	95.6	4.2	0.2	100.0
Serere	41.8	39.7	18.5	100.0
Mbarara	80.4	17.7	1.9	100.0
Rwebitaba	69.0	26.8	4.1	100.0
Uganda	73.6	22.0	4.4	100.0

Note: *Calculated from the post-planting and post-harvest data of First Season.

Table 3- 6: Total area, by use and ZARDI *

ZARDI	Holding size		Agricultural area		Planted area	
	Average	Total	Average	Total	Average	Total
Abi	0.72	361,885	0.64	319,625	0.63	314,431
Buginyanya	0.75	1,091,037	0.69	983,574	0.67	967,463
Bulindi	1.84	847,513	1.43	647,143	1.16	524,190
Kachwekano	0.44	131,071	0.39	116,752	0.36	106,673
Mukono	1.37	1,815,861	1.01	1,327,529	0.94	1,220,638
Ngetta	2.58	1,948,736	2.30	1,728,160	1.35	1,011,630
Nabuin	1.17	213,158	1.02	186,114	0.94	169,552
Serere	1.41	506,368	1.29	463,504	1.05	375,972
Mbarara	1.49	1,281,946	1.41	1,195,897	0.68	568,116
Rwebitaba	0.78	451,082	0.73	421,740	0.68	392,917
Uganda	1.28	8,648,657	1.10	7,390,038	0.84	5,651,581

Note: *Calculated from the post-planting and post-harvest data of First Season.

Table 3- 7: Percent distribution of Ag HHs, by size of the holding and ZARDI*

ZARDI	Size classes				Total
	<0.5 ha	0.5-1 ha	1-2 ha	Over 2 ha	
Abi	45.8	34.9	15.8	3.5	100.0
Buginyanya	50.6	28.5	15.0	5.9	100.0
Bulindi	32.3	23.6	25.2	18.9	100.0
Kachwekano	76.0	16.5	5.0	2.4	100.0
Mukono	39.0	26.3	17.2	17.5	100.0
Ngetta	5.9	21.8	36.9	35.5	100.0
Nabuin	24.5	34.6	28.2	12.7	100.0
Serere	17.1	27.7	36.9	18.3	100.0
Mbarara	50.0	26.9	13.2	9.9	100.0
Rwebitaba	39.8	35.5	20.2	4.5	100.0
Uganda	39.4	27.5	19.9	13.3	100.0

Note: *Calculated from the post-planting and post-harvest data of First Season.

Table 3- 8: Percent distribution of Ag HH, by size of the holding and Sub-region*

Sub-region	Size classes				Total
	<0.5 Ha	0.5-1 Ha	1-2 Ha	Over 2 Ha	
South Buganda	47.2	26.9	15.2	10.8	100
North Buganda	32.8	26.7	18.9	21.6	100
West Nile	45.8	34.9	15.8	3.5	100
Lango	7.4	30.6	44	18	100
Acholi	3.7	9.1	26.6	60.6	100
Kigezi	76	16.5	5	2.4	100
Bunyoro	32.3	23.6	25.2	18.9	100
Tooro	39.8	35.5	20.2	4.5	100
Busoga	49	26.7	17.2	7.1	100
Teso	17.1	27.7	36.9	18.3	100
Bukedi	50.3	32	13.9	3.8	100
Elgon	53.8	28.6	11.7	5.9	100
Karamoja	24.5	34.6	28.2	12.7	100
Ankole	52.1	25.9	12.1	9.9	100
Uganda	39.4	27.5	19.9	13.2	100

Note: *Calculated from the post-planting and post-harvest data of First Season.

Table 3- 9: Number, percentage and area (Ha) of parcels by use right and ZARDI*

ZARDI		Parcels owned	Parcels rented	Under other use rights	Total
Abi	Number	982,701	180,186	75,215	1,238,102
	Percentage	77.2	17.5	5.3	100.0
	Total area (Ha)	277,336	62,921	19,074	359,331
Buginyanya	Number	1,942,228	506,010	142,415	2,590,653
	Percentage	76.3	20.0	3.7	100.0
	Total area (Ha)	768,082	201,466	37,623	1,007,172
Bulindi	Number	485,217	203,803	82,369	771,389
	Percentage	69.7	14.4	15.8	100.0
	Total area (Ha)	580,286	120,158	131,512	831,956
Kachwekano	Number	653,512	91,006	65,494	810,012
	Percentage	85.2	10.1	4.7	100.0
	Total area (Ha)	105,074	12,406	5,830	123,310
Mukono	Number	1,535,732	400,379	342,518	2,278,628
	Percentage	77.9	11.8	10.3	100.0
	Total area (Ha)	1,373,906	208,577	181,926	1,764,409
Ngetta	Number	1,451,046	231,739	112,624	1,795,409
	Percentage	89.6	6.7	3.7	100.0
	Total area (Ha)	1,680,614	125,281	68,829	1,874,723
Nabuin	Number	340,810	10,579	14,660	366,049
	Percentage	90.1	2.6	7.4	100.0
	Total area (Ha)	181,696	5,186	14,839	201,721
Serere	Number	461,650	131,177	32,146	624,973
	Percentage	85.2	12.0	2.8	100.0
	Total area (Ha)	413,822	58,121	13,538	485,480
Mbarara	Number	1,364,902	318,844	156,395	1,840,141
	Percentage	90.2	4.8	5.0	100.0
	Total area (Ha)	1,131,066	59,790	62,766	1,253,623
Rwebitaba	Number	855,012	207,693	49,172	1,111,878
	Percentage	78.6	18.3	3.1	100.0
	Total area (Ha)	351,040	81,604	13,925	446,569
Uganda	Number	10,072,809	2,281,416	1,073,008	13,427,233
	Percentage	82.2	11.2	6.6	100.0
	Total Area (Ha)	6,862,922	935,509	549,862	8,348,293

Note: *Calculated from the post-planting data of First Season.

Table 3- 10: Number and percentage of parcels with a legally recognized document that certifies legal tenure rights*

ZARDI	Parcels with legal document		Parcels without a legal document		Don't know		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Abi	47,992	3.9	1,186,539	95.8	3,571	0.3	1,238,102	100.0
Buginyanya	663,358	25.6	1,848,720	71.4	78,575	3.0	2,590,653	100.0
Bulindi	299,653	38.8	446,838	57.9	24,898	3.2	771,389	100.0
Kachwekano	237,214	29.3	543,055	67.0	29,743	3.7	810,012	100.0
Mukono	1,178,913	51.7	783,131	34.4	316,583	13.9	2,278,628	100.0
Ngetta	203,841	11.4	1,578,894	87.9	12,674	0.7	1,795,409	100.0
Nabuin	17,372	4.7	346,165	94.6	2,512	0.7	366,049	100.0
Serere	89,389	14.3	481,474	77.0	54,110	8.7	624,973	100.0
Mbarara	793,839	43.1	991,250	53.9	55,052	3.0	1,840,141	100.0
Rwebitaba	495,530	44.6	557,428	50.1	58,920	5.3	1,111,878	100.0
Uganda	4,027,101	30.0	8,763,495	65.3	636,638	4.7	13,427,234	100.0

Note: *Calculated from the post-planting data of First Season.

Table 3- 11: Percent distribution of parcels, by type of legal document and Sub-region

Sub-region		Title deed	Certificate customary	Certificate occupancy	Certificate hereditary	Written sale agreement	Rental contract	Lease contract	Will	Other	Total
S. Buganda	N	145,577	-	7,211	16,221	549,575	9,637	4,119	22,617	-	754,956
	%	19.3	0	1	2.1	72.8	1.3	0.5	3	0	100
N. Buganda	N	122,635	-	6,420	-	516,579	34,158	-	11,542	-	691,334
	%	17.7	0	0.9	0	74.7	4.9	0	1.7	0	100
West Nile	N	1,662	5,971	-	917	39,443	-	-	-	-	47,992
	%	3.5	12.4	0	1.9	82.2	0	0	0	0	100
Lango	N	1,820	-	1,146	-	83,655	31,114	1,354	1,579	-	120,668
	%	1.5	0	0.9	0	69.3	25.8	1.1	1.3	0	100
Acholi	N	2,640	1,510	-	1,515	70,836	-	4,534	1,165	974	83,173
	%	3.2	1.8	0	1.8	85.2	0	5.5	1.4	1.2	100
Kigezi	N	5,980	626	-	18,683	205,468	2,132	-	4,324	-	237,214
	%	2.5	0.3	0	7.9	86.6	0.9	0	1.8	0	100
Bunyoro	N	2,587	2,036	400	-	252,268	25,150	4,657	10,636	1,920	299,653
	%	0.9	0.7	0.1	0	84.2	8.4	1.6	3.5	0.6	100
Tooro	N	6,738	7,517	-	-	458,895	2,945	-	19,435	-	495,530
	%	1.4	1.5	0	0	92.6	0.6	0	3.9	0	100
Busoga	N	10,572	5,316	17,110	20,152	314,035	5,730	1,963	11,510	-	386,388
	%	2.7	1.4	4.4	5.2	81.3	1.5	0.5	3	0	100
Teso	N	6,992	2,054	801	-	77,059	1,200	-	1,284	-	89,389
	%	7.8	2.3	0.9	0	86.2	1.3	0	1.4	0	100
Bukedi	N	4,021	16,545	23,756	698	31,013	-	-	-	-	76,033
	%	5.3	21.8	31.2	0.9	40.8	0	0	0	0	100
Elgon	N	-	3,184	-	-	196,286	1,468	-	-	-	200,938
	%	0	1.6	0	0	97.7	0.7	0	0	0	100
Karamoja	N	1,554	1,138	-	-	14,679	-	-	-	-	17,372
	%	8.9	6.6	0	0	84.5	0	0	0	0	100
Ankole	N	13,857	-	1,126	3,354	482,070	-	-	24,858	1,198	526,462
	%	2.6	0	0.2	0.6	91.6	0	0	4.7	0.2	100
Uganda	N	326,634	45,897	57,970	61,540	3,291,859	113,534	16,627	108,950	4,092	4,027,101
	%	8.1	1.1	1.4	1.5	81.7	2.8	0.4	2.7	0.1	100

Note: Calculated from the post-planting data of First Season.

Table 3- 12: Percent distribution of parcels, by tenure type and ZARDI*

ZARDI	Freehold	Leasehold	Mailo	Customary	Public land	Don't know	Total
Abi	0.0	0.1	0.0	99.2	0.6	0.0	100.0
Buginyanya	15.7	0.3	0.0	81.8	1.8	0.3	100.0
Bulindi	32.9	1.0	0.0	51.8	6.5	7.8	100.0
Kachwekano	2.1	0.3	0.2	91.8	1.5	4.1	100.0
Mukono	1.0	0.4	87.2	0.1	4.2	7.1	100.0
Ngetta	11.0	0.4	0.1	86.0	2.1	0.4	100.0
Nabuin	0.0	0.4	0.2	98.8	0.5	0.0	100.0
Serere	1.0	0.0	0.0	96.3	2.5	0.2	100.0
Mbarara	0.9	0.3	18.4	75.0	2.4	3.0	100.0
Rwebitaba	51.7	1.4	0.0	46.0	0.2	0.7	100.0
Uganda	10.8	0.4	17.2	66.8	2.3	2.5	100.0

Note: *Calculated from the post-planting data of First Season.

Table 3- 13: Percent distribution of parcels, by tenure type and Sub-region*

Sub-region	Freehold	Leasehold	Mailo	Customary	Public land	Not known	Total
South Buganda	2.6	0.9	81.2	0.3	3.3	11.6	100
North Buganda	0.1	0.2	89.7	0	5.4	4.6	100
West Nile	0	0.1	0	99.2	0.6	0	100
Lango	13.6	0.9	0	82.9	1.8	0.9	100
Acholi	8.8	0	0.2	88.6	2.4	0	100
Kigezi	2.1	0.3	0.2	91.8	1.5	4.1	100
Bunyoro	32.9	1	0	51.8	6.5	7.8	100
Tooro	51.7	1.4	0	46	0.2	0.7	100
Busoga	0.7	0.2	0	96.5	2.4	0.2	100
Teso	1	0	0	96.3	2.5	0.2	100
Bukedi	9.1	0.4	0	87.7	2.5	0.4	100
Elgon	42.1	0.4	0.1	56.5	0.3	0.5	100
Karamoja	0	0.4	0.2	98.8	0.5	0	100
Ankole	0.3	0	0	98.3	1.4	0.1	100
Uganda	10.8	0.4	17.2	66.8	2.3	2.5	100

Note: *Calculated from the post-planting data of First Season.

Annex 4

Table 4- 1: Percent distribution of crop plots by sex of the plot manager, by ZARDI

ZARDI	First Season			Second Season		
	Males only	Females only	Both	Males only	Females only	Both
Abi	2.8	4.9	92.3	3.4	5.2	91.4
Buginyanya	3.9	5.2	90.9	4.3	4.7	90.9
Bulindi	8.5	4.9	86.7	5.3	3.7	91.1
Kachwekano	3.3	6.2	90.5	1.8	6.7	91.6
Mukono	5.2	5.3	89.5	4.4	5.2	90.4
Ngetta	1.8	3.9	94.3	1.7	3.4	94.8
Nabuin	0.5	9.8	89.6	11.1	5.7	83.2
Serere	2.3	3.9	93.8	3	3.3	93.7
Mbarara	3.4	3.4	93.2	3.2	4.1	92.6
Rwebitaba	4.9	3.3	91.8	4.7	2.7	92.5
Uganda	4	4.7	91.3	3.8	4.4	91.9

Table 4- 2: Percentage and number of plots by cropping system, by ZARDI

ZARDI		First Season		Second Season	
		Pure	Mixed	Pure	Mixed
Abi	Percentage	57.5	42.5	85	15.1
	Number	1,134,210	826,999	1,091,173	194,518
Buginyanya	Percentage	51	49	65	35
	Number	2,000,075	1,899,576	1,959,112	1,049,983
Bulindi	Percentage	54.4	45.6	65.1	34.9
	Number	989,652	839,039	1,102,156	599,217
Kachwekano	Percentage	82.2	17.8	76.1	23.9
	Number	898,809	190,516	646,398	206,645
Mukono	Percentage	52	48	52.4	47.6
	Number	2,090,171	1,881,715	1,801,144	1,638,129
Ngetta	Percentage	68	32	86.3	13.7
	Number	2,087,234	958,080	1,964,148	310,983
Nabuin	Percentage	63.6	36.4	86.1	13.9
	Number	209,175	117,396	15,698	2,046
Serere	Percentage	51.6	48.4	81.5	18.5
	Number	914,729	634,111	1,008,354	215,026
Mbarara	Percentage	49.7	50.3	46	54
	Number	1,261,538	1,413,927	1,098,359	1,289,200
Rwebitaba	Percentage	56.2	43.8	55.3	44.7
	Number	1,046,575	910,205	965,550	799,566
Uganda	Percentage	56.4	43.6	64.9	35.1
	Number	12,632,168	9,671,564	11,652,093	6,305,314

Note: Based on post planting and post-harvest data.

Table 4- 3: Plot areas (Ha) by cropping system, by ZARDI*

ZARDI	First Season		Second Season	
	Pure	Mixed	Pure	Mixed
Abi	190,419	124,012	190,581	31,549
Buginyanya	517,023	450,440	487,746	235,815
Bulindi	333,211	190,979	370,459	151,464
Kachwekano	79,505	27,168	57,647	31,736
Mukono	572,539	648,098	533,288	603,917
Ngetta	640,263	371,367	541,654	119,137
Nabuin	98,846	70,705	3,037	560
Serere	213,521	162,451	220,537	47,003
Mbarara	224,154	343,961	195,502	326,720
Rwebitaba	202,997	189,921	192,031	177,270
Uganda	3,072,479	2,579,103	2,792,481	1,725,170

Note: Based on post planting and post-harvest data.

Table 4- 4: Percentage, number and areas (Ha) of plots in swampland, by ZARDI

ZARDI		First Season		Second Season	
		In swampland	Not in swampland	In swampland	Not in swampland
Abi	Percentage	4.1	95.9	3.5	96.5
	Area (Ha)	18,505	294,460	5,335	216,795
	Number	81,023	1,875,410	44,988	1,240,703
Buginyanya	Percentage	10.5	89.5	10	90
	Area (Ha)	129,014	770,714	102,375	621,185
	Number	381,450	3,244,197	302,285	2,706,810
Bulindi	Percentage	2.4	97.6	1.2	98.8
	Area (Ha)	14,401	498,260	11,501	510,423
	Number	42,281	1,752,546	20,912	1,680,461
Kachwekano	Percentage	3.4	96.6	2.7	97.3
	Area (Ha)	3,260	97,291	3,418	85,964
	Number	36,019	1,012,985	23,141	829,903
Mukono	Percentage	8.5	91.4	9.8	90.2
	Area (Ha)	86,498	1,096,079	109,831	1,027,374
	Number	330,076	3,509,133	337,432	3,101,842
Ngetta	Percentage	3.1	96.9	3.5	96.5
	Area (Ha)	44,889	911,616	25,930	634,862
	Number	91,036	2,835,679	80,156	2,194,975
Nabuin	Percentage	3.9	96.1	-	100
	Area (Ha)	7,928	151,467	-	3,597
	Number	12,038	296,961	-	17,744
Serere	Percentage	1.7	98.3	0.5	99.5

ZARDI	First Season		Second Season		
	In swampland	Not in swampland	In swampland	Not in swampland	
	Area (Ha)	9,614	352,164	1,462	266,077
	Number	25,488	1,478,171	6,395	1,216,984
	Percentage	2.6	97.4	3	97
Mbarara	Area (Ha)	15,476	535,567	16,213	506,009
	Number	66,362	2,535,205	71,756	2,315,803
	Percentage	1.7	98.3	3	97
Rwebitaba	Area (Ha)	7,046	381,965	10,772	358,530
	Number	32,110	1,902,618	52,995	1,712,121
	Percentage	5.1	94.9	5.2	94.8
Uganda	Area (Ha)	336,631	5,089,582	286,836	4,230,816
	Number	1,097,883	20,442,905	940,062	17,017,346

Note: -No sampled units under this category.

Table 4- 5: Percentage, number and area (Ha) of plots by land preparation method, by ZARDI

Table 4- 5a: Percentage, number and area (Ha) of plots by land preparation method, by ZARDI – First Season

ZARDI		Land preparation method				
		Ridge till	Mulch till	Planting holes/pits	No tillage	Conventional tillage
Abi	Percentage	6.3	0.1	0.6	0.2	92.9
	Area(Ha)	8,126	102	1,186	684	302,866
	Number	123,660	1,110	11,350	3,524	1,816,789
Buginyanya	Percentage	7.7	0.1	5.7	1.3	85.1
	Area(Ha)	120,704	5,895	34,385	10,614	727,444
	Number	280,836	4,891	206,028	47,986	3,085,058
Bulindi	Percentage	11.3	-	17.9	2.3	68.6
	Area(Ha)	21,223	-	96,248	20,761	374,429
	Number	202,793	-	320,468	40,699	1,230,867
Kachwekano	Percentage	19.1	3.3	2.9	7	67.7
	Area(Ha)	16,265	4,389	4,340	7,701	67,856
	Number	200,749	34,318	30,606	73,181	710,150
Mukono	Percentage	8.3	0.7	15.2	12	63.7
	Area(Ha)	44,263	11,151	247,644	171,888	707,632
	Number	318,652	28,682	583,886	461,000	2,446,989
Ngetta	Percentage	3.4	0	0.4	0.3	95.8
	Area(Ha)	15,394	134	2,023	1,764	937,190
	Number	100,778	660	11,069	9,629	2,804,578
Nabuin	Percentage	-	-	0.2	0.4	99.5
	Area(Ha)	-	-	152	376	158,867
	Number	-	-	535	1,136	307,328
Serere	Percentage	0.1	-	0.1	0.9	98.9
	Area(Ha)	503	-	303	1,880	359,092

ZARDI		Land preparation method				
		Ridge till	Mulch till	Planting holes/pits	No tillage	Conventional tillage
	Number	1,636	-	1,864	13,533	1,486,626
	Percentage	6	1.4	1.7	29.5	61.4
Mbarara	Area(Ha)	9,466	8,871	12,529	189,094	331,082
	Number	155,225	36,522	44,249	768,349	1,597,222
	Percentage	5.5	0.1	4.1	15.1	75.1
Rwebitaba	Area(Ha)	8,194	66	15,233	70,757	294,761
	Number	106,924	1,262	80,198	292,877	1,453,469
	Percentage	6.9	0.5	6	7.9	78.6
Uganda	Area(Ha)	244,140	30,608	414,042	475,518	4,261,220
	Number	1,491,253	107,445	1,290,255	1,711,914	16,939,076

Note: -No sampled units under this category.

Table 4- 5b: Percentage, number and area (ha) of plots by land preparation method, by ZARDI – Second Season

ZARDI		Land preparation method				
		Ridge till	Mulch till	Planting holes/pits	No tillage	Conventional tillage
Abi	Percentage	4.3	-	0.7	0.2	94.8
	Area (Ha)	3,238	-	932	591	217,369
	Number	55,550	-	8,907	2,185	1,219,049
Buginyanya	Percentage	14.8	0.1	4.3	3.6	77.2
	Area (Ha)	141,966	452	26,084	19,028	536,031
	Number	445,365	2,538	128,614	108,137	2,324,442
Bulindi	Percentage	11	0	37.7	1.9	49.4
	Area (Ha)	20,321	7	172,447	16,317	312,759
	Number	186,336	458	641,265	32,529	838,909
Kachwekano	Percentage	17.7	4.4	4.2	7.1	66.6
	Area (Ha)	10,509	4,948	2,661	7,066	64,198
	Number	151,100	37,802	35,790	60,526	567,825
Mukono	Percentage	3.3	0.5	10.5	17.3	68.4
	Area (Ha)	15,662	12,952	180,977	242,026	684,602
	Number	114,824	16,111	361,769	593,010	2,351,648
Ngetta	Percentage	4.8	-	0.2	0.3	94.7
	Area (Ha)	14,836	-	378	3,241	642,020
	Number	108,336	-	4,883	7,596	2,153,460
Nabuin	Percentage	-	4.3	4.1	4.3	87.4
	Area (Ha)	-	260	72	126	3,140
	Number	-	757	722	757	15,509
Serere	Percentage	0.1	-	0.1	0.3	99.5
	Area (Ha)	570	-	34	1,582	265,353
	Number	1,325	-	842	3,633	1,217,580

ZARDI		Land preparation method				
		Ridge till	Mulch till	Planting holes/pits	No tillage	Conventional tillage
Mbarara	Percentage	4.4	0.3	2	40.7	52.7
	Area (Ha)	8,460	2,274	11,832	226,791	272,865
	Number	105,544	6,903	46,721	971,118	1,257,274
Rwebitaba	Percentage	4.7	0	2.5	20.8	71.9
	Area (Ha)	5,770	224	10,187	84,471	268,650
	Number	83,089	851	44,852	367,547	1,268,778
Uganda	Percentage	7	0.4	7.1	12	73.6
	Area (Ha)	221,331	21,117	405,604	601,239	3,266,987
	Number	1,251,468	65,419	1,274,364	2,147,037	13,214,475

Note: -no sampled units under this category.

Table 4- 6: Percentage of Ag HHs using irrigation on at least one plot

Table 4- 6a: Percentage of Ag HHs using irrigation on at least one plot, by ZARDI

ZARDI	First Season	Second Season
	% Ag HHs	% Ag HHs
Abi	1.9	1.4
Buginyanya	2.1	2.7
Bulindi	4.1	2
Kachwekano	4.2	1.8
Mukono	5.6	4.2
Ngetta	1.1	1.5
Nabuin	0.4	-
Serere	2.8	1.8
Mbarara	3.5	2.3
Rwebitaba	0.9	1.2
Uganda	2.9	2.4

Note: -No sampled units under this category.

Table 4- 6b: Percentage of Ag HHs using irrigation on at least one plot, by sub-region

Sub-region	First Season	Second Season
	% Ag HHs	% Ag HHs
South Buganda	6.8	3.1
North Buganda	4.1	4.5
West Nile	1.9	1.4
Lango	1.2	1.0
Acholi	1.0	2.1
Kigezi	4.2	1.8
Bunyoro	4.1	2.0
Tooro	0.9	1.2
Busoga	1.6	2.9
Teso	2.8	1.8
Bukedi	1.1	2.0
Elgon	4.3	2.9
Karamoja	0.4	-
Ankole	2.9	2.6
Uganda	2.9	2.4

Note: -No sampled units under this category.

Table 4- 7: Irrigated area (Ha)**Table 4- 7a: Irrigated area (Ha), by ZARDI**

ZARDI	First Season	Second Season
	Area (Ha)	Area (Ha)
Abi	2,799	1,130
Buginyanya	3,879	7,974
Bulindi	5,573	2,356
Kachwekano	971	1,130
Mukono	38,441	17,159
Ngetta	2,944	3,186
Nabuin	247	-
Serere	2,501	1,491
Mbarara	4,380	2,802
Rwebitaba	1,871	602
Uganda	63,607	37,831

Note: -No sampled units under this category

Table 4- 7b: Irrigated area (Ha), by sub-region

Sub-region	First Season	Second Season
	Area (Ha)	Area (Ha)
South Buganda	22,493	7,070
North Buganda	18,194	10,665
West Nile	2,799	1,130
Lango	2,059	1,778
Acholi	885	1,408
Kigezi	971	1,130
Bunyoro	5,573	2,356
Tooro	1,871	602
Busoga	1,039	2,109
Teso	2,501	1,491
Bukedi	573	1,389
Elgon	2,266	4,476
Karamoja	247	-
Ankole	2,134	2,227
Uganda	63,607	37,831

Note: -No sampled units under this category.

Table 4- 8: Percent distribution of Ag HHs by type of seeds used, by ZARDI*

Table 4- 8a: Percent distribution of Ag HHs by type of seeds used, by ZARDI* – First Season

ZARDI	Traditional seeds			Improved seeds		
	Percentage	95% Confidence Interval		Percentage	95% Confidence Interval	
Abi	96.3	94.5	98.1	33.9	29.6	38.2
Buginyanya	95.3	93.9	96.7	28.2	25.4	30.9
Bulindi	97.6	96	99.2	29.5	24.9	34
Kachwekano	95	92.5	97.6	6.4	3.5	9.2
Mukono	91.1	89.1	93.2	34	30.6	37.4
Ngetta	98.2	97.3	99.2	39.1	35.4	42.7
Nabuin	86.5	82.4	90.6	6.4	3.6	9.2
Serere	99.5	98.8	100.2	16.2	12.5	19.8
Mbarara	93.9	92	95.8	10.5	7.6	13.4
Rwebitaba	96.3	94.8	97.9	12.9	9.7	16
Uganda	94.9	94.3	95.6	25.3	24.1	26.5

Notes: *Question was asked only if the household planted seeds during the agricultural season. The sum of the percentage of households using traditional seed and the percentage of households using improved seeds may exceed 100 because households use both types of seeds.

Table 4- 8b: Percent distribution of Ag HHs by type of seeds used, by ZARDI* – Second Season

ZARDI	Traditional seeds			Improved seeds		
	% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval	
Abi	72.7	68.4	77	13.5	10.2	16.8
Buginyanya	81.8	79.2	84.3	16	13.6	18.3
Bulindi	93.8	91	96.5	20.8	16.7	24.9
Kachwekano	94.9	92.3	97.6	11.2	7.7	14.7
Mukono	90.8	88.7	92.9	29.5	26.1	32.9
Ngetta	95.4	93.8	97	23.4	20.2	26.7
Nabuin	85.6	70.1	101	5.4	-4.9	15.8
Serere	94.7	92.4	97.1	8.1	5.4	10.7
Mbarara	93.6	91.4	95.7	9.7	7.1	12.2
Rwebitaba	93.1	90.6	95.6	17.8	14.2	21.5
Uganda	89.3	88.4	90.2	18.3	17.2	19.4

Notes: *Question was asked only if the household planted seeds during the agricultural season. The sum of the percentage of households using traditional seed and the percentage of households using improved seeds may exceed 100 because households use both types of seeds.

Table 4- 8c: Percent distribution of Ag HHs by type of seeds used, by sub-region* – First Season

Sub-region	Traditional seeds			Improved seeds		
	Percentage	95% Confidence Interval		Percentage	95% Confidence Interval	
South Buganda	85.6	82.2	89	30.4	25.8	35
North Buganda	95.7	93.8	97.5	35.8	31.5	40.2
West Nile	96.3	94.5	98.1	33.9	29.6	38.2
Lango	98.9	97.8	100	28.9	24.3	33.4
Acholi	97.3	95.5	99	54.4	48.6	60.2
Kigezi	95	92.5	97.6	6.4	3.5	9.2
Bunyoro	97.6	96	99.2	29.5	24.9	34
Tooro	96.3	94.8	97.9	12.9	9.7	16
Busoga	95.1	92.9	97.3	18.9	15	22.8
Teso	99.5	98.8	100.2	16.2	12.5	19.8
Bukedi	98	96.5	99.5	20.4	16.5	24.2
Elgon	92.5	89	95.9	57.1	51.3	62.9
Karamoja	86.5	82.4	90.6	6.4	3.6	9.2
Ankole	95.8	94.2	97.5	3.5	2	5
Uganda	94.9	94.3	95.6	25.3	24.1	26.5

Notes: *Question was asked only if the household planted seeds during the agricultural season. The sum of the percentage of households using traditional seed and the percentage of households using improved seeds may exceed 100 because households use both types of seeds.

Table 4- 8d: Percent distribution of Ag HHs by type of seeds used, by sub-region* – Second Season

Sub-region	Traditional seeds			Improved seeds		
	% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval	
S. Buganda	88.8	85.5	92.1	31.4	26.6	36.2
N. Buganda	92.8	90.5	95	25.9	21.9	30
West Nile	72.7	68.4	77	13.5	10.2	16.8
Lango	95.7	93.7	97.8	20.5	16.4	24.6
Acholi	94.8	92.2	97.4	28.1	22.8	33.3
Kigezi	94.9	92.3	97.6	11.2	7.7	14.7
Bunyoro	93.8	91	96.5	20.8	16.7	24.9
Tooro	93.1	90.6	95.6	17.8	14.2	21.5
Busoga	80.7	76.4	84.9	16.3	12.6	20.1
Teso	94.7	92.4	97.1	8.1	5.4	10.7
Bukedi	83.8	80	87.5	13.9	10.5	17.3
Elgon	81.6	77.1	86.1	17.6	12.9	22.3
Karamoja	85.6	70.1	101	5.4	-4.9	15.8
Ankole	94.5	92.6	96.4	4.5	2.8	6.1
Uganda	89.3	88.4	90.2	18.3	17.2	19.4

Table 4- 9: Percentage of plots where crop was planted with improved seeds, by crop

Table 4- 9a: Percentage of plots where maize was planted with improved seeds*

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	9.4	7.1	11.7	12	-4.9	28.8
Buginyanya	23.6	21.3	25.9	1.6	-1.5	4.6
Bulindi	15.7	12.9	18.5	2.6	-2.6	7.9
Kachwekano	3.9	0.5	7.4	7.3	-2.6	17.1
Mukono	26.6	23.4	29.9	-	-	-
Ngetta	11.6	9.4	13.8	7.3	0.4	14.2
Nabuin	10.4	5.8	14.9	-	-	-
Serere	5.8	3.9	7.8	<	<	<
Mbarara	10	6.6	13.3	-	-	-
Rwebitaba	5.7	3	8.3	50.9	23.8	78
Uganda	16.5	15.5	17.5	14.1	12.8	15.3

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9b: Percentage of plots where rice was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	16	0.9	31.1	12	-4.9	28.8
Buginyanya	3.1	-0.5	6.8	1.6	-1.5	4.6
Bulindi	-	-	-	2.6	-2.6	7.9
Kachwekano	<	<	<	7.3	-2.6	17.1
Mukono	12.1	-10	34.2	<	<	<
Ngetta	21.5	10.4	32.6	7.3	0.4	14.2
Nabuin	<	<	<	-	-	-
Serere	-	-	-	-	-	-
Mbarara	-	-	-	-	-	-
Rwebitaba	<	<	<	50.9	23.8	78
Uganda	8.1	4.5	11.7	7.2	3.3	11.1

Table 4- 9c: Percentage of plots where sorghum was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	0.9	-0.3	2.1	-	-	-
Buginyanya	-	-	-	-	-	-
Bulindi	6.6	-3.7	16.8	-	-	-
Kachwekano	-	-	-	-	-	-
Mukono	<	<	<	<	<	<
Ngetta	0.7	-0.3	1.7	0.9	-0.8	2.5
Nabuin	0.5	-0.2	1.1	<	<	<
Serere	0.5	-0.5	1.5	0.8	-0.3	1.8
Mbarara	-	-	-	-	-	-
Rwebitaba	-	-	-	-	-	-
Uganda	0.6	0.2	1	0.5	-0.1	1.1

Notes: *Question was asked only if the household planted seeds during the agricultural season.

'-No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9d: Percentage of plots where millet was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	-	-	-	-	-	-
Buginyanya	-	-	-	-	-	-
Bulindi	-	-	-	-	-	-
Kachwekano	-	-	-	-	-	-
Mukono	-	-	-	-	-	-
Ngetta	0.3	-0.3	0.8	0.9	-0.9	2.8
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	<	<	<	0.5	-0.4	1.4
Rwebitaba	-	-	-	-	-	-
Uganda	0.1	-0.1	0.3	0.3	-0.1	0.8

Notes: *Question was asked only if the household planted seeds during the agricultural season.

^No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9e: Percentage of plots where soya beans was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	12.2	0.7	23.7	28.6	1.3	56
Buginyanya	3.7	-0.1	7.6	8.8	3.9	13.7
Bulindi	6.8	-6.1	19.6	-	-	-
Kachwekano	<	<	<	<	<	<
Mukono	-	-	-	4.9	-4.5	14.2
Ngetta	4.6	2.5	6.8	5.7	2.6	8.8
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	-	-	-	-	-	-
Rwebitaba	4.1	-3.9	12.1	-	-	-
Uganda	4.4	2.7	6.1	6.1	3.9	8.4

Notes: *Question was asked only if the household planted seeds during the agricultural season.

'-No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9f: Percentage of plots where beans was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	3.5	1.2	5.7	0.4	-0.4	1.3
Buginyanya	1.3	0.4	2.1	4	1.8	6.3
Bulindi	1.7	0.3	3.1	1.3	0.2	2.3
Kachwekano	0.5	-0.2	1.1	2.3	1	3.5
Mukono	3.2	1.7	4.6	4.1	2.2	6.1
Ngetta	0.3	-0.3	0.8	-	-	-
Nabuin	4.2	-1.5	10	-	-	-
Serere	-	-	-	-	-	-
Mbarara	0.5	-0.1	1	1	0.2	1.7
Rwebitaba	0.4	-0.2	1	0.4	-0.1	0.9
Uganda	1.4	1	1.9	2.1	1.5	2.7

Notes: *Question was asked only if the household planted seeds during the agricultural season.

Table 4- 9g: Percentage of plots where groundnuts were planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	2.8	1	4.6	-	-	-
Buginyanya	3	1.1	4.8	3.3	-1.5	8.1
Bulindi	-	-	-	1.4	-0.5	3.4
Kachwekano	1.4	-1.3	4.1	-	-	-
Mukono	0.6	-0.6	1.9	0.7	-0.7	2.2
Ngetta	1	-0.1	2.1	0.3	-0.3	0.9
Nabuin	-	-	-	-	-	-
Serere	1.3	0.2	2.5	<	<	<
Mbarara	-	-	-	0	.	.
Rwebitaba	-	-	-	1.2	-1.1	3.5
Uganda	1.2	0.8	1.7	0.9	0.2	1.7

Notes: *Question was asked only if the household planted seeds during the agricultural season.

'-No sampled units under this category. <insufficient number of sampled units under this category.

Table 4- 9h: Percentage of plots where simsim was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	3.4	-0.8	7.6	-	-	-
Buginyanya	-	-	-	-	-	-
Bulindi	-	-	-	<	<	<
Kachwekano	-	-	-	-	-	-
Mukono	<	<	<	<	<	<
Ngetta	1.5	-0.1	3.1	1.2	0	2.4
Nabuin	-	-	-	-	-	-
Serere	2.8	-2.6	8.1	5.4	-1.9	12.6
Mbarara	-	-	-	-	-	-
Rwebitaba	-	-	-	<	<	<
Uganda	1.6	0.4	2.9	1.4	0.3	2.6

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9i: Percentage of plots where Irish potatoes were planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	9.3	-8.1	26.7	<	<	<
Buginyanya	62.1	43.3	80.9	46.9	13.6	80.1
Bulindi	2.7	-2.5	7.9	-	-	-
Kachwekano	12	4.9	19	15.6	8.2	22.9
Mukono	12.3	3.1	21.5	25.5	6.6	44.5
Ngetta	<	<	<	-	-	-
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	1.2	-1.1	3.4	13.5	2.4	24.5
Rwebitaba	0.8	-0.7	2.3	2.2	0	4.4
Uganda	9.3	6.4	12.3	10	6.7	13.4

Notes: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9j: Percentage of plots where sweet potatoes were planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	6.4	2.8	10	10.2	3.8	16.7
Buginyanya	0.9	0	1.9	1.2	0.2	2.2
Bulindi	1.2	-0.5	2.8	-	-	-
Kachwekano	-	-	-	2.4	-0.5	5.4
Mukono	4.3	2.4	6.3	1	0.1	1.9
Ngetta	0.5	-0.5	1.6	-	-	-
Nabuin	-	-	-	<	<	<
Serere	-	-	-	0.6	-0.6	1.9
Mbarara	0.7	-0.7	2.1	0.9	-0.8	2.5
Rwebitaba	0.8	-0.7	2.3	0.9	-0.8	2.5
Uganda	2	1.4	2.7	1.3	0.8	1.8

Notes: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9k: Percentage of plots where cassava was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	6.3	4.7	7.8	2.8	1.6	4
Buginyanya	2.4	1.3	3.5	3.3	2	4.7
Bulindi	4.3	2.6	5.9	2.4	0.9	4
Kachwekano	-	-	-	-	-	-
Mukono	3.8	2.3	5.2	0.6	0	1.2
Ngetta	17.2	14.1	20.3	2.9	1.4	4.4
Nabuin	<	<	<	-	-	-
Serere	1.6	0.5	2.7	0.7	0	1.5
Mbarara	0.8	-0.7	2.3	-	-	-
Rwebitaba	0.2	-0.2	0.5	0.3	-0.3	0.8
Uganda	4.8	4.2	5.5	1.9	1.5	2.4

Note: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. < Insufficient number of sampled units under this category.

Table 4- 9I: Percentage of plots where banana-food was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	<	<	<	-	-	-
Buginyanya	0.2	-0.1	0.5	0.7	0	1.4
Bulindi	-	-	-	1.1	0	2.1
Kachwekano	-	-	-	0.5	-0.5	1.5
Mukono	2.3	1.2	3.5	1.9	0.9	2.9
Ngetta	<	<	<	-	-	-
Nabuin	<	<	<	<	<	<
Serere	<	<	<	-	-	-
Mbarara	0.8	0.2	1.5	0.4	-0.1	0.9
Rwebitaba	-	-	-	0.2	-0.2	0.5
Uganda	0.9	0.5	1.3	0.9	0.5	1.2

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 9m: Percentage of plots where coffee arabica old was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	-	-	-	-	-	-
Buginyanya	2	0.5	3.5	0.2	-0.2	0.7
Bulindi	<	<	<	19.1	-5.4	43.7
Kachwekano	-	-	-	0	.	.
Mukono	<	<	<	<	<	<
Ngetta	-	-	-	<	<	<
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	<	<	<	-	-	-
Rwebitaba	4	1	7.1	0.6	-0.6	1.8
Uganda	2.6	1.2	3.9	0.6	0	1.2

Note: * Question was asked only if the household planted seeds during the agricultural season

. -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 9n: Percentage of plots where coffee robusta old was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	-	-	-	<	<	<
Buginyanya	4.2	0.5	8	0.8	-0.8	2.4
Bulindi	1	-0.4	2.4	6.9	0.8	13.1
Kachwekano	1.1	-1	3.2	0	.	.
Mukono	6	3.8	8.3	6.6	4.4	8.8
Ngetta	-	-	-	<	<	<
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	2.7	0.8	4.5	2	0.4	3.7
Rwebitaba	<	<	<	1.9	-1.8	5.7
Uganda	4.2	3	5.5	4.2	3	5.4

Notes: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. < insufficient number of sampled units under this category

Table 4- 9o: Percentage of plots where coffee arabica new was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	<	<	<	<	<	<
Buginyanya	<	<	<	<	<	<
Bulindi	<	<	<	25	5	45
Kachwekano	<	<	<	-	-	-
Mukono	-	-	-	-	-	-
Ngetta	-	-	-	-	-	-
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	<	<	<	-	-	-
Rwebitaba	<	<	<	7.7	-2.8	18.2
Uganda	4.3	-0.7	9.4	10.9	2.8	18.9

Note: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 9p: Percentage of plots where coffee robusta clonal was planted with improved seeds

ZARDI	First Season			Second Season		
	% plots	95% Confidence Interval		% plots	95% Confidence Interval	
Abi	-	-	-	-	-	-
Buginyanya	<	<	<	11.2	-4	26.4
Bulindi	9.2	1.2	17.2	6	-1.6	13.6
Kachwekano	-	-	-	-	-	-
Mukono	28.8	21.2	36.4	22.4	14.7	30
Ngetta	-	-	-	-	-	-
Nabuin	-	-	-	-	-	-
Serere	-	-	-	-	-	-
Mbarara	<	<	<	3.1	-3	9.2
Rwebitaba	<	<	<	<	<	<
Uganda	19.6	14.6	24.6	16.00%	11.2	22.3

Notes: *Question was asked only if the household planted seeds during the agricultural season. -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 10: Quantity of seeds applied (Kg), by ZARDI

Table 4- 10a: Quantity of maize seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	1.5	1.2	9.9	11.8
Buginyanya	5	5	14.7	13.1
Bulindi	7	8	14.2	12.5
Kachwekano	2.2	1	30.8	22.8
Mukono	5.5	5	17.9	17
Ngetta	3.5	4	7	5.7
Nabuin	5	<	11.3	<
Serere	3	2	8.8	7.7
Mbarara	2	2.2	21.9	21.7
Rwebitaba	3	4	17.4	17.6
Uganda	4	4	13.7	14

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category

Table 4- 10b: Quantity of rice seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	18	<	60.8	<
Buginyanya	30	16	37.5	26.3
Bulindi	54	24	82.4	35.6
Kachwekano	<	50	<	94.3
Mukono	70	<	76.8	<
Ngetta	50	30	48.9	19.5
Nabuin	<	-	<	-
Serere	20	6	23.4	16
Mbarara	-	-	-	-
Rwebitaba	<	30	<	53.4
Uganda	35	24	40.8	32.9

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category

Table 4- 10c: Quantity of sorghum seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	5.1	34	36.4	24.1
Buginyanya	1.4	1.8	9.5	7.5
Bulindi	1.8	3	14.1	12.8
Kachwekano	4.5	3	7.9	27
Mukono	0.9	<	6.5	<
Ngetta	5.1	5	10	11.8
Nabuin	13.5	<	9.4	<
Serere	1.9	3	6.3	7.2
Mbarara	3.6	3.6	16	15.4
Rwebitaba	2.7	3.6	15.5	16.4
Uganda	3.6	3.4	11.3	9.8

Notes: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 10d: Quantity of millet seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	<	3.4	<	3.1
Buginyanya	3	1.8	10.2	<
Bulindi	1	3	9.1	3.5
Kachwekano	3	3	19.9	23.2
Mukono	2	<	9.4	7
Ngetta	11.4	5	15.7	11.3
Nabuin	4	<	7.6	-
Serere	25	3	7.2	4.8
Mbarara	<	3.6	<	16.5
Rwebitaba	3	2.5	15.5	17.8
Uganda	4	3.4	10.8	14.4

Notes: * Question was asked only if the household planted seeds during the agricultural season.

-No one sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 10e: Quantity of soya beans seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	6.3	3.4	65.1	50.3
Buginyanya	3.5	1.8	19.8	16.9
Bulindi	5	3	16	29.6
Kachwekano	<	3	<	<
Mukono	2	<	32.1	32.9
Ngetta	27	5	33.8	26.3
Nabuin	-	<	-	-
Serere	5	3	16.7	15
Mbarara	2	36	31.3	22.2
Rwebitaba	2.5	3.6	24	24.9
Uganda	10	3.4	25.8	21.4

Notes: * Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category

Table 4- 10f: Quantity of groundnuts seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	27	3.4	125.4	107.5
Buginyanya	10	1.8	38.8	26.9
Bulindi	11.5	3	54.1	33.1
Kachwekano	10	3	59.3	36.9
Mukono	5	<	38.1	39.2
Ngetta	18	5	23.3	24.2
Nabuin	11.4	<	20.5	-
Serere	16	3	28.6	<
Mbarara	8	3.6	45.4	32.3
Rwebitaba	10	3.6	41.5	33.3
Uganda	10	3.4	40.3	36

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. < insufficient number of sampled units under this category.

Table 4- 10g: Quantity of simsim seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	2.7	3.4	5.5	6.1
Buginyanya	0.5	1.8	5.4	3.4
Bulindi	2.5	3	10	<
Kachwekano	-	3	-	-
Mukono				
Ngetta	3.5	5	5.3	4.3
Nabuin	5	<	8.5	-
Serere	2	3	5.8	7.4
Mbarara	-	3.6	-	-
Rwebitaba	3	3.6	4.8	8.5
Uganda		3.4	5.5	4.8

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 10h: Quantity of beans seeds applied (Kg), by ZARDI*

ZARDI	Median quantity of seeds applied (Kg/Holding)		Median quantity of seeds per land unit (Kg/Acre) (seeding rate)	
	First Season	Second Season	First Season	Second Season
Abi	9	3.4	53.3	35.2
Buginyanya	8	1.8	40.3	38.4
Bulindi	18	3	53.2	42.3
Kachwekano	10	3	67.7	54.7
Mukono	10	<	44.5	40.7
Ngetta	6	5	13.4	7.2
Nabuin	4	<	13.3	-
Serere	6	3	23.4	12
Mbarara	10.5	3.6	60.5	55.5
Rwebitaba	10	3.6	51.7	40.8
Uganda	10	3.4	47	43.8

Notes: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11: Average amount spent on seeds (UGX) by crop, by ZARDI*

Table 4- 11a: Average amount spent on maize seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season			
	Average amount (UGX)			Average amount (UGX)			
	Average	95% Confidence Interval		Average	95% Confidence Interval		
Abi	569	-		708	-	239	651
Buginyanya	4,462	3,284	5,641	2,183	1,293	3,073	
Bulindi	1,412	660	2,164	1,856	1,021	2,691	
Kachwekano	531	143	918	895	509	1,281	
Mukono	1,470	1,167	1,773	1,299	934	1,664	
Ngetta	1,547	1,065	2,030	1,926	1,213	2,640	
Nabuin	6,465	3,092	9,839	-	-	-	
Serere	1,903	1,348	2,458	464	179	750	
Mbarara	313	141	485	479	205	752	
Rwebitaba	435	236	634	360	203	518	
Uganda	2,045	1,726	2,364	1,321	1,084	1,557	

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11b: Average amount spent on rice seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	5,830	-	10,800	-	-1,320	11,509
Buginyanya	9,554	4,041	15,068	8,435	2,001	14,868
Bulindi	9,715	1,040	18,390	21,100	9,611	32,590
Kachwekano	<	<	<	8,926	-1,616	19,468
Mukono	54,633	-6,630	115,895	<	<	<
Ngetta	15,770	8,230	23,311	14,673	2,084	27,261
Nabuin	<	<	<	-	-	-
Serere	6,254	2,688	9,819	7,381	-2,014	16,776
Mbarara	-	-	-	-	-	-
Rwebitaba	<	<	<	4,005	-1,172	9,182
Uganda	13,287	8,269	18,305	10,149	6,233	14,065

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11c: Average amount spent on sorghum seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	344	254	434	264	144	384
Buginyanya	368	160	575	411	103	719
Bulindi	624	65	1,183	348	105	91
Kachwekano	608	453	763	657	2	1,312
Mukono	600	70	1,270			
Ngetta	264	115	413	159	104	214
Nabuin	4,723	3,700	5,745	<	<	<
Serere	748	504	992	335	186	485
Mbarara	440	190	689	489	-220	1,199
Rwebitaba	973	41	1,904	674	343	1,006
Uganda	1,067	887	1,247	333	238	428

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 - No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11d: Average amount spent on millet seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	123	-5	250	735	226	1,245
Buginyanya	920	565	1,275	-	-	-
Bulindi	1,296	379	2,213	1,039	429	1,649
Kachwekano	1,202	46	2,358	864	587	1,140
Mukono	960	344	1,575	1,265	90	2,440
Ngetta	331	212	449	193	89	297
Nabuin	3,275	617	5,934	-	-	-
Serere	939	689	1,189	524	215	834
Mbarara	<	<	<	408	257	559
Rwebitaba	723	-110	1,557	858	445	1,270
Uganda	733	593	874	550	443	658

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11e: Average amount spent on soya beans seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	1,014	564	1,464	1,294	68	2,520
Buginyanya	3,902	1,231	6,572	1,331	967	1,696
Bulindi	812	213	1,412	3,954	-1,548	9,455
Kachwekano	-	-	-	<	<	<
Mukono	1,101	462	1,740	1,059	314	1,803
Ngetta	7,874	5,352	10,397	2,322	1,305	3,340
Nabuin	-	-	-	-	-	-
Serere	3,236	770	5,702	3,165	503	5,827
Mbarara	927	86	1,769	1,337	-143	2,817
Rwebitaba	2,481	1,657	3,305	1,207	409	2,005
Uganda	5,105	3,711	6,499	1,989	1,431	2,546

Notes: *Question was asked only if the household planted seeds during the agricultural season.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11f: Average amount spent on beans seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	15,041	10,601	19,481	7,832	3,716	11,948
Buginyanya	2,600	2,100	3,099	2,544	1,594	3,494
Bulindi	5,248	2,447	8,049	7,219	4,261	10,177
Kachwekano	1,573	1,070	2,076	1,873	1,429	2,317
Mukono	2,765	2,111	3,419	2,787	1,841	3,733
Ngetta	5,470	3,446	7,494	3,282	853	5,712
Nabuin	5,790	1,307	10,272	-	-	-
Serere	9,179	2,165	16,192	4,167	898	9,232
Mbarara	1,917	1,308	2,527	1,862	1,299	2,425
Rwebitaba	1,934	1,453	2,415	1,909	1,464	2,355
Uganda	3,604	3,131	4,078	3,011	2,536	3,487

Notes: *Question was asked only if the household planted seeds during the agricultural season.
 -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11g: Average amount spent on groundnuts seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	9,245	6,874	11,617	7,980	5,867	10,093
Buginyanya	20,903	6,094	35,712	1,821	1,221	2,420
Bulindi	3,283	1,556	5,010	5,714	1,429	9,999
Kachwekano	2,410	1,771	3,048	3,328	1,686	4,970
Mukono	3,038	1,777	4,298	2,263	1,253	3,273
Ngetta	16,767	11,841	21,692	16,241	7,447	15,035
Nabuin	8,445	2,511	14,378	-	-	-
Serere	7,786	5,642	9,931	<	<	<
Mbarara	1,931	1,090	2,772	1,554	834	2,275
Rwebitaba	2,983	1,869	4,097	2,287	1,773	2,801
Uganda	8,648	6,081	11,216	4,957	3,769	6,144

Notes: *Question was asked only if the household planted seeds during the agricultural season.

- no sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 11h: Average amount spent on simsim seeds (UGX), by ZARDI*

ZARDI	First Season			Second Season		
	Average amount (UGX)			Average amount (UGX)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	2,663	276	5,050	1,379	1,106	1,652
Buginyanya	1,629	730	2,528	840	-320	2,001
Bulindi	1,826	841	2,811	<	<	<
Kachwekano	-	-	-	-	-	-
Mukono	<	<	<	<	<	<
Ngetta	3,089	579	5,598	1,563	1,144	1,981
Nabuin	13,842	1,833	25,852	-	-	-
Serere	1213	716	1709	2,029	1,079	2,978
Mbarara	-	-	-	-	-	-
Rwebitaba	2,690	1,437	3,944	<	<	<
Uganda	2,736	1,558	3,914	1,535	1,251	1,820

Notes: *Question was asked only if the household planted seeds during the agricultural season.

- no sampled units under this category. <insufficient number of sampled units under this category

Table 4- 12: Average value of seeds per unit of land (UGX/Acre) by crop, by ZARDI*

Table 4- 12a: average value of maize seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	14,477	12,055	16,899	29,052	-3,643	61,748
Buginyanya	629,136	-541,273	1,799,545	28,017	12,468	43,565
Bulindi	13,262	3,487	23,037	14,623	-3	29,250
Kachwekano	56,117	20,089	92,144	40,488	31,065	49,911
Mukono	30,072	19,836	40,308	16,946	14,516	19,375
Ngetta	11,623	2,544	20,702	6,362	5,487	7,238
Nabuin	30,696	17,383	44,009	<	<	<
Serere	8,466	5,848	11,084	7,227	6,059	8,394
Mbarara	23,889	20,009	27,769	76,495	-8,308	161,298
Rwebitaba	12,830	10,453	15,207	9,953	4,744	15,162
Uganda	168,337	-116,890	453,564	26,048	13,549	38,547

Notes: *Question was asked only if the household planted seeds during the agricultural season.

**The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12b: Average value of rice seeds per unit of land (UGX/acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	214,711	72,523	356,899	33,896	7,978	59,815
Buginyanya	265,358	172,154	358,561	44,675	10,937	78,413
Bulindi	235,357	42,273	428,441	44,471	29,896	59,045
Kachwekano	<	<	<	30,801	-2,596	64,197
Mukono	175,712	21,000	330,424	<	<	<
Ngetta	2,369,084	-1,426,314	6,164,482	21,996	10,143	33,850
Nabuin	<	<	<	-	-	-
Serere	124,636	3,250	246,023	51,894	26,536	77,252
Mbarara	-	-	-	-	-	-
Rwebitaba	<	<	<	13,059	-3,498	29,616
Uganda	652,622	-135,441	1,440,685	35,044	20,188	49,900

Notes: *Question was asked only if the household planted seeds during the agricultural season.

**The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12c: Average value of sorghum seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	6,071	4,727	7,415	6,563	1,947	11,179
Buginyanya	8,765	6,835	10,695	6,110	3,623	8,597
Bulindi	51,660	-25,884	129,205	19,544	-4,963	44,051
Kachwekano	15,271	13,209	17,334	32,364	19,315	45,414
Mukono	46,509	-12,568	105,586	27,955	19,293	36,616
Ngetta	8,500	2,418	14,581	1,751	1,059	2,444
Nabuin	28,614	17,787	39,442	<	<	<
Serere	5,752	4,129	7,375	7,466	1,300	13,632
Mbarara	9,144	4,346	13,943	14,280	9,379	19,181
Rwebitaba	8,654	6,210	11,099	8,065	4,492	11,637
Uganda	12,930	9,963	15,897	7,664	4,898	10,429

Notes: *Question was asked only if the household planted seeds during the agricultural season.

**The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12d: Average value of millet seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	4,852	1,423	8,281	12,579	-1,830	26,989
Buginyanya	14,497	7,754	21,240	6,882	3,296	10,468
Bulindi	11,278	6,937	15,620	29,236	6,592	51,880
Kachwekano	11,053	5,446	16,660	182,488	-149,459	514,435
Mukono	16,373	10,214	22,532	25,892	15,066	36,718
Ngetta	2,932	1,014	4,849	3,687	946	6,429
Nabuin	23,289	4,153	42,426	-	-	-
Serere	5,576	1,805	9,347	12,612	8,219	17,006
Mbarara	<	<	<	16,057	11,553	20,561
Rwebitaba	7,454	3,483	11,425	14,195	11,081	17,308
Uganda	7,994	5,708	10,280	37,512	-8,323	83,347

Notes: *Question was asked only if the household planted seeds during the agricultural season. **The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self produced seeds or seeds received for free. -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12e: Average value of soya beans seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	17,712	11,381	24,043	131,244	-60,232	322,721
Buginyanya	24,477	16,015	32,938	16,864	10,488	23,239
Bulindi	22,819	6,884	38,754	106,930	996	212,865
Kachwekano	<	<	<	<	<	<
Mukono	32,239	8,734	55,745	24,822	12,425	37,220
Ngetta	160,562	88,773	232,351	10,279	6,154	14,404
Nabuin	-	-	-	-	-	-
Serere	54,789	-40,437	150,016	14,569	9,492	19,647
Mbarara	65,772	25,748	105,796	62,325	21,543	103,108
Rwebitaba	37,460	10,866	64,054	24,371	15,342	33,400
Uganda	89,422	55,997	122,848	22,580	14,762	30,399

Notes: *Question was asked only if the household planted seeds during the agricultural season.

**The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12f: Average value of beans seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	1,922,358	1,456,441	2,388,275	72,185	51,218	93,153
Buginyanya	171,987	-55,932	399,906	34,522	23,817	45,228
Bulindi	168,268	23,670	312,866	31,879	21,333	42,424
Kachwekano	68,334	24,391	112,276	36,285	24,224	48,346
Mukono	55,225	22,303	88,146	30,723	27,187	34,258
Ngetta	180,826	70,948	290,705	9,127	5,705	12,550
Nabuin	186,390	53,410	319,369	-	-	-
Serere	168,345	1,773	334,916	24,096	3,852	44,339
Mbarara	126,242	29,622	222,862	52,023	18,391	85,655
Rwebitaba	34,411	12,450	56,372	26,480	19,399	33,560
Uganda	201,320	152,670	249,969	36,295	28,328	44,263

Notes: *Question was asked only if the household planted seeds during the agricultural season.

**The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12g: Average value of groundnuts seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	1,346,492	1,138,339	1,554,646	129,000	82,743	175,257
Buginyanya	51,943	40,256	63,630	34,260	19,688	48,831
Bulindi	81,001	17,214	144,788	601,534	447,802	1,650,870
Kachwekano	27,322	22,407	32,238	52,593	38,911	66,275
Mukono	106,705	47,447	165,963	117,544	71,890	163,198
Ngetta	710,516	556,530	864,501	36,182	25,625	46,738
Nabuin	264,519	135,263	393,774	-	-	-
Serere	132,663	76,247	189,079	<	<	<
Mbarara	62,095	-804	124,993	40,162	31,320	49,004
Rwebitaba	20,428	15,773	25,082	27,536	22,368	32,705
Uganda	285,219	247,864	322,575	144,246	-3,272	291,763

Notes: *Question was asked only if the household planted seeds during the agricultural season.

**The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free.

-No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 12h: Average value of simsim seeds per unit of land (UGX/Acre), by ZARDI*

ZARDI	First Season			Second Season		
	Average value** per land unit (UGX/Acre)			Average value** per land unit (UGX/Acre)		
	Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	33,292	-4,120	70,704	7,957	5,740	10,175
Buginyanya	39,217	18,850	59,584	13,684	6,827	20,540
Bulindi	8,856	3,251	14,461	<	<	<
Kachwekano	-	-	-	-	-	-
Mukono	<	<	<	<	<	<
Ngetta	32,350	-2,340	67,039	3,500	2,963	4,036
Nabuin	205,234	-50,521	460,988	-	-	-
Serere	5,138	2,597	7,680	15,019	11,354	18,685
Mbarara	-	-	-	-	-	-
Rwebitaba	7,638	1,292	13,984	<	<	<
Uganda	34,166	16,541	51,790	6,408	5,162	7,653

Notes: *Question was asked only if the household planted seeds during the agricultural season. **The seed value includes the cost of the purchased seeds and the opportunity cost (value) of the self-produced seeds or seeds received for free. -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 13: Percentage of Ag HHS using fertilisers by ZARDI

Table 4- 13a: Percentage of Ag HHs using fertilisers by ZARDI – First Season

ZARDI	Organic and/or inorganic fertilisers			Organic fertilisers			Inorganic fertilisers		
	% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval	
Abi	7.5	5.2	9.8	3.6	1.9	5.2	4.1	2.4	5.9
Buginyanya	25.3	22.9	27.7	16.1	14.1	18.2	14.9	12.9	16.8
Bulindi	16.8	13.4	20.2	3.3	1.7	4.9	14.1	11	17.3
Kachwekano	43.8	39.1	48.5	34.6	30.1	39	12.8	9.7	16
Mukono	33.8	30.5	37.1	25.7	22.7	28.8	13.6	11.2	16
Ngetta	2.6	1.5	3.7	0.3	-0.1	0.6	2.4	1.4	3.5
Nabuin	1.6	0.2	2.9	1.6	0.2	2.9	-	-	-
Serere	20.7	16.6	24.7	20	16.1	24	0.6	-0.2	1.4
Mbarara	59.5	55.9	63.1	57.2	53.6	60.9	4.5	2.9	6
Rwebitaba	10.4	7.7	13	2.4	1.1	3.7	8.2	5.8	10.5
Uganda	25.2	24.1	26.3	18.8	17.8	19.8	9.1	8.4	9.8

Note: -No sampled units under this category.

Table 4- 13b: Percentage of Ag HHs using fertilisers by ZARDI – Second Season

ZARDI	Organic and/or inorganic fertilisers			Organic fertilisers			Inorganic fertilisers		
	% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval	
Abi	6	3.7	8.3	5.7	3.5	8	0.3	-0.2	0.8
Buginyanya	25.5	23	28	18.6	16.4	20.8	11.5	9.6	13.3
Bulindi	19.6	15.9	23.3	7.6	5.1	10.1	14.7	11.4	18
Kachwekano	65.5	60.9	70	60	55.3	64.7	15.5	12.1	19
Mukono	44.7	41.2	48.3	33	29.7	36.4	19	16.3	21.8
Ngetta	2.1	1	3.1	1	0.3	1.7	1.4	0.6	2.3
Nabuin	13.7	-1.4	28.8	8.5	-3.7	20.6	0	0	0
Serere	31.2	26.5	35.9	31.2	26.5	35.9	0	0	0
Mbarara	67.9	64.5	71.4	64	60.4	67.5	7	5.2	8.9
Rwebitaba	15.2	12	18.4	4.7	2.8	6.6	11.5	8.7	14.3
Uganda	31.7	30.5	32.9	25.2	24	26.3	10.1	9.3	10.9

Note: -No sampled units under this category.

Table 4- 13c: Percentage of Ag HHs using fertilisers by sub-region – First Season

Sub-regions	Organic and/or inorganic fertilisers			Organic fertilisers			Inorganic fertilisers		
	% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval	
South Buganda	37.6	33	42.2	31.6	27.2	36	11.5	8.5	14.5
North Buganda	28.4	24.5	32.4	18.6	15.2	21.9	15.1	12	18.2
West Nile	7.5	5.2	9.8	3.6	1.9	5.2	4.1	2.4	5.9
Lango	2.1	0.7	3.5	-	-	-	2.1	0.7	3.5
Acholi	3.4	1.6	5.2	0.6	-0.2	1.5	2.9	1.2	4.6
Kigezi	43.8	39.1	48.5	34.6	30.1	39	12.8	9.7	16
Bunyoro	16.8	13.4	20.2	3.3	1.7	4.9	14.1	11	17.3
Tooro	10.4	7.7	13	2.4	1.1	3.7	8.2	5.8	10.5
Busoga	13.6	10.4	16.8	6.1	3.9	8.4	8	5.5	10.5
Teso	20.7	16.6	24.7	20	16.1	24	0.6	-0.2	1.4
Bukedi	12.5	9.4	15.7	5.8	3.6	8	7.2	4.8	9.7
Elgon	59.2	54.3	64.2	44.4	39.5	49.4	34.8	30	39.6
Karamoja	1.6	0.2	2.9	1.6	0.2	2.9	-	-	-
Ankole	71.4	67.8	75.1	71.3	67.6	75	1.6	0.6	2.6
Uganda	25.2	24.1	26.3	18.8	17.8	19.8	9.1	8.4	9.8

Note: -No sampled units under this category.

Table 4- 13d: Percentage of Ag HHs using fertilisers by sub-region – Second Season

Sub-region	Organic and/or inorganic fertilisers			Organic fertilisers			Inorganic fertilisers		
	% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval		% Ag HHs	95% Confidence Interval	
South Buganda	53.2	48.4	58.1	41.7	36.9	46.5	20.2	16.3	24.1
North Buganda	38.9	34.6	43.3	26.4	22.5	30.3	18.5	15.1	22
West Nile	6	3.7	8.3	5.7	3.5	8	0.3	-0.2	0.8
Lango	2.1	0.7	3.5	1	0	1.9	1.2	0.1	2.2
Acholi	1.9	0.4	3.4	1	-0.1	2.1	1.8	0.4	3.3
Kigezi	65.5	60.9	70	60	55.3	64.7	15.5	12.1	19
Bunyoro	19.6	15.9	23.3	7.6	5.1	10.1	14.7	11.4	18
Tooro	15.2	12	18.4	4.7	2.8	6.6	11.5	8.7	14.3
Busoga	12.8	9.6	16.1	6.7	4.3	9.2	6.7	4.2	9.1
Teso	31.2	26.5	35.9	31.2	26.5	35.9	-	-	-
Bukedi	11.3	8.2	14.4	7.3	4.8	9.9	4.2	2.3	6.2
Elgon	64.6	59.6	69.6	52.9	47.6	58.1	28.4	23.7	33.2
Karamoja	13.7	-1.4	28.8	8.5	-3.7	20.6	5.2	-4.5	15
Ankole	73.8	70.2	77.3	73.4	69.8	77	2	0.9	3.1
Uganda	31.7	30.5	32.9	25.2	24	26.3	10.1	9.3	10.9

Note: - no sampled units under this category.

Table 4- 14: Percentage of Ag HHs using organic fertilisers among HHs using fertilisers, by ZARDI

Table 4- 14a: Percentage of Ag HHs using organic fertilisers among HHs using fertilisers, by ZARDI – First Season

ZARDI	% Ag HHs	95% Confidence Interval	
Abi	48.1	30.7	65.4
Buginyanya	63.7	58.5	68.9
Bulindi	19.7	10.8	28.6
Kachwekano	79	73.1	84.8
Mukono	76.1	71.1	81.2
Ngetta	10	-3.2	23.2
Nabuin	100	.	.
Serere	97.1	93.4	100.8
Mbarara	96.2	94.5	98
Rwebitaba	22.9	10.5	35.3
Uganda	74.7	72.5	76.9

Table 4- 14b: Percentage of Ag HHs using organic fertilisers among HHs using fertilisers, by ZARDI – Second Season

ZARDI	% Ag HHs	95% Confidence Interval	
Abi	95.4	86.8	104
Buginyanya	72.9	68	77.7
Bulindi	39	28.6	49.4
Kachwekano	91.7	88.3	95
Mukono	73.8	69.1	78.6
Ngetta	47.7	20.6	74.9
Nabuin	<	<	<
Serere	100	.	.
Mbarara	94.2	92.1	96.3
Rwebitaba	30.8	20.2	41.4
Uganda	79.4	77.5	81.3

Note: <Insufficient number of sampled units under this category.

Table 4- 15: Percentage of Ag HHs using inorganic fertilisers among HHs using fertilisers, by ZARDI

Table 4- 15a: Percentage of Ag HHs using inorganic fertilisers among HHs using fertilisers, by ZARDI – First Season

ZARDI	% Ag HHs	95% Confidence Interval	
Abi	55.3	38.1	72.6
Buginyanya	58.6	53.3	64
Bulindi	84.1	75.9	92.3
Kachwekano	29.3	22.8	35.8
Mukono	40.2	34.4	46
Ngetta	92.4	80.8	104
Nabuin	-	-	-
Serere	2.9	-0.8	6.6
Mbarara	7.5	5	9.9
Rwebitaba	78.6	66.5	90.7
Uganda	36.2	33.7	38.6

Note: -No sampled units under this category.

Table 4- 15b: Percentage of Ag HHs using inorganic fertilisers among HHs using fertilisers, by ZARDI – Second Season

ZARDI	% Ag HHs	95% Confidence Interval	
Abi	4.6	-4	13.2
Buginyanya	45	39.5	50.4
Bulindi	75	65.8	84.2
Kachwekano	23.7	18.6	28.8
Mukono	42.6	37.3	47.9
Ngetta	69.2	44.1	94.3
Nabuin	38.3	-29.1	105.7
Serere	-	-	-
Mbarara	10.4	7.6	13.1
Rwebitaba	75.4	65.5	85.3
Uganda	32	29.8	34.2

Note: -No sampled units under this category.

Table 4- 16: Percentage of Ag HHs using fertilisers by type of fertilisers used

Table 4- 16a: Percentage of Ag HHs using fertilisers by type of fertilisers used – First Season

Type of Fertilisers	% Ag HHs	95% Confidence Interval	
Commercial organic fertiliser	1.2	0.5	1.8
Animal/human urine	1.3	0.7	2
Animal/bird droppings	68.4	65.7	71.1
Plant residue/compost	40.7	37.9	43.6
Green plant cover crops	3	2	3.9
Ash	2.9	1.9	3.9
Rubbish	1		1.6
Sewage/sludge	-	-	-
Other types of organic fertilisers	0.1	-0.1	0.3
CAN	11.7	8.9	14.5
Urea	26.1	22.2	29.9
DAP	17.5	14.1	20.8
SSP (single super phosphate)	1.1	0.2	2
TSP (Triple Super Phosphate)	0.2	-0.2	0.5
MOP (muriate of potash)	-	-	-
NPK	43.8	39.4	48.2
Other type of inorganic fertilisers	28.2	24.2	32.2

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 16b: Percentage of Ag HHs using fertilisers by type of fertilisers used – Second Season

Type of Fertilisers	% Ag HHs	95% Confidence Interval	
Commercial organic fertiliser	0.6	0.2	1
Animal/human urine	1.7	1	2.3
Animal/bird droppings	71.8	69.4	74.1
Plant residue/compost	33.5	31	36
Green plant cover crops	4.4	3.3	5.5
Ash	3.1	2.2	4.1
Rubbish	0.5	0.2	0.9
Sewage/sludge	0.4	0.1	0.8
Other types of organic fertilisers	0.1	-0.1	0.2
CAN	7.5	5.2	9.8
Urea	21.4	17.8	25
DAP	21.8	18.2	25.4
SSP (single super phosphate)	0.2	-0.2	0.7
TSP (Triple Super Phosphate)	0.2	-0.2	0.5
MOP (muriate of potash)	-	-	-
NPK	29.2	25.2	33.2
Other type of inorganic fertilisers	15.7	12.5	18.9

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 17: Average quantity of inorganic fertilisers applied (Kg) among HHs using inorganic fertilisers, by ZARDI

Table 4- 17a: Average quantity of inorganic fertiliser applied (Kg) among HHs using inorganic fertilisers by ZARDI – First Season

ZARDI	Average quantity(Kg)		
	Average	95% Confidence Interval	
Abi	90.2	23.6	156.7
Buginyanya	50.3	38.4	62.1
Bulindi	70.5	46.8	94.3
Kachwekano	29	13.1	45
Mukono	65.1	21.9	108.2
Ngetta	37.7	5.1	70.4
Nabuin	-	-	-
Serere	<	<	<
Mbarara	139.3	-48.7	327.4
Rwebitaba	16.8	7.3	26.3
Uganda	58.8	42.6	74.9

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 17b: Average quantity of inorganic fertilisers applied (Kg) among HHs using inorganic fertilisers, by ZARDI

ZARDI	Average quantity (Kg)		
	Average	95% Confidence Interval	
Abi	<	<	<
Buginyanya	79.7	43.6	115.7
Bulindi	13.8	5.4	22.2
Kachwekano	35.6	21	50.3
Mukono	45.2	23.2	67.1
Ngetta	125.5	-8.9	259.9
Nabuin	<	<	<
Serere	-	-	-
Mbarara	61.4	33.2	89.6
Rwebitaba	19.2	8.7	29.6
Uganda	49.3	37.1	61.5

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 18: Average quantity of inorganic fertiliser per unit of land (Kilos/Acre) among HHs using inorganic fertilisers

Table 4- 18a: Average quantity of inorganic fertiliser per unit of land (Kilos/Acre) among HHs using inorganic fertilisers, by ZARDI - First Season

ZARDI	Average quantity per land unit (Kilos/Acre)		
	Average	95% Confidence Interval	
Abi	80.3	55.4	105.2
Buginyanya	56.4	38.9	74
Bulindi	41.4	28.7	54
Kachwekano	102.4	69.9	134.9
Mukono	31.8	19.5	44.1
Ngetta	25.2	5.9	44.4
Nabuin	-	-	-
Serere	<	<	<
Mbarara	51.9	23.6	80.1
Rwebitaba	21.1	7.1	35
Uganda	46.9	39.2	54.5

Table 4- 18b: Average quantity of inorganic fertiliser per unit of land (Kilos/Acre) among HHs using inorganic fertilisers, by ZARDI

ZARDI	Average quantity per land unit (Kilos/Acre)		
	Average	95% Confidence Interval	
Abi	<	<	<
Buginyanya	50.7	32.1	69.4
Bulindi	13.6	5.6	21.7
Kachwekano	93.6	69.8	117.4
Mukono	26.4	13.5	39.3
Ngetta	29.3	4.3	54.2
Nabuin	<	<	<
Serere	-	-	-
Mbarara	42.3	24.6	60
Rwebitaba	15	9	21
Uganda	36.3	29.2	43.4

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 19: Total quantity of nutrients applied (Kg), by ZARDI

Table 4- 19a: Total quantity of nutrients applied (Kg), by ZARDI – First Season

ZARDI	Nitrogen (N)			Phosphorous (P)			Potassium (K)		
	Total	95% Confidence Interval		Total	95% Confidence Interval		Total	95% Confidence Interval	
Abi	341,941	91,789	592,094	169,899	37,603	302,195	169,899	37,603	302,195
Buginyanya	2,638,717	1,717,063	3,560,371	1,332,889	910,232	1,755,547	569,616	361,326	777,907
Bulindi	877,511	523,186	1,231,836	450,836	307,731	593,941	392,509	259,573	525,445
Kachwekano	160,926	81,339	240,513	160,414	81,225	239,602	155,792	76,348	235,235
Mukono	3,223,988	650,053	5,797,923	1,242,920	449,041	2,036,799	425,072	158,171	691,972
Ngetta	121,874	7,783	251,531	87,522	-31,384	206,427	87,522	-31,384	206,427
Nabuin	-	-	-	-	-	-	-	-	-
Serere	<	<	<	<	<	<	<	<	<
Mbarara	804,875	92,525	1,702,275	854,081	-56,662	1,764,825	599,854	-308,195	1,507,904
Rwebitaba	143,881	50,531	237,232	51,677	4,859	98,495	51,677	4,859	98,495
Uganda	8,313,999	5,386,569	11,241,429	4,350,480	3,028,502	5,672,458	2,452,183	1,441,765	3,462,601

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 19b: Total quantity of nutrients applied (Kg), by ZARDI – Second Season

ZARDI	Nitrogen (N)			Phosphorous (P)			Potassium (K)		
	Total	95% Confidence Interval		Total	95% Confidence Interval		Total	95% Confidence Interval	
Abi	<	<	<	<	<	<	<	<	<
Buginyanya	2,706,394	939,894	4,472,893	2,240,197	214,111	4,266,283	322,707	186,885	458,529
Bulindi	155,760	32,507	279,012	101,416	-47,983	250,815	44,844	-13,776	103,463
Mukono	2,560,266	675,760	4,444,772	1,499,737	868,950	2,130,523	545,750	205,879	885,622
Ngetta	257,845	-139,385	655,075	70,442	1,635	139,250	44,008	-22,815	110,832
Nabuin	<	<	<	<	<	<	<	<	<
Serere	-	-	-	-	-	-	-	-	-
Mbarara	728,903	233,861	1,223,944	502,978	258,072	747,883	309,130	132,228	486,032
Rwebitaba	499,885	132,127	867,642	-	-	-	-	-	-
UGANDA	7,156,850	4,435,002	9,878,698	4,682,224	2,508,349	6,856,099	1,499,220	1,064,504	1,933,937

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 20: Average quantity of nutrients per unit of land (Kg/Acre) among HHs using inorganic fertilisers, by ZARDI

Table 4- 20a: Average quantity of nutrients per unit of land (Kg/Acre) among HHs using inorganic fertilisers, by ZARDI – First Season

ZARDI	Nitrogen (N)			Phosphorous (P)			Potassium (K)		
	Average	95% Confidence Interval		Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	15	9.8	20.1	8	5.7	10.3	8	5.7	10.3
Buginyanya	15.7	9.5	21.9	7.7	4.9	10.5	3.1	1.9	4.3
Bulindi	8.2	5.6	10.8	4.9	3.2	6.6	4.2	2.6	5.9
Kachwekano	15.7	10.8	20.6	5.6	10.7	20.5	15	10	19.9
Mukono	8.7	4.2	13.2	4.9	2.5	7.2	1.4	0.6	2.3
Ngetta	5.1	0.8	9.3	3	0.6	5.5	3	0.6	5.5
Nabuin	-	-	-	-	-	-	-	-	-
Serere	<	<	<	<	<	<	<	<	<
Mbarara	6.9	3.9	9.8	6.7	3.6	9.8	4.1	1.3	6.9
Rwebitaba	2.8	0.8	4.9	1.5	-0.3	3.4	1.5	-0.3	3.4
Uganda	10.7	8.3	13.1	6.3	5.1	7.5	3.6	2.9	4.3

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 20b: Average quantity of nutrients per unit of land (Kg/Acre) among HHs using inorganic fertilisers, by ZARDI – Second Season

ZARDI	Nitrogen (N)			Phosphorous (P)			Potassium (K)		
	Average	95% Confidence Interval		Average	95% Confidence Interval		Average	95% Confidence Interval	
Abi	<	<	<	<	<	<	<	<	<
Buginyanya	11.9	8.1	15.6	11.1	3.1	19.1	2	1.1	2.9
Bulindi	2.2	-	4.5	0.6	-0.1	1.2	2.6	-0.9	6.2
Kachwekano	13.5	9.7	17.3	16	10.4	21.6	11.3	7.6	14.9
Mukono	6.3	3.3	9.4	3.9	1.9	5.9	1.8	0.1	3.6
Ngetta	6.8	0.2	13.5	2.6	0.4	4.9	1.3	-	2.6
Nabuin	-	-	-	-	-	-	-	-	-
Serere	-	-	-	-	-	-	-	-	-
Mbarara	7.8	4.3	11.3	7.2	4.1	10.4	4.6	1.9	7.3
Rwebitaba	5.8	2.9	8.7	-	-	-	-	-	-
Uganda	7.9	6.3	9.4	6	3.9	8.3	2.7	1.9	3.6

Notes: -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 21: Average quantity of fertilisers and nutrients per unit of land (Kg/Acre) in the total population, by ZARDI

Table 4- 21a: Average quantity of fertilisers and nutrients per unit of land (Kg/Acre) in the total population, by ZARDI – First Season

ZARDI	Inorganic fertilisers			Nitrogen (N)			Phosphorous (P)			Potassium (K)		
	Average kg/acre	95% Confidence Interval		Average kg/acre	95% Confidence Interval		Average kg/acre	95% Confidence Interval		Average kg/acre	95% Confidence Interval	
Abi	16.3	8.8	23.8	3.2	1.6	4.7	1.4	0.9	2	1.4	0.9	2
Buginyanya	19.2	9.7	28.8	5.6	2.2	9.1	2.6	1.1	4.1	0.8	0.5	1.1
Bulindi	10.5	7	14	2.1	1.3	2.9	1.2	0.7	1.7	1	0.7	1.3
Kachwekano	19.6	12.9	26.2	3	2	4	3	2	4	2.9	1.9	3.9
Mukono	9.5	3.5	15.5	2.8	0.6	4.9	1.6	0.6	2.6	0.3	0.1	0.5
Ngetta	6.3	0.4	12.3	1.1	0.1	2.1	0.9	-	1.7	0.9	-	1.7
Nabuin	-	-	-	-	-	-	-	-	-	-	-	-
Serere	0.1	0	0.1	-	-	-	-	-	-	-	-	-
Mbarara	8.2	4.4	12.1	1.5	0.7	2.3	1.3	0.6	1.9	0.7	0.1	1.3
Rwebitaba	3.4	1.4	5.4	0.5	0.2	0.8	0.2	-	0.5	0.2	-	0.5
Uganda	1.2	0.9	1.5	0.3	0.2	0.4	0.2	0.1	0.2	0.1	0.1	0.1

Note: -No sampled units under this category.

Table 4- 21b: Average quantity of fertilisers and nutrients per unit of land (Kg/Acre) in the total population, by ZARDI – Second Season

ZARDI	Inorganic fertilisers			Nitrogen (N)			Phosphorous (P)			Potassium (K)		
	Average kg/acre	95% Confidence Interval		Average kg/acre	95% Confidence Interval		Average kg/acre	95% Confidence Interval		Average kg/acre	95% Confidence Interval	
Abi	13.8	.	.	2.1	.	.	2.1	.	.	2.1	.	.
Buginyanya	23.1	13.4	32.7	6.4	3.2	9.6	3.4	1.9	4.9	0.5	0.3	0.8
Bulindi	1.7	0.8	2.6	0.4	-	0.7	0.1	-	0.2	0.1	-	0.3
Kachwekano	26.8	15.5	38.1	3.9	2.2	5.6	4.2	2.4	6	3.7	2	5.4
Mukono	6.8	3.3	10.3	1.6	0.7	2.5	1.1	0.5	1.7	0.5	-	0.9
Ngetta	52	-8.9	112.8	13.7	2.6	30	2.5	0.1	5.2	2.3	-0.4	5.1
Nabuin	-	-	-	-	-	-	-	-	-	-	-	-
Serere	-	-	-	-	-	-	-	-	-	-	-	-
Mbarara	6.5	4	9	1	0.6	1.4	1.2	0.7	1.7	0.7	0.4	1.1
Rwebitaba	3.5	1.9	5	1.4	0.6	2.1	-	-	-	-	-	-
Uganda	1.00	0.8	1.3	0.2	0.2	0.3	0.1	0.1	0.2	0.1	-	0.1

Note: -No sampled units under this category.

Table 4- 22: Median expenditure on inorganic fertilisers among HHs using inorganic fertilisers, by ZARDI

ZARDI	First Season		Second Season	
	Median expenditure (UGX)	Median value* per land unit (UGX/Acre)	Median expenditure (UGX)	Median value per land unit (UGX/Acre)
Abi	190,000	177,012	<	<
Buginyanya	32,000	49,123	<	<
Bulindi	80,000	74,511	24,980	26,156
Kachwekano	35,000	184,426	60,000	255,102
Mukono	20,000	32,060	60,000	31,383
Ngetta	600	532	150,000	110,357
Nabuin	-	-	<	<
Serere	<	<	-	-
Mbarara	135,000	94,500	78,000	95,157
Rwebitaba	31,000	58,182	40,000	44,483
Uganda	35,000	55,825	55,000	52,568

Note: *The total value includes the actual cost of fertilisers and the opportunity cost of fertilisers received for free. -No sampled units under this category. <Insufficient number of sampled units under this category.

Table 4- 23: Percent distribution of Ag HHs not using inorganic fertilisers, by reason

Reasons for Not Using Inorganic Fertilisers	First Season	Second Season
	% Ag HHs	% Ag HHs
No need for fertiliser, the soil is fertile enough	28.5	33.1
Available fertiliser is of poor quality/bad experience with fertilisers	0.6	0.5
Land is rented, no motivation to apply fertiliser	3.8	2.8
No knowledge on benefits and use	24.9	25.4
Fertiliser use is costly/farmer can't afford	78.6	77.5
Fertiliser not available locally	33.3	31.4
Fertiliser use will not improve the yield	1.8	2.2
Fertiliser burns crops if rain is little	1.4	1.2
Fertiliser increases weeds	0.9	3.3
Fertiliser has negative effects on soil	7.1	8.4
Fertiliser application is impractical (e.g. wetland, too steep)	0.7	0.8

Table 4- 24: Percentage of Ag HHs using pesticides

Table 4- 24a: Percentage of Ag HHs using pesticides, by ZARDI

ZARDI	% Ag HHs	
	First Season	Second Season
Abi	11.6	6.3
Buginyanya	21.5	17.3
Bulindi	31.4	40.2
Kachwekano	27.3	25.8
Mukono	37.9	35.4
Ngetta	17.4	13.8
Nabuin	1.3	5.2
Serere	25.2	34.2
Mbarara	12.3	11.3
Rwebitaba	19.3	25.9
Uganda	22.6	22.7

Table 4- 24b: Percentage of Ag HHs using pesticides, by sub-region

Sub-region	% Ag HHs	
	First Season	Second Season
South Buganda	25.6	33.2
North Buganda	46.5	36.4
West Nile	11.6	6.3
Lango	25.2	19.9
Acholi	6.0	4.1
Kigezi	27.3	25.8
Bunyoro	31.4	40.2
Tooro	19.3	25.9
Busoga	12.2	10.1
Teso	25.2	34.2
Bukedi	27.1	23.1
Elgon	32.4	23.6
Karamoja	1.3	5.2
Ankole	6.4	4.0
Uganda	22.6	22.7

Table 4- 24c: Percent distribution of Ag HHs using pesticides, by type of pesticide and ZARDI

ZARDI	First Season				Second Season			
	Herbicides	Insecticides	Fungicides	Rodenticides	Herbicides	Insecticides	Fungicides	Rodenticides
Abi	5.8	90.5	2.1	8.9	0.0	100.0	0.0	4.4
Buginyanya	4.7	91.5	20.8	0.0	3.1	94.1	21.3	0.3
Bulindi	46.9	66.6	2.2	0.6	59.2	58.0	1.6	0.0
Kachwekano	11.8	41.3	73.3	5.7	13.1	72.3	49.6	3.0
Mukono	67.1	48.8	10.1	0.8	56.5	60.0	15.4	0.0
Ngetta	8.0	96.2	0.5	0.5	4.8	87.9	6.3	2.6
Nabuin	<	<	<	<	<	<	<	<
Serere	3.9	98.0	0.0	0.0	1.3	98.7	0.0	0.0
Mbarara	30.0	54.2	31.9	1.7	33.0	54.0	29.5	0.0
Rwebitaba	22.0	80.4	4.2	0.0	38.1	62.9	5.6	0.0
Uganda	32.1	70.3	14.2	1.1	32.8	71.8	14.1	0.5

Notes: <Insufficient number of sampled units under this category.

Table 4- 24d: Percent distribution of Ag HHs using pesticides, by type of pesticide and sub-region

Sub-region	First Season				Second Season			
	Herbicides	Insecticides	Fungicides	Rodenticides	Herbicides	Insecticides	Fungicides	Rodenticides
South Buganda	31.4	57.9	31.1	0	28.3	51.7	35.2	0
North Buganda	79.1	44	4	1	73.9	65.2	2.5	0
West Nile	5.8	90.5	2.1	8.9	0	100	0	4.4
Lango	8.4	96.5	0.6	0.6	4.8	93.5	0	3
Acholi	5.9	94.1	0	0	4.5	44.8	55.2	0
Kigezi	11.8	41.3	73.3	5.7	13.1	72.3	49.6	3
Bunyoro	46.9	66.6	2.2	0.6	59.2	58	1.6	0
Tooro	22	80.4	4.2	0	38.1	62.9	5.6	0
Busoga	16.3	82.6	9.8	0	7	90	12	0
Teso	3.9	98	0	0	1.3	98.7	0	0
Bukedi	0	100	1.7	0	1.3	97.9	2.5	0
Elgon	1	90.1	44.7	0	2.1	93	49.5	1
Karamoja	<	<	<	<	<	<	<	<
Ankole	28	63.7	25	4.5	37.9	58	25.6	0
Uganda	32.1	70.3	14.2	1.1	32.8	71.8	14.1	0.5

Note: <Insufficient number of sampled units under this category.

Table 4- 25: Percent distribution of Ag HHS by type of labour used for crop cultivation

Table 4- 25a: Percent distribution of Ag HHS by type of labour used for crop cultivation, by ZARDI – First Season

ZARDI	% Ag HHs					
	HH labour only	Hired labour only	Unpaid relatives & community members only	HH and hired labour	HH and unpaid labour	HH, unpaid labour and hired labour
Abi	31.6	0.2	-	40.5	9.4	18.2
Buginyanya	49.3	0.2	0.3	28.5	11.2	10.5
Bulindi	43.5	0.2	-	32	10.6	13.7
Kachwekano	32.7	3.2	0.2	24.8	22.2	16.9
Mukono	47	0.8	-	32.1	10.6	9.6
Ngetta	29.5	0.2	0.1	35.7	15.8	18.7
Nabuin	21.2	-	-	14.8	48.4	15.6
Mbarara	46.1	1.1	-	22.1	20.2	10.5
Rwebitaba	33.5	0.1	-	23.3	24.5	18.6
Serere	37.1	-	-	51.6	4	7.4
Uganda	40.8	0.5	0.1	30.6	14.9	13.1

Note: -No sampled units under this category.

Table 4- 25b: Percent distribution of Ag HHs by type of labour used for crop cultivation, by ZARDI – Second Season

ZARDI	% Ag HHs					
	HH labour only	Hired labour only	Unpaid relatives & community members only	HH and hired labour	HH and unpaid labour	HH, unpaid labour and hired labour
Abi	39.9	0.4	-	32.2	14.1	13.3
Buginyanya	55.6	0.6	-	25.4	10.3	8.1
Bulindi	41.5	1.2	-	33.9	11.8	11.8
Kachwekano	43.1	1.5	-	27.1	17.4	11
Mukono	44.3	0.2	0.1	31.2	12.2	11.9
Ngetta	25.6	-	-	27.6	19	27.8
Nabuin	70.9	-	-	11.2	12.2	5.7
Mbarara	42.8	0.3	-	20.4	23.8	12.8
Rwebitaba	43.6	-	-	24.7	14.6	17.1
Serere	40.2	-	-	54.6	3.3	1.9
			-			
Uganda	43.5	0.4	-	28.9	14.2	13

Note: -No sampled units under this category.

Table 4- 26: Percent distribution of Ag HHs by type of labour used for crop activities

Table 4- 26a: Percent distribution of Ag HHs by type of labour used for crop activities – First Season

Activity Type	% Ag HHs		
	Only HH members	Only hired workers	Both HH members and hired workers
Land preparation	69.2	3.5	27.3
Planting	80.3	2.0	17.7
Weeding	70.2	2.6	27.2
Mulching	95.8	1.8	2.4
Fertilising	90.0	4.8	5.2
Spraying	74.6	17.3	8.1
Irrigation	91.5	1.5	7.1
Pruning	95.4	1.5	3.2
Guarding	96.4	2.4	1.2
Harvesting and threshing	85.3	1.5	13.3
Transport to storage	92.6	1.9	5.5
Transport to market	93.0	3.0	4.0
Drying, packing, storing	98.3	0.4	1.3

Table 4- 26b: Percent distribution of Ag HHs by type of labour used for crop activities – Second Season

Activity Type	% Ag HHs		
	Only HH members	Only hired workers	Both HH members and hired workers
Land preparation	72.3	3.2	24.5
Planting	82.4	1.8	15.8
Weeding	72.6	2.4	25.0
Mulching	96.2	1.0	2.8
Fertilising	90.9	3.5	5.6
Spraying	79.5	11.9	8.6
Irrigation	86.6	10.7	2.7
Pruning	97.3	0.4	2.3
Guarding	96.7	1.0	2.3
Harvesting and threshing	86.2	1.3	12.5
Transport to storage	93.5	1.2	5.3
Transport to market	91.6	4.3	4.1
Drying, packing, storing	98.7	0.3	1.1

Table 4- 27: Participation in crop production activities, by ZARDI

Table 4- 27a: Participation in crop production activities, by ZARDI – First Season

ZARDI	Average number of people cultivating crops				
	Male HH members	Female HH members	Unpaid workers/ relatives	Male hired worker	Female hired workers
Abi	1.1	1.4	0.8	3.7	1.8
Buginyanya	1.3	1.6	0.5	1.5	1.3
Bulindi	1.3	1.4	0.9	1.6	1.5
Kachwekano	0.9	1.4	1.2	0.9	1.9
Mukono	1.1	1.4	0.4	1.6	0.5
Ngetta	1.4	1.5	1.1	4.1	4.3
Nabuin	0.8	1.6	1.9	1.7	1.9
Serere	2.0	1.9	0.3	2.2	2.3
Mbarara	1.2	1.4	0.8	0.7	1.1
Rwebitaba	1.5	1.6	0.9	1.5	1.0
Uganda	1.3	1.5	0.7	1.9	1.6

Table 4- 27b: Participation in crop production activities, by ZARDI – Second Season

ZARDI	Average number of people cultivating crops				
	Male HH members	Female HH members	Unpaid workers/ relatives	Male hired worker	Female hired workers
Abi	1.1	1.4	0.8	2.3	1.3
Buginyanya	1.4	1.7	0.4	1.2	1.0
Bulindi	1.4	1.5	0.8	1.8	1.0
Kachwekano	1.0	1.5	0.7	1.0	1.7
Mukono	1.3	1.7	0.5	1.3	0.5
Ngetta	1.5	1.6	1.7	4.7	5.0
Nabuin	1.0	1.6	0.5	0.4	0.4
Serere	1.9	2.0	0.2	2.1	2.1
Mbarara	1.4	1.5	1.1	0.7	0.9
Rwebitaba	1.6	1.7	0.6	1.4	0.8
Uganda	1.4	1.6	0.8	1.7	1.5

Table 4- 28: Labour input for crop production activities, by ZARDI

Table 4- 28a: Labour input for crop production activities, by ZARDI – First Season

ZARDI	Average number of person-days*					All	No. person-days per Acre
	Male HH members	Female HH members	Male hired workers	Female hired workers	Unpaid workers/ relatives		
Abi	35.3	48.3	3.5	1.5	0.6	89.1	77.0
Buginyanya	21.9	30.6	2.8	2.1	0.2	57.6	54.1
Bulindi	50.1	57.4	5.1	2.0	0.6	115.1	69.2
Kachwekano	21.1	57.9	1.3	1.7	0.8	82.8	130.5
Mukono	28.8	33.1	8.1	2.7	0.2	72.9	46.3
Ngetta	47.6	56.5	2.3	1.7	0.7	108.8	44.6
Nabuin	13.0	37.6	1.9	1.9	1.5	55.9	34.7
Serere	35.7	39.3	3.3	1.8	0.1	80.1	42.5
Mbarara	39.7	53.6	4.7	3.5	0.5	102.0	96.1
Rwebitaba	55.7	66.6	5.1	1.9	0.6	129.9	109.4
Uganda	35.1	45.6	4.3	2.2	0.5	87.7	67.1

*Note: *Person-day corresponds to a full-time day of eight hours

Table 4- 28b: Labour input for crop production activities, by ZARDI – Second Season

	Average number of person-days*						All	No. person-days per Acre
	Male HH members	Female HH members	Male hired workers	Female hired workers	Unpaid workers/ relatives			
Abi	31.3	44.7	1.8	1.0	0.6	79.3	89.4	
Buginyanya	22.7	30.9	2.6	2.0	0.2	58.4	63.7	
Bulindi	42.8	50.7	7.5	2.2	0.5	103.6	58.2	
Kachwekano	22.7	57.2	0.9	1.2	0.5	82.6	140.9	
Mukono	27.6	34.1	7.6	2.4	0.3	72.0	50.2	
Ngetta	45.0	52.2	2.9	3.8	1.0	105.0	57.8	
Nabuin	15.9	17.4	0.9	0.1	0.3	34.6	73.7	
Serere	30.4	33.1	2.6	1.8	0.1	68.1	49.5	
Mbarara	47.9	64.2	10.4	3.7	0.7	126.9	123.2	
Rwebitaba	65.3	79.0	4.5	1.8	0.5	151.1	138.9	
Uganda	36.4	47.1	5.0	2.4	0.5	91.5	80.3	

Note: *Person-day corresponds to a full-time day of eight hours.

Table 4- 29: Cost and value of crop labour, by ZARDI

Table 4- 29a: Cost and value of crop labour, by ZARDI – First Season

ZARDI	Average cost of hired labour (UGX)		Average opportunity cost (value) of unpaid work		Average value of labour
	Cost of hired labour (UGX)	Cost of hired labour per unit of land (UGX/Acre)	Opportunity cost of unpaid labourers/relatives per unit of land (UGX/Acre) *	Value (Opportunity cost) of household labour per unit of land (UGX/Acre) *	Total value of labour per unit of land (UGX/Acre)**
Abi	33,709	21,288	9,156	292,745	307,210
Buginyanya	63,275	36,488	6,676	248,383	262,025
Bulindi	79,350	27,344	8,233	339,150	350,266
Kachwekano	31,868	45,047	29,283	645,134	652,453
Mukono	151,373	58,833	5,670	255,068	278,631
Ngetta	33,821	12,891	3,860	188,497	194,490
Nabuin	38,522	16,095	4,560	97,011	104,822
Serere	25,394	12,173	2,242	124,206	131,637
Mbarara	111,303	62,767	7,453	398,167	416,034
Rwebitaba	82,097	43,797	5,616	521,130	541,317
Uganda	74,607	36,324	7,558	302,352	317,638

Notes: *The opportunity cost is the value of the unpaid labourers if they were to be hired.

**The total value of labour includes the actual cost of hired workers and the opportunity cost of unpaid laborers and household members.

Table 4- 29b: Cost and value of crop labour, by ZARDI – Second Season

ZARDI	Average cost of hired labour (UGX)		Average opportunity cost (value) of unpaid work		Average value of labour
	Cost of hired labour (UGX)	Cost of hired labour per unit of land (UGX/Acre)	Opportunity cost of unpaid labourers/relatives per unit of land (UGX/Acre) *	Value (Opportunity cost) of household labour per unit of land (UGX/Acre) *	Total value of labour per unit of land (UGX/Acre)**
Abi	24,238	21,050	13,041	355,098	365,083
Buginyanya	68,430	39,811	6,538	303,340	315,001
Bulindi	102,041	32,466	5,951	273,703	287,111
Kachwekano	26,340	45,085	21,929	732,925	742,184
Mukono	146,590	56,372	5,893	281,750	306,787
Ngetta	53,548	25,330	6,079	241,475	257,326
Nabuin	19,546	12,774	9,999	202,860	198,288
Serere	31,101	17,800	4,132	187,655	197,925
Mbarara	194,507	56,229	9,651	514,220	534,445
Rwebitaba	75,295	41,195	6,339	677,656	696,862
Uganda	90,277	39,278	8,055	370,710	387,180

Notes: *The opportunity cost is the value of the unpaid labourers if they were to be hired.

**The total value of labour includes the actual cost of hired workers and the opportunity cost of unpaid labourers and household members.

Table 4- 30: Fixed costs, by cost category*

Cost Category	Average amount**	% Ag HHs
Rent of land for agriculture	206,960	17.6
Interest on agricultural loans	118,822	4.9
Licenses, fees and other statutory permits	30,658	0.1
Maintenance and repairs of farm buildings	249,827	0.3
Purchase or repair of vehicle/tractor/equipment	64,238	7.5
Water for crop irrigation, animal feeding	305,626	1
Electricity for agricultural purposes	243,159	0.1
Investment on the holding	353,500	0.2

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey.

** Calculated on the Ag HHs that reported having spent on that particular item.

Table 4- 31: Volume of production per labour unit (UGX / person-day), by enterprise size and ZARDI

ZARDI	% Small holders	Small producers			Large producers			Total producers		
		Mean (UGX)	Confidence Interval		Mean (UGX)	Confidence Interval		Mean (UGX)	Confidence Interval	
Abi	73%	5,108	4,440	5,775	8,599	6,856	10,342	6,067	5,367	6,767
Buginyanya	62%	9,008	7,763	10,254	17,377	13,825	20,929	12,161	10,599	13,723
Bulindi	49%	8,902	7,213	10,591	13,588	11,650	15,527	11,307	10,006	12,608
Kachwekano	84%	8,142	7,089	9,195	47,315	4,313	90,316	14,514	6,863	22,165
Mukono	37%	11,732	9,690	13,773	15,852	14,236	17,468	14,312	13,037	15,588
Ngetta	43%	5,372	4,753	5,991	7,438	6,560	8,316	6,544	5,974	7,113
Nabuin	69%	5,209	1,770	8,647	5,422	3,857	6,988	5,276	2,860	7,691
Serere	55%	3,634	2,674	4,593	5,580	4,699	6,460	4,507	3,839	5,174
Mbarara	54%	7,865	7,244	8,485	14,765	12,479	17,052	11,068	9,889	12,248
Rwebitaba	54%	5,159	4,686	5,632	9,483	8,416	10,549	7,137	6,548	7,726
Uganda	54%	7,691	7,239	8,143	13,524	12,373	14,674	10,401	9,806	10,995

Table 4- 32: Volume of production per labour unit (PPP / person-day), by enterprise size and ZARDI *

ZARDI	% Small holders	Small producers			Large producers			Total producers		
		Mean (PPP)	Confidence Interval		Mean (PPP)	Confidence Interval		Mean (PPP)	Confidence Interval	
Abi	73%	3.95	3.43	4.47	6.65	5.30	8.00	4.69	4.15	5.23
Buginyanya	62%	6.97	6.00	7.93	13.44	10.69	16.19	9.40	8.20	10.61
Bulindi	49%	6.88	5.58	8.19	10.51	9.01	12.01	8.74	7.74	9.75
Kachwekano	84%	6.30	5.48	7.11	36.59	3.34	69.85	11.22	5.31	17.14
Mukono	37%	9.07	7.49	10.65	12.26	11.01	13.51	11.07	10.08	12.06
Ngetta	43%	4.15	3.68	4.63	5.75	5.07	6.43	5.06	4.62	5.50
Nabuin	69%	4.03	1.37	6.69	4.19	2.98	5.40	4.08	2.21	5.95
Serere	55%	2.81	2.07	3.55	4.31	3.63	5.00	3.49	2.97	4.00
Mbarara	54%	6.08	5.60	6.56	11.42	9.65	13.19	8.56	7.65	9.47
Rwebitaba	54%	3.99	3.62	4.36	7.33	6.51	8.16	5.52	5.06	5.98
Uganda	54%	5.95	5.60	6.30	10.46	9.57	11.35	8.04	7.58	8.50

Notes: * Purchasing Power Parity (constant 2011 international \$)

Table 4- 33: Volume of production per labour unit, by enterprise size and sex of the household head

	<u>Mean (UGX)</u>	<u>Confidence Interval</u>		<u>Mean (PPP)*</u>	<u>Confidence Interval</u>	
Small producers						
Male	6,904	6,516	7,292	5.34	5.04	5.64
Female	9,803	8,524	11,082	7.58	6.59	8.57
Large producers						
Male	13,244	11,934	14,554	10.24	9.23	11.26
Female	15,046	13,032	17,059	11.64	10.08	13.19
All producers						
Male	10,084	9,388	10,779	7.80	7.26	8.34
Female	11,541	10,444	12,638	8.93	8.08	9.77

Notes: * Purchasing Power Parity (constant 2011 international \$)

Table 4- 34: Average farm annual income (UGX), by enterprise size and ZARDI

ZARDI	% Small holders	Small producers			Large producers			Total producers		
		Mean (UGX)	Confidence Interval		Mean (UGX)	Confidence Interval		Mean (UGX)	Confidence Interval	
Abi	73%	671,730	597,694	745,765	1,901,070	1,524,474	2,277,665	1,008,564	879,245	1,137,883
Buginyanya	62%	628,617	578,921	678,313	2,089,321	1,854,341	2,324,302	1,178,929	1,077,518	1,280,340
Bulindi	49%	1,289,655	1,152,021	1,427,289	2,955,786	2,604,023	3,307,550	2,144,566	1,938,686	2,350,447
Kachwekano	84%	1,142,732	1,018,963	1,266,501	4,309,924	3,400,099	5,219,749	1,657,888	1,429,271	1,886,505
Mukono	37%	710,106	636,356	783,855	2,807,069	2,611,608	3,002,529	2,023,398	1,877,217	2,169,579
Ngetta	43%	923,309	844,095	1,002,522	2,013,984	1,814,986	2,212,982	1,539,593	1,415,395	1,663,791
Nabuin	69%	1,086,110	430,851	1,741,368	2,107,221	180,275	4,034,167	1,405,624	599,023	2,212,226
Serere	55%	616,501	516,298	716,703	1,788,877	1,509,574	2,068,181	1,142,425	991,894	1,292,957
Mbarara	54%	1,184,051	1,107,425	1,260,677	3,050,951	2,780,592	3,321,310	2,050,719	1,906,164	2,195,274
Rwebitaba	54%	1,210,259	1,120,888	1,299,630	3,277,827	2,930,608	3,625,047	2,154,349	1,964,227	2,344,472
Uganda	54%	893,047	864,344	921,751	2,598,273	2,501,079	2,695,467	1,684,635	1,631,431	1,737,838

Table 4- 35: Average farm annual income (PPP), by enterprise size and ZARDI*

ZARDI	% Small holders	Small producers			Large producers			Total producers		
		Mean (PPP)	Confidence Interval		Mean (PPP)	Confidence Interval		Mean (PPP)	Confidence Interval	
Abi	73%	519	462	577	1,470	1,179	1,761	780	680	880
Buginyanya	62%	486	448	525	1,616	1,434	1,798	912	833	990
Bulindi	49%	997	891	1,104	2,286	2,014	2,558	1,659	1,499	1,818
Kachwekano	84%	884	788	979	3,333	2,630	4,037	1,282	1,105	1,459
Mukono	37%	549	492	606	2,171	2,020	2,322	1,565	1,452	1,678
Ngetta	43%	714	653	775	1,558	1,404	1,711	1,191	1,095	1,287
Nabuin	69%	840	333	1,347	1,630	139	3,120	1,087	463	1,711
Serere	55%	477	399	554	1,383	1,167	1,599	884	767	1,000
Mbarara	54%	916	856	975	2,359	2,150	2,569	1,586	1,474	1,698
Rwebitaba	54%	936	867	1,005	2,535	2,266	2,803	1,666	1,519	1,813
Uganda	54%	691	668	713	2,009	1,934	2,085	1,303	1,262	1,344

Notes: * Purchasing Power Parity (constant 2011 international \$)

Table 4- 36: Average farm annual income, by enterprise size and sex of the household head

	<u>Mean (UGX)</u>	<u>Confidence Interval</u>		<u>Mean (PPP)*</u>	<u>Confidence Interval</u>	
Small producers						
Male	925,416	890,539	960,293	715.7	688.7	742.7
Female	806,126	757,425	854,827	623.4	585.8	661.1
Large producers						
Male	2,618,316	2,511,748	2,724,885	2,024.9	1,942.5	2,107.3
Female	2489132	2253399	2724864	1,925.0	1,742.7	2,107.3
All producers						
Male	1,773,796	1,711,876	1,835,715	1,371.8	1,323.9	1,419.7
Female	1,363,681	1,265,191	1,462,172	1,054.6	978.5	1,130.8

Notes: * Purchasing Power Parity (constant 2011 international \$)

Annex 5

Table 5- 1: Percentage of Ag HHs that received a farmer training in the previous 12 months

ZARDI	Year	
	2018	2019
Abi	10.4	3.5
Buginyanya	13	6.4
Bulindi	8.4	8.4
Kachwekano	17.3	8.9
Mukono	16.1	5.5
Ngetta	9.5	7.5
Nabuin	8.8	4
Serere	2.2	1.2
Mbarara	13.9	4.5
Rwebitaba	16.5	4.5
Uganda	11.9	5.6

Table 5- 2: Percentage of Ag HHs that received extension services in the previous 12 months

ZARDI	Year	
	2018	2019
Abi	12.8	4.2
Buginyanya	13.5	5.8
Bulindi	9.2	6.5
Kachwekano	17.0	5.4
Mukono	12.7	4.5
Ngetta	13.6	8.7
Nabuin	7.0	0.4
Serere	4.5	1.4
Mbarara	13.3	3.3
Rwebitaba	13.0	4.5
Uganda	11.7	5

Table 5- 3: Distribution of Ag HHs that received advisory services, by topic of the training*

	Agricultural production	Fish production	Crop marketing	Livestock marketing	Agricultural prices	Agro-processing	Meat production	Milk/eggs production	Livestock breeding/feeding	Crop and livestock diseases	Handling of agricultural chemicals	input use	Labour rights	Entrepreneurship & business
Abi	100	5.6	-	-	-	-	-	-	5.4	12.2	-	3.8	-	-
Buginyanya	79.6	4.3	24.6	4.1	21.2	11.9	4.6	13.1	18.6	35.4	22.1	40.3	3.1	8.5
Bulindi	83.4	-	4.7	-	3.5	2.4	2.3	2.2	16.5	18.6	22	31.5	-	-
Kachwekano	81.3	-	10.5	16.3	46.8	19.9	26.1	24.1	31	60.2	63.9	67	2.1	6.6
Mukono	73.7	2.4	10.8	8.0	10.1	11.1	6.1	7.0	17.9	24.5	5.1	18.1	-	4.7
Ngetta	64.4	3.5	35.4	17.6	36.7	11.5	4.1	8.5	12.6	56.7	19.7	31.4	0.7	14.5
Nabuin	97.4	-	82.4	39.2	59.1	40.5	-	2.9	10.8	66.8	-	19.7	-	-
Serere	<	<	<	<	<	<	<	<	<	<	<	<	<	<
Mbarara	80.1	-	22	9.5	27.8	8.7	14.4	10.4	12.3	47.1	23.2	56.2	-	3.8
Rwebitaba	81.6	-	37.8	4.1	46.8	8.7	10.4	13.6	14.7	36	14.9	10.1	3.0	-
Uganda	77.7	2.3	22.3	9	25.4	11.9	7.3	9.9	16.3	37.7	19.9	33.2	1.2	7.1

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category. <Insufficient number of sampled units under this category.

Table 5- 4: Distribution of Ag HHs that received advisory services, by source/service provider*

ZARDI	Local government	Input supplier	NGO	Cooperatives & farmer associations	Model farmers	Other
Abi	59.7	-	15.8	18.5	10.0	-
Buginyanya	58.2	3.8	23.4	4.7	5.2	-
Bulindi	39.3	-	10.9	4.5	3.0	11.1
Kachwekano	52.5	9.8	38.5	8.0	1.7	-
Mukono	39.8	7.5	22.8	14.2	16.0	3.9
Ngetta	43.8	17.4	39.3	4.1	1.0	3.3
Nabuin	8.0	-	83.3	-	-	-
Serere	<	<	<	<	<	<
Mbarara	36.0	15.7	23.4	26.4	-	-
Rwebitaba	53.1	2.7	35.3	5.1	-	-
Uganda**	46.9	7.6	27.2	9.1	5.3	2.5
Uganda***	51.0	5.1	26.6	10.4	5.8	1.1

Notes: *Percentages are computed out of HH that received advisory services. **2019 results. ***2018 results. -No sampled unit under this category. <Insufficient number of sampled units under this category.

Table 5- 5: Percentage of Ag HHs that received advisory services, by method to acquire the advice*

method	Percentage
Recipient travelled to source	61.1
Source travelled to recipient	35.8
Both	3.1
Total	100.0

Notes *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 5- 6: Percentage of Ag HHs that paid for the extension service*

	Percentage
Yes	9.3
No	90.7
Total	100.0

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 5- 7: Distribution of Ag HHs that received advisory services, by level of satisfaction and source/ service provider

Year and level of satisfaction	All	Local government	NGOs
2018			
Good	84.4	81	88.4
Average	14.3	17.5	10.5
Bad	1.3	1.4	1.1
2019			
Good	93.6	92.7	94.3
Average	6.4	7.3	5.7

Note: NGO; non-governmental organisation.

Table 5- 8: Distribution of Ag HHs that received credit, by credit source

Credit Source	2018	2019
Commercial banks	5.4	6.3
Micro finance institutions	8.2	7.8
SACCOs	16.1	21.1
Money lenders	2.7	2
Input suppliers	2.2	0.4
Self-help groups	44.7	48.3
Family and friends	7.6	9.9
Agricultural product processors	0.5	0.5
Agricultural production traders	2.4	1.5
Farmer associations	5.6	1.8
Government agency/d	0.2	0.3
NGOs	2.4	1
Others	2.1	0.4

Note: SACCO, *Savings and credit cooperative societies*

Table 5- 9: Total and average amount of loans (UGX)

Table 5- 9a: Total and average amount of loans (UGX), by ZARDI

ZARDI	Total (UGX, millions)		Average loan (UGX)	
	2018	2019	2018	2019
Abi	30,436	9,649	344,715	182,398
Buginyanya	45,194	50,126	401,263	392,227
Bulindi	16,994	36,888	461,949	724,116
Kachwekano	21,327	14,932	375,525	269,388
Mukono	103,059	99,386	1,099,200	1,309,718
Ngetta	11,196	22,386	151,494	357,304
Nabuin	78,214	2,759	621,166	193,179
Serere	1,242	<	159,239	<
Mbarara	60,388	36,502	732,112	616,193
Rwebitaba	40,290	34,146	656,066	582,590
Uganda	408,340	307,309	551,978	547,911

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category. <Insufficient number of sampled units under this category.

Table 5- 9b: Total and average amount of loans (UGX), by sub-region*

Sub-regions	Total loans (millions UGX)**	Average loan (UGX)**
South Buganda	35,351	741,667
North Buganda	71,150	1,569,332
West Nile	9,649	182,398
Lango	<	<
Acholi	18,897	338,901
Kigezi	14,932	269,388
Bunyoro	36,888	724,116
Tooro	34,146	582,590
Busoga	8,715	325,151
Teso	<	<
Bukedi	13,786	266,132
Elgon	27,625	561,541
Karamoja	2,759	193,179
Ankole	29,387	697,704
Uganda	307,309	547,911

Note: *Reference period: last 12 months from the time of the AAS 2019 survey. **Calculated on the Ag HHs that reported having obtained a loan. - No sampled unit under this category. <Insufficient number of sampled units under this category.

Table 5- 10: Distribution of Ag HHs accessing Type of facility

Facility	Percentage	
	2018	2019
Local produce market	58.8	53.2
District produce market	18.9	18.5
Trading center	88.7	89.2
Nurseries	10	7.1
Agricultural demonstration farm/plot	4.8	4.5
Feeder roads / all-year round gravel	86.7	84.7
Tarmac road	41.8	43.9
Community agricultural store	6.2	3.4
Local input dealer / farm supply shops	36.6	42.4

Annex 6

Table 6- 1: Percentage of Ag HHs that experienced a shock, by type of shock and ZARDI*

ZARDI	Yes	Shock experienced							
		Floods	Drought	Hailstorms	Pests or disease outbreak	Erratic or heavy rains	Insecurity	Disease in the Ag HH	Other
Abi	76.7	15.4	51.2	1.6	37.8	34.6	1.0	7.7	0.5
Buginyanya	54.8	18.1	45.8	4.3	28.5	21.0	3.6	13.7	2.9
Bulindi	73.4	6.0	57.6	4.6	12.0	24.3	0.4	9.4	1.4
Kachwekano	53.5	23.1	27.4	4.2	16.0	34.9	3.8	4.5	-
Mukono	46.9	1.3	51.8	2.3	24.9	24.2	5.2	14.4	0.5
Ngetta	81.6	20.3	54.0	3.5	22.8	53.6	1.7	16.3	3.4
Nabuin	73.3	35.3	53.5	-	54.4	18.8	28.0	23.2	0.6
Serere	91.3	31.1	69.3	1.9	66.4	23.2	18.8	16.5	-
Mbarara	66.0	1.7	69.1	3.1	22.5	14.8	0.9	10.3	0.2
Rwebitaba	73.8	5.8	62.8	2.4	35.1	32.5	11.2	12.5	0.6
Uganda	64.9	13.2	55.4	3.0	29.8	28.5	5.4	12.9	1.3

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. Percentages computed on the Ag HHs that experienced at least one shock.
-No sampled unit under this category.

Table 6- 2: Percentage of Ag HHs that experienced a shock, by type of shock and sub-region*

ZARDI	Yes	Shock experienced							
		Floods	Drought	Hailstorms	Pests or disease outbreak	Erratic or heavy rains	Insecurity	Disease in the Ag HH	Other
S. Buganda	50.5	-	54.8	1.2	39.8	17.1	1.4	11.5	-
N. Buganda	45.6	2.3	47.9	2.6	17.3	30.9	8.4	16.8	0.9
West Nile	76.7	15.4	51.2	1.6	37.8	34.6	1.0	7.7	0.5
Lango	80.1	18.9	70.5	1.3	28.3	48.4	0.3	10.7	0.4
Acholi	83.9	22.3	30.6	6.6	14.9	61.0	3.7	24.2	7.6
Kigezi	53.5	23.1	27.4	4.2	16.0	34.9	3.8	4.5	-
Bunyoro	73.4	6.0	57.6	4.6	12.0	24.3	0.4	9.4	1.4
Tooro	73.8	5.8	62.8	2.4	35.1	32.5	11.2	12.5	0.6
Busoga	51.0	28.3	40.0	8.7	27.7	12.0	2.6	13.9	5.5
Teso	91.3	31.1	69.3	1.9	66.4	23.2	18.8	16.5	-
Bukedi	63.2	5.4	62.3	0.7	35.5	19.1	0.7	18.2	-
Elgon	52.2	17.8	34.3	1.5	20.7	38.0	8.9	7.4	2.2
Karamoja	73.3	35.3	53.5	-	54.4	18.8	28.0	23.2	0.6
Ankole	70.5	2.2	74.7	3.9	15.3	12.7	0.3	9.7	0.2
Uganda	64.9	13.2	55.4	3.0	29.8	28.5	5.4	12.9	1.3

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. Percentages computed on the Ag HHs that experienced at least one shock. - No sampled unit under this category.

Table 6- 3: Percentage of Ag HHs that experienced a shock, by extent of the damage*

Shock experienced	Extent of damage				Total
	None	Slight	Moderate	Severe	
Floods	-	8.0	41.7	50.3	100.0
Drought	0.1	16.7	46.7	36.5	100.0
Hailstorms	4.1	13.7	39.1	43.0	100.0
Pests or disease outbreak	0.1	23.1	43.1	33.7	100.0
Erratic or heavy rains	0.3	12.8	41.4	45.6	100.0
Insecurity	-	22.2	18.6	59.2	100.0
Disease in the Ag HH	0.1	15.9	32.1	51.9	100.0
Other	2.0	12.0	28.4	57.6	100.0
Total	0.2	16.5	41.9	41.4	100.0

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 4: Percentage of Ag HHs that experienced a shock, by main response to shock*

Shock response	Shock experienced								Total
	Floods	Drought	Hailstorms	Pests or disease outbreak	Erratic or heavy rains	Insecurity	Disease in the Ag HH	Other	
Sold land and/or buildings	-	0.1	-	-	0.1	-	0.4	-	0.1
Sold crops and/or livestock	9.2	5.8	4.3	3.0	6.2	0.7	12.4	9.5	6.0
Sold holdings other assets	-	0.1	0.2	0.1	0.3	0.4	0.3	-	0.1
Found other work, not on the holding	27.6	13.9	19.6	10.3	13.8	4.6	5.9	14.1	13.5
Received help from Government	0.2	0.3	1.6	0.2	0.4	30.3	0.4	-	1.4
Received help from NGOs	0.2	0.1	-	4.8	0.1	-	-	-	1.1
Received help from relatives	5.5	4.0	1.3	3.8	3.8	4.7	37.3	8.5	6.9
Reduced expenses for the holding	0.3	0.1	-	0.2	0.2	0.5	0.6	-	0.2
Reduced expenses for the household	0.2	0.1	-	0.1	0.2	-	0.6	-	0.2
Borrowed money/got a loan	1.8	1.4	2.1	1.9	1.5	0.1	3.5	-	1.7
Did nothing	53.5	74.0	70.6	72.7	72.8	56.8	37.0	60.5	67.7
Other	1.5	0.2	0.2	2.9	0.9	1.9	1.6	7.4	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey.

-No sampled unit under this category.

Table 6- 5: Percentage of Ag HHs that reported food shortage, by ZARDI*

ZARDI	Food shortage
Abi	40.3
Buginyanya	32.3
Bulindi	20.8
Kachwekano	38.5
Mukono	14.2
Ngetta	61.3
Nabuin	70.7
Serere	75.6
Mbarara	30.4
Rwebitaba	35.4
Uganda	35.6

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 6: Percentage of Ag HHs that reported food shortage, by sub-region*

Sub-region	Food shortage
South Buganda	23.9
North Buganda	10.4
West Nile	40.3
Lango	67.6
Acholi	52.0
Kigezi	38.5
Bunyoro	20.8
Tooro	35.4
Busoga	36.9
Teso	75.6
Bukedi	24.2
Elgon	32.9
Karamoja	70.7
Ankole	29.7
Uganda	35.6

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 7: Percentage of Ag HHs that reported food shortage, by ZARDI, by sex of household head*

ZARDI	Food shortage	
	Male-headed household	Female-Headed household
Abi	37.4	47.3
Buginyanya	31.5	35.7
Bulindi	20.2	23.9
Kachwekano	38.8	37.7
Mukono	13.9	14.8
Ngetta	61.2	61.5
Nabuin	67.5	75.1
Serere	74.9	78.2
Mbarara	29.4	33.7
Rwebitaba	35.2	36.5
Uganda	35.0	37.9

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled Unit under this category.

Table 6- 8: Percentage of Ag HHs, by reason of food shortage*

REASONS	Yes	Rank		
		Main	Second	Third
Loss of crops/insufficient production	90.5	94.8	3.6	1.6
Over selling produce	6.6	20.7	67.2	12.1
Loss of livestock	2.2	16.1	64.1	19.8
Inability to work because of illness, disability, injury or old age	13.0	29.5	60.7	9.8
Lack of adequate land	26.9	16.7	63.1	20.2
Lack of capital	30.1	8.4	51.1	40.4
Lack of labourers on the farm	6.1	7.2	43.7	49.1
Lack of job opportunity outside the holding	7.3	6.0	43.8	50.2
Other reason	1.0	69.7	5.8	24.6

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey.

-No sampled unit under this category.

Table 6- 9: Percentage of Ag HHs, by reason for food shortage and ZARDI*

ZARDI	Loss of crops/ insufficient production	Over selling produce	Loss of livestock	Inability to work because of illness, etc.	Lack of adequate land	Lack of capital	Lack of labourers on the farm	Lack of job opportunity outside the holding	Other reason
Abi	86.7	10.0	2.6	27.2	34.0	42.9	2.5	3.7	-
Buginyanya	88.1	3.0	1.4	14.1	28.8	9.8	1.8	10.6	1.1
Bulindi	80.2	2.1	-	9.6	5.3	5.1	-	2.1	8.8
Kachwekano	96.7	6.0	0.4	8.3	19.7	1.1	0.7	4.2	1.5
Mukono	87.9	-	-	12.1	21.4	14.3	1.5	2.3	-
Ngetta	89.5	20.1	0.9	15.2	21.6	38.3	22.0	0.6	1.1
Nabuin	89.7	2.5	27.9	11.7	1.7	32.8	1.1	20.8	0.5
Serere	96.2	3.0	-	11.6	49.4	60.1	6.5	26.5	-
Mbarara	92.9	2.1	0.8	6.3	33.0	28.8	2.5	0.7	-
Rwebitaba	95.0	2.3	-	9.7	24.2	44.3	0.5	1.5	0.8
Uganda	90.5	6.6	2.2	13.0	26.9	30.1	6.1	7.3	1.0

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 10: Percentage of Ag HH, by reason for food shortage and sub-region*

Sub-region	Loss of crops/ insufficient production	Over selling produce	Loss of livestock	Inability to work because of illness, disability, injury or old age	Lack of adequate land	Lack of capital	Lack of labourers on the farm	Lack of job opportunity outside the holding	Other reason
South Buganda	83.4	2.2	1.2	15.4	34.9	22.5	3.5	-	-
North Buganda	93.2	-	-	8.8	13.0	2.2	-	5.2	-
West Nile	86.7	10.0	2.6	27.2	34.0	42.9	2.5	3.7	-
Lango	89.2	25.6	1.2	7.6	29.2	54.8	32.3	0.6	-
Acholi	90.1	9.5	0.4	29.7	7.2	6.6	2.3	0.7	3.2
Kigezi	96.7	6.0	0.4	8.3	19.7	1.1	0.7	4.2	1.5
Bunyoro	80.2	2.1	-	9.6	5.3	5.1	-	2.1	8.8
Tooro	95.0	2.3	-	9.7	24.2	44.3	0.5	1.5	0.8
Busoga	87.0	3.9	2.4	11.3	32.2	10.8	3.0	5.6	0.6
Teso	96.2	3.0	-	11.6	49.4	60.1	6.5	26.5	-
Bukedi	94.1	1.6	-	25.7	34.7	8.1	-	15.7	-
Elgon	85.7	2.5	0.5	10.2	18.1	9.4	0.9	15.8	2.9
Karamoja	89.7	2.5	27.9	11.7	1.7	32.8	1.1	20.8	0.5
Ankole	96.8	0.8	-	2.2	28.6	32.1	1.6	0.9	-
Uganda	90.5	6.6	2.2	13.0	26.9	30.1	6.1	7.3	1.0

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 11: Percentage of Ag HHs that reported food shortage, by month*

Month	Yes
Jan	5.6
Feb	14.6
Mar	22.0
Apr	34.0
May	39.4
Jun	41.5
Jul	35.6
Aug	28.5
Sep	28.5
Oct	24.7
Nov	18.1
Dec	9.2

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey.
-No sampled unit under this category.

Table 6- 12: Percentage of Ag HHs that reported food shortage, by month, by ZARDI*

ZARDI	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Abi	1.1	5.5	7.2	23.4	48.1	80.2	49.7	18.0	11.8	9.4	5.7	5.5
Buginyanya	9.9	15.1	28.0	53.2	47.8	38.1	27.8	23.5	21.0	22.2	16.9	10.8
Bulindi	3.0	4.4	16.1	28.7	40.1	42.7	22.7	27.5	26.7	21.7	22.7	20.6
Kachwekano	2.7	6.0	16.6	27.1	26.4	22.6	17.8	26.1	35.5	48.6	35.6	12.4
Mukono	7.2	11.7	10.2	11.4	23.0	25.8	34.9	23.8	31.0	30.3	25.4	14.3
Ngetta	1.6	30.7	40.4	48.6	53.6	46.0	32.0	12.6	8.5	5.9	3.8	1.8
Nabuin	16.3	20.2	33.4	47.5	57.4	73.0	54.1	30.9	10.6	5.3	5.0	7.8
Serere	5.7	7.1	17.2	34.9	47.6	61.9	59.3	43.0	28.1	11.8	8.6	7.4
Mbarara	8.4	13.1	14.7	17.2	15.6	8.1	9.7	26.2	62.4	64.2	52.4	20.6
Rwebitaba	1.2	7.2	6.8	7.7	11.1	22.6	52.5	71.2	67.0	47.7	22.8	3.0
Uganda	5.6	14.6	22.0	34.0	39.4	41.5	35.6	28.5	28.5	24.7	18.1	9.2

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 13: Percentage of Ag HHs that reported a food shortage, by immediate response, by ZARDI*

ZARDI	Immediate response			
	Changed eating pattern	Skipped meals	Ate less preferred meals	Reduced meal size
Abi	84.2	83.8	91.2	87.1
Buginyanya	83.9	73.6	88.4	85.4
Bulindi	74.0	38.9	76.1	58.2
Kachwekano	54.2	48.2	88.8	85.6
Mukono	71.4	56.9	90.2	71.3
Ngetta	88.1	71.8	89.5	87.5
Nabuin	95.4	95.7	98.2	97.7
Serere	87.6	80.7	91.0	86.3
Mbarara	71.8	29.9	92.2	74.6
Rwebitaba	83.1	85.5	89.8	30.9
Uganda	81.6	68.4	89.9	78.5

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 14: Percentage of Ag HHs that reported a food shortage, by immediate response, by sex of household head*

SEX	Immediate response			
	Changed eating pattern	Skipped meals	Ate less preferred meals	Reduced meal size
Male	81.2	67.5	89.9	78.1
Female	82.6	71.2	89.8	79.7
Uganda	81.6	68.4	89.9	78.5

Notes: Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 15: Percentage of Ag HHs that changed eating patterns, by age group and sex, by ZARDI*

ZARDI	Yes	Age group					
		Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	84.2	57.4	63.7	27.6	31.0	46.3	47.1
Buginyanya	83.9	77.8	84.9	36.3	40.4	47.2	44.4
Bulindi	74.0	74.9	66.0	40.2	46.4	61.7	58.4
Kachwekano	54.2	71.7	86.4	22.7	35.3	46.4	38.9
Mukono	71.4	71.7	79.6	21.4	28.0	37.4	35.1
Ngetta	88.1	73.9	77.6	46.6	46.3	58.9	56.0
Nabuin	95.4	53.3	83.6	31.1	36.6	58.8	57.5
Serere	87.6	75.7	76.1	34.3	41.2	37.5	33.4
Mbarara	71.8	76.4	85.2	41.1	39.9	63.7	60.5
Rwebitaba	83.1	79.9	72.9	26.7	24.7	16.0	8.4
Uganda	81.6	72.8	78.3	35.5	38.5	47.7	44.5

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 16: Percentage of Ag HHs that skipped meals, by age group and sex, by ZARDI*

ZARDI	Yes	Age group					
		Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	83.8	57.9	63.7	25.4	28.9	43.9	42.8
Buginyanya	73.6	78.7	85.3	34.9	41.8	46.1	46.1
Bulindi	38.9	75.8	54.0	33.0	54.8	41.5	44.0
Kachwekano	48.2	65.3	84.9	19.5	28.3	20.0	18.1
Mukono	56.9	68.1	73.0	24.1	17.9	25.7	24.7
Ngetta	71.8	73.7	78.2	41.6	40.4	55.8	51.0
Nabuin	95.7	54.6	83.5	30.0	37.3	53.1	51.1
Serere	80.7	76.0	77.4	32.3	36.8	33.1	29.8
Mbarara	29.9	68.1	88.7	33.3	29.0	38.3	40.9
Rwebitaba	85.5	77.3	74.1	29.8	26.9	15.8	12.9
Uganda	68.4	71.6	77.9	32.7	35.3	40.5	38.5

Note: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 17: Percentage of Ag HHs that ate less preferred meals, by age group and sex, by ZARDI*

ZARDI	Age group						
	Yes	Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	91.2	59.2	65.3	29.0	33.0	51.4	54.3
Buginyanya	88.4	77.9	84.4	36.6	39.7	52.5	51.2
Bulindi	76.1	74.6	70.9	38.4	46.6	61.2	57.5
Kachwekano	88.8	74.2	85.5	29.7	35.6	57.8	54.0
Mukono	90.2	67.4	78.2	22.6	28.0	47.3	46.0
Ngetta	89.5	73.9	78.9	46.8	45.3	63.2	60.6
Nabuin	98.2	54.8	82.8	30.2	40.7	60.6	60.6
Serere	91.0	76.0	75.2	34.0	40.0	41.2	34.9
Mbarara	92.2	77.9	85.4	37.3	36.1	62.6	56.6
Rwebitaba	89.8	78.7	74.7	29.7	28.0	20.9	16.5
Uganda	89.9	73.0	78.9	35.4	38.1	52.1	49.3

Note: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Table 6- 18: Percentage of Ag HHs that reduced the meal size, by age group and sex, by ZARDI*

ZARDI	Age group						
	Yes	Adults		Youth		Children	
		Male	Female	Male	Female	Male	Female
Abi	87.1	59.0	65.0	27.4	33.2	52.8	52.6
Buginyanya	85.4	77.5	84.6	37.0	39.8	47.6	45.4
Bulindi	58.2	81.8	71.7	37.7	40.0	63.0	43.3
Kachwekano	85.6	78.2	87.9	25.8	37.7	51.0	56.0
Mukono	71.3	70.2	78.2	22.9	26.4	45.0	42.5
Ngetta	87.5	75.0	79.5	46.8	45.7	61.2	58.4
Nabuin	97.7	53.8	83.3	30.8	38.6	55.1	53.4
Serere	86.3	76.8	77.0	33.7	37.8	40.8	33.9
Mbarara	74.6	76.5	84.6	35.8	34.7	59.8	58.6
Rwebitaba	30.9	85.5	70.5	32.7	24.6	38.4	30.8
Uganda	78.5	73.5	79.5	35.6	38.1	52.1	49.1

Notes: *Reference period: last 12 months from the time of the AAS 2019 survey. -No sampled unit under this category.

Annex 7

Table 7- 1: Maize area, production and yields, by Sub-region

Sub-region	First Season					Second Season					Total				
	Area planted	Area harvested *	Production (MT)	Yield**	Yield***	Area planted	Area harvested*	Production (MT)	Yield**	Yield***	Area planted	Area harvested *	Production (MT)	Yield**	Yield***
	(Ha)	(Ha)		(MT/Ha)	(MT/Ha)	(Ha)	(Ha)		(MT/Ha)	(MT/Ha)	(Ha)	(Ha)		(MT/Ha)	(MT/Ha)
South Buganda	89,328	85,168	127,887	1.5	1.4	77,340	75,703	138,305	1.8	1.8	166,668	160,871	266,192	1.7	1.6
North Buganda	198,285	175,282	283,621	1.6	1.4	223,391	207,396	427,274	2.1	1.9	421,676	382,678	710,895	1.9	1.7
West Nile	43,766	37,465	45,271	1.2	1	5,210	5,121	6,974	1.4	1.3	48,976	42,586	52,245	1.2	1.1
Lango	79,683	75,210	92,444	1.2	1.2	86,366	85,582	113,313	1.3	1.3	166,049	160,792	205,757	1.3	1.2
Acholi	76,779	64,740	58,407	0.9	0.8	10,879	10,501	14,126	1.3	1.3	87,658	75,241	72,533	1	0.8
Kigezi	4,161	2,733	4,401	1.6	1.1	5,632	4,809	5,972	1.2	1.1	9,793	7,542	10,373	1.4	1.1
Bunyoro	150,959	147,255	298,527	2	2	155,198	151,191	262,421	1.7	1.7	306,157	298,446	560,948	1.9	1.8
Tooro	64,301	60,709	112,216	1.8	1.7	57,165	55,711	126,062	2.3	2.2	121,466	116,420	238,278	2	2
Busoga	102,431	91,621	130,011	1.4	1.3	74,874	68,000	84,648	1.2	1.1	177,305	159,621	214,659	1.3	1.2
Teso	55,785	49,118	43,263	0.9	0.8	32,348	29,756	26,696	0.9	0.8	88,133	78,874	69,959	0.9	0.8
Bukedi	58,627	53,880	58,526	1.1	1	39,887	38,079	39,827	1	1	98,514	91,959	98,353	1.1	1
Elgon	102,982	92,058	174,107	1.9	1.7	31,681	30,191	25,973	0.9	0.8	134,663	122,249	200,080	1.6	1.5
Karamoja	32,385	15,950	9,884	0.6	0.3	50	50	201	4	4	32,435	16,000	10,085	0.6	0.3
Ankole	13,958	13,275	25,009	1.9	1.8	13,628	12,900	24,215	1.9	1.8	27,586	26,175	49,224	1.9	1.8
Uganda	1,073,426	964,464	1,463,572	1.5	1.4	813,647	774,989	1,296,007	1.7	1.6	1,887,073	1,739,453	2,759,579	1.6	1.5

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. ** Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7-1a: Coefficient of variations for Maize area and production, by Sub-region

Sub-region	First Season			Second season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
South Buganda	13.5	14.1	17.8	13.3	13.5	12.8	11.5	12	12.8
North Buganda	13.4	13.7	15.4	20.1	21.3	23.8	15.9	16.6	18.3
West Nile	10.8	10.7	11	30.9	31.4	22.6	10.9	10.8	10.9
Lango	8.4	8.4	11.9	11.1	11.3	12.4	8.3	8.5	10.8
Acholi	16.5	15.8	12.9	25.1	24.6	22.6	15.5	14.8	11.8
Kigezi	26.4	22.8	22.9	18.4	20.1	21.8	20	17.5	18.9
Bunyoro	15	15.3	15.7	13.1	13	13.3	13	13.1	14
Tooro	23	24.6	27.9	21.1	21.6	25.6	21.3	22.3	26.2
Busoga	10.8	11.6	11.3	14.9	15.1	14.7	11.3	11.6	11.7
Teso	10.6	11.2	15.1	15.4	15.4	21.5	10.7	11	16.2
Bukedi	8.2	9.1	10.6	9.6	9.5	9.9	7.2	7.7	8.2
Elgon	25.9	28.6	37.3	80.5	84.5	75	37.3	41	41.5
Karamoja	21	29	26.2	100	100	100	20.9	28.9	25.7
Ankole	22.1	23.1	18.8	18	19.1	18.9	17.4	18.1	17.2
Uganda	4.9	5.2	6.9	7.4	7.6	9	5.5	5.7	6.9

Table 7- 2: Maize area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted	Area Harvested*	Production (MT)	Yield**	Yield***	Area planted	Area harvested*	Production (MT)	Yield**	Yield***	Area planted	Area harvested	Production (MT)	Yield**	Yield***
	(Ha)	(Ha)	(MT)	(MT/Ha)	(MT/Ha)	(Ha)	(Ha)	(MT)	(MT/Ha)	(MT/Ha)	(Ha)	(Ha)	(MT)	(MT/Ha)	(MT/Ha)
Abi	43,766	37,465	45,271	1.2	1	5,210	5,121	6,974	1.4	1.3	48,976	42,586	52,245	1.2	1.1
Buginyanya	264,039	237,559	362,644	1.5	1.4	146,441	136,271	150,447	1.1	1	410,480	373,830	513,091	1.4	1.2
Bulindi	150,959	147,255	298,527	2	2	155,198	151,191	262,421	1.7	1.7	306,157	298,446	560,948	1.9	1.8
Kachwekano	4,161	2,733	4,401	1.6	1.1	5,632	4,809	5,972	1.2	1.1	9,793	7,542	10,373	1.4	1.1
Mukono	245,722	219,702	351,301	1.6	1.4	269,634	252,313	507,889	2	1.9	515,356	472,015	859,190	1.8	1.7
Ngetta	156,462	139,949	150,850	1.1	1	97,245	96,083	127,440	1.3	1.3	253,707	236,032	278,290	1.2	1.1
Nabuin	32,385	15,950	9,884	0.6	0.3	50	50	201	4	4	32,435	16,000	10,085	0.6	0.3
Serere	55,785	49,118	43,263	0.9	0.8	32,348	29,756	26,696	0.9	0.8	88,133	78,874	69,959	0.9	0.8
Mbarara	55,848	54,022	85,215	1.6	1.5	44,724	43,686	81,906	1.9	1.8	100,572	97,708	167,121	1.7	1.7
Rwebitaba	64,301	60,709	112,216	1.8	1.7	57,165	55,711	126,062	2.3	2.2	121,466	116,420	238,278	2.0	2.0
Uganda	1,073,426	964,464	1,463,572	15	14	813,647	774,989	1,296,007	1.7	1.6	1,887,073	1,739,453	2,759,579	1.6	1.5

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7-2a: Coefficients of Variations for Maize area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	10.8	10.7	11	30.9	31.4	22.6	10.9	10.8	10.9
Buginyanya	11.1	12.1	18.4	19.2	20.4	15.6	13.3	14.4	17
Bulindi	15	15.3	15.7	13.1	13	13.3	13	13.1	14
Kachwekano	26.4	22.8	22.9	18.4	20.1	21.8	20	17.5	18.9
Mukono	11.4	11.5	13.2	17.1	17.9	20.2	13.4	13.9	15.5
Ngetta	9.2	8.6	8.9	10.3	10.4	11.3	7.6	7.5	8.5
Nabuin	21	29	26.2	100	100	100	20.9	28.9	25.7
Serere	10.6	11.2	15.1	15.4	15.4	21.5	10.7	11	16.2
Mbarara	23	23.6	25	19.1	19.5	20.9	20.3	20.7	20.7
Rwebitaba	23	24.6	27.9	21.1	21.6	25.6	21.3	22.3	26.2
Uganda	4.9	5.2	6.9	7.4	7.6	9	5.5	5.7	6.9

Table 7- 3: Millet area, production and yields, by Sub-region

Sub-region	First Season					Second Season					Total				
	Area planted	Area harvested *	Production (MT)	Yield**	Yield***	Area planted	Area harvested*	Production (MT)	Yield**	Yield***	Area planted	Area harvested*	Production (MT)	Yield**	Yield***
	(Ha)	(Ha)	(MT)	(MT/Ha)	(MT/Ha)	(Ha)	(Ha)	(MT)	(MT/Ha)	(MT/Ha)	(Ha)	(Ha)	(MT)	(MT/Ha)	(MT/Ha)
South Buganda	176	-	-	-	-	534	411	323	0.8	0.6	710	411	323	0.8	0.5
North Buganda	1,768	1,707	871	0.5	0.5	1,549	1,336	838	0.6	0.5	3,317	3,043	1,709	0.6	0.5
West Nile	910	563	185	0.3	0.2	3,395	3,395	786	0.2	0.2	4,305	3,958	971	0.2	0.2
Lango	29,154	27,410	9,782	0.4	0.3	5,233	5,036	1,440	0.3	0.3	34,387	32,446	11,222	0.3	0.3
Acholi	60,613	47,048	11,090	0.2	0.2	8,398	8,121	2,325	0.3	0.3	69,011	55,169	13,415	0.2	0.2
Kigezi	1,359	1,057	467	0.4	0.3	6,083	5,368	2,443	0.5	0.4	7,442	6,425	2,910	0.5	0.4
Bunyoro	1,235	1,187	690	0.6	0.6	2,012	1,926	692	0.4	0.3	3,247	3,113	1,382	0.4	0.4
Tooro	661	661	321	0.5	0.5	3,931	3,677	1,545	0.4	0.4	4,592	4,338	1,866	0.4	0.4
Busoga	12,267	11,370	4,268	0.4	0.3	595	595	108	0.2	0.2	12,862	11,965	4,376	0.4	0.3
Teso	33,713	30,875	8,967	0.3	0.3	4,724	4,457	1,248	0.3	0.3	38,437	35,332	10,215	0.3	0.3
Bukedi	17,491	17,180	7,104	0.4	0.4	896	896	174	0.2	0.2	18,387	18,076	7,278	0.4	0.4
Elgon	3,147	3,112	2,001	0.6	0.6	671	671	114	0.2	0.2	3,818	3,783	2,115	0.6	0.6
Karamoja	5,250	2,568	781	0.3	0.1						5,250	2,568	781	0.3	0.1
Ankole	324	206	72	0.3	0.2	24,227	22,877	14,026	0.6	0.6	24,551	23,083	14,098	0.6	0.6
Uganda	168,068	144,945	46,597	0.3	0.3	62,248	58,767	26,061	0.4	0.4	230,316	203,712	72,658	0.4	0.3

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7-3a: Coefficients of Variations for Millet area and production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV Area Harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	100	-	-	52.8	62.7	67.5	46	62.7	67.5
North Buganda	60.7	62.9	63.7	50.2	57.7	60	54.2	59	60.4
West Nile	53.1	49.5	47.6	51.1	51.1	68.1	48.9	47.9	62.5
Lango	17.1	17.2	14.3	26.3	27	30.8	15.3	15.4	14
Acholi	19.4	18	16.1	34.4	34.7	33.1	18.3	18	16.2
Kigezi	41.2	41.5	41.1	20.6	21.3	21.6	19.9	20.3	21.1
Bunyoro	34.8	36.2	42.5	42.2	44	49.8	32.2	33.4	33.4
Tooro	32.1	32.1	39.4	26.6	27.9	28.8	24.8	25.9	26.2
Busoga	46.7	50.4	54.1	62.9	62.9	57.8	44.7	48	52.8
Teso	15	15.6	18.6	23.3	24.2	25.6	14	14.5	17.6
Bukedi	13.3	13.3	19	51.2	51.2	46.9	13.7	13.8	19.1
Elgon	37.1	37.6	46	100	100	100	41.8	42.3	45.7
Karamoja	61	75.5	65.4				61	75.5	65.4
Ankole	56.8	49.6	69.4	12.9	12.8	15	12.8	12.8	15
Uganda	9.2	8.8	8.8	8.7	8.9	9.8	7.4	7.2	7

Table 7- 4: Millet area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	910	563	185	0.3	0.2	3395	3395	786	0.2	0.2	4,305	3,958	971	0.2	0.2
Buginyanya	32,905	31,662	13,372	0.4	0.4	2162	2162	396	0.2	0	35,067	33,824	13,768	0.4	0.4
Buindi	1,235	1,187	690	0.6	0.6	2012	1926	692	0.4	0	3,247	3,113	1,382	0.4	0.4
Kachwekano	1,359	1,057	467	0.4	0.3	6083	5368	2443	0.5	0	7,442	6,425	2,910	0.5	0.4
Mukono	1,768	1,707	871	0.5	0.5	1775	1561	917	0.6	1	3,543	3,268	1,788	0.5	0.5
Ngetta	89,768	74,458	20,872	0.3	0.2	13631	13157	3765	0.3	0	103,399	87,615	24,637	0.3	0.2
Nabuin	5,250	2,568	781	0.3	0.1						5,250	2,568	781	0.3	0.1
Serere	33,713	30,875	8,967	0.3	0.3	4724	4457	1248	0.3	0	38,437	35,332	10,215	0.3	0.3
Mbarara	500	206	72	0.3	0.1	24535	23062	14269	0.6	0.6	25,035	23,268	14,341	0.6	0.6
Rwebitaba	661	661	321	0.5	0.5	3931	3677	1545	0.4	0.4	4,592	4,338	1,866	0.4	0.4
Uganda	168,068	144,945	46,597	0.3	0.3	62,248	58,767	26,061	0.4	0.4	230,316	203,712	72,658	0.4	0.3

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7.4a: Coefficients of variation for Millet area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
Abi	53.1	49.5	47.6	51.1	51.1	68.1	48.9	47.9	62.5
Buginyanya	19.1	19.8	21.1	41	41	38.7	18.5	19.1	20.8
Bulindi	34.8	36.2	42.5	42	44	49.8	32.2	33.4	33.4
Kachwekano	41.2	41.5	41.1	21	21.3	21.6	19.9	20.3	21.1
Mukono	60.7	62.9	63.7	46	51.4	55.5	51.1	55.3	57.9
Ngetta	14.2	13	10.9	24	24	23.6	13.3	12.7	10.9
Nabuin	61	75.5	65.4				61	75.5	65.4
Serere	15	15.6	18.6	23	24	25.6	14	14.5	17.6
Mbarara	50.9	49.6	69.4	12.7	12.7	14.8	12.6	12.7	14.8
Rwebitaba	32.1	32.1	39.4	26.6	27.9	28.8	24.8	25.9	26.2
Uganda	9.2	8.8	8.8	8.7	8.9	9.8	7.4	7.2	7

Table 7- 5: Sorghum area, production and yields, by Sub-region

Sub-region	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area Planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	85	85	49	0.6	0.6	3,325	3,316	552	0.2	0.2	3,410	3,401	601	0.2	0.2
North Buganda	1,058	693	287	0.4	0.3	365	365	235	0.6	0.6	1,423	1,058	522	0.5	0.4
West Nile	13,676	3,169	2,713	0.9	0.2	3,660	3,397	2,124	0.6	0.6	17,336	6,566	4,837	0.7	0.3
Lango	9,871	6,071	3,515	0.6	0.4	11,409	10,499	6,138	0.6	0.5	21,280	16,570	9,653	0.6	0.5
Acholi	65,859	1,183	931	0.8	0	11,712	11,175	9,406	0.8	0.8	77,571	12,358	10,337	0.8	0.1
Kigezi	12,371	11,686	8,836	0.8	0.7	506	334	326	1	0.6	12,877	12,020	9,162	0.8	0.7
Bunyoro	1,673	1,427	626	0.4	0.4	1,333	1,217	871	0.7	0.7	3,006	2,644	1,497	0.6	0.5
Tooro	3,241	2,752	3,427	1.2	1.1	2,099	2,099	2,968	1.4	1.4	5,340	4,851	6,395	1.3	1.2
Busoga	1,372	1,372	943	0.7	0.7	1,148	1,148	223	0.2	0.2	2,520	2,520	1,166	0.5	0.5
Teso	29,129	26,089	16,764	0.6	0.6	36,747	33,739	17,334	0.5	0.5	65,876	59,828	34,098	0.6	0.5
Bukedi	10,238	8,356	3,774	0.5	0.4	1,400	1,375	355	0.3	0.3	11,638	9,731	4,129	0.4	0.4
Elgon	521	382	205	0.5	0.4	499	4	1	0.3	0	1,020	386	206	0.5	0.2
Karamoja	90,816	24,409	6,500	0.3	0.1						90,816	24,409	6,500	0.3	0.1
Ankole	4,723	4,688	4,077	0.9	0.9	5,040	5,040	4,129	0.8	0.8	9,763	9,728	8,206	0.8	0.8
Uganda	244,634	92,363	52,647	0.6	0.2	79,244	73,709	44,661	0.6	0.6	323,878	166,072	97,308	0.6	0.3

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 5a: Coefficients of variation for Sorghum area and production and yields, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	100	100	100	99.7	100	100	97.2	97.5	92.1
North Buganda	45.1	41.1	45.5	64	64	61.8	40	35.4	36.6
West Nile	25.1	40.7	40.7	24.6	22.4	23.4	21.8	25.9	26.8
Lango	29.3	35	36.8	34.3	36.5	34	29.2	35.4	34.4
Acholi	19.1	66	72.1	24.7	24.3	29	17.3	21.8	26.5
Kigezi	17.7	17.9	19.8	35.2	34.8	41.9	17.1	17.2	18.9
Bunyoro	40.3	44.3	34.2	48.1	52.3	56.5	36.3	38.2	41.5
Tooro	45.8	52.7	61.9	64	64	85.6	51.8	56.3	72.1
Busoga	44.1	44.1	61.1	53.4	53.4	53.5	34.2	34.2	50
Teso	13.5	12.7	13.9	13.5	13.3	14.2	9.5	9.4	10
Bukedi	23.4	27.4	27.7	28.2	28.8	42.5	21	24.1	26
Elgon	55.8	71.8	73.2	99.1	100	100	75.4	71.1	72.9
Karamoja	14.5	36.4	41.9				14.5	36.4	41.9
Ankole	38.6	38.9	46.7	32.5	32.5	38.4	32.2	32.3	41.2
Uganda	8	11.5	10.2	10.2	10.4	11.8	6.8	8.4	9

Table 7- 6: Sorghum area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	13,676	3,169	2,713	0.9	0.2	3,660	3,397	2,124	0.6	0.6	17,336	6,566	4,837	0.7	0.3
Bughinyanya	12,131	10,111	4,922	0.5	0.4	3,048	2,527	579	0.2	0.2	15,179	12,638	5,501	0.4	0.4
Bulindi	1,673	1,427	626	0.4	0.4	1,333	1,217	871	0.7	0.7	3,006	2,644	1,497	0.6	0.5
Kachwekano	12,371	11,686	8,836	0.8	0.7	506	334	326	1	0.6	12,877	12,020	9,162	0.8	0.7
Mukono	1,058	693	287	0.4	0.3	3,681	3,681	787	0.2	0.2	4,739	4,374	1,074	0.2	0.2
Ngeta	75,730	7,254	4,446	0.6	0.1	23,122	21,674	15,544	0.7	0.7	98,852	28,928	19,990	0.7	0.2
Nabuin	90,816	24,409	6,500	0.3	0.1						90,816	24,409	6,500	0.3	0.1
Serere	29,129	26,089	16,764	0.6	0.6	36,747	33,739	17,334	0.5	0.5	65,876	59,828	34,098	0.6	0.5
Mbarara	4,808	4,773	4,126	0.9	0.9	5,048	5,040	4,129	0.8	0.8	9,856	9,813	8,255	0.8	0.8
Rwebitaba	3,241	2,752	3,427	1.2	1.1	2,099	2,099	2,968	1.4	1.4	5,340	4,851	6,395	1.3	1.2
Uganda	244,634	92,363	52,647	0.6	0.2	79,244	73,709	44,661	0.6	0.6	323,878	166,072	97,308	0.6	0.3

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 6a: Coefficients of variation for Sorghum area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	25.1	40.7	40.7	24.6	22.4	23.4	21.8	25.9	26.8
Buginyanya	20.5	23.6	24.4	28.9	28.9	33.2	17.8	19.9	22.4
Bulindi	40.3	44.3	34.2	48.1	52.3	56.5	36.3	38.2	41.5
Kachwekano	17.7	17.9	19.8	35.2	34.8	41.9	17.1	17.2	18.9
Mukono	45.1	41.1	45.5	90.3	90.3	72.5	71	76.3	54.4
Ngetta	17.1	31.2	32.8	21	21.7	22.1	15	22.3	21.5
Nabuin	14.5	36.4	41.9				14.5	36.4	41.9
Serere	13.5	12.7	13.9	13.5	13.3	14.2	9.5	9.4	10
Mbarara	37.9	38.2	46.1	32.4	32.5	38.4	31.9	32.1	40.9
Rwebitaba	45.8	52.7	61.9	64	64	85.6	51.8	56.3	72.1
Uganda	8	11.5	10.2	10.2	10.4	11.8	6.8	8.4	9

Table 7- 7: Rice area, production and yields, by Sub-region

Subregion	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	1,359	1,359	459	0.3	0.3	1,762	1,762	3,670	2.1	2.1	3,121	3,121	4,129	1.3	1.3
North Buganda	5,478	5,478	6,436	1.2	1.2	4,066	4,066	11,607	2.9	2.9	9,544	9,544	18,043	1.9	1.9
West Nile	5,489	233	174	0.7	0	2,280	2,280	2,205	1	1	7,769	2,513	2,379	0.9	0.3
Lango	11,038	2,548	2,034	0.8	0.2	8,848	8,538	9,549	1.1	1.1	19,886	11,086	11,583	1	0.6
Achoi	24,320	10,653	12,489	1.2	0.5	6,788	5,713	6,277	1.1	0.9	31,108	16,366	18,766	1.1	0.6
Kigezi	4,310	1,590	1,281	0.8	0.3	2,567	2,342	3,593	1.5	1.4	6,877	3,932	4,874	1.2	0.7
Bunyoro	2,032	2,032	3,854	1.9	1.9	7,766	7,570	7,559			9,798	9,602	11,413	1.2	1.2
Tooro	3,280	3,194	3,448	1.1	1.1	4,364	4,276	7,117	1.7	1.6	7,644	7,470	10,565	1.4	1.4
Busoga	23,321	21,405	27,499	1.3	1.2	13,216	12,938	22,327	1.7	1.7	36,537	34,343	49,826	1.5	1.4
Teso	13,166	3,974	3,766	0.9	0.3	2,117	1,918	2,257	1.2	1.1	15,283	5,892	6,023	1	0.4
Bukedi	14,888	11,761	10,953	0.9	0.7	8,613	8,073	9,204	1.1	1.1	23,501	19,834	20,157	1	0.9
Elgon	3,290	2,642	2,783	1.1	0.8	1,826	1,826	5,624	3.1	3.1	5,116	4,468	8,407	1.9	1.6
Karamoja	1,484	1,484	432								1,484	1,484	432		
Ankole															
Uganda	113,454	68,352	75,608	1.1	0.7	64,212	61,300	90,988	1.5	1.4	177,666	129,652	166,596	1.3	0.9

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 7a: Coefficients of variation for Rice area and production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	100	100	100	100	100	100	100	100	100
North Buganda	43	43	42.2	59.8	59.8	70.2	44.9	44.9	55.9
West Nile	37.4	73.2	90.4	45.6	45.6	43.1	31	41.4	40.1
Lango	44.1	47	43.5	37.9	39	40.2	39.5	36.1	38
Acholi	32.8	57	54	41.2	39.3	43.7	32.2	46.3	41.5
Kigezi	71.3	94.6	97.2	71	73.1	69.6	57.5	70.7	71.1
Bunyoro	40.3	40.3	56.2	39.8	40.7	40.5	32.9	33.4	32.1
Tooro	80.9	82.9	83.1	63.5	64.9	67	66	67.1	69.2
Busoga	21.8	20.8	24.5	35.5	36.2	29.1	24.1	23.9	22
Teso	29.2	35.7	41.1	37.3	41.3	48	26.1	32	39
Bukedi	18.9	20.6	22.6	27.8	29.2	27.5	20.1	22	22.3
Elgon	57.4	65.5	69.1	99	99	99.4	53.7	59.4	71.3
Karamoja	100	100	100				100	100	100
Ankole									
Uganda	11.5	13.8	14.9	14.1	14.4	16.4	10.9	12.1	12.9

Table 7- 8: Rice area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	5,489	233	174	0.7	0	2,280	2,280	2,205	1	1	7,769	2,513	2,379	0.9	0.3
Buginyanya	41,498	35,808	41,235	1.2	1	23,655	22,836	37,154	1.6	1.6	65,153	58,644	78,389	1.3	1.2
Bulindi	2,032	2,032	3,854	1.9	1.9	7,766	7,570	7,559	1	1	9,798	9,602	11,413	1.2	1.2
Kachwekano	4,310	1,590	1,281	0.8	0.3	2,567	2,342	3,593	1.5	1.4	6,877	3,932	4,874	1.2	0.7
Mukono	6,836	6,836	6,895	1	1	5,827	5,827	15,278	2.6	2.6	12,663	12,663	22,173	1.8	1.8
Ngetta	35,358	13,201	14,523	1.1	0.4	15,636	14,251	15,825	1.1	1	50,994	27,452	30,348	1.1	0.6
Nabuin	1,484	1,484	432	0.3	0.3						1,484	1,484	432	0.3	0.3
Serere	13,166	3,974	3,766	0.9	0.3	2,117	1,918	2,257	1.2	1.1	15,283	5,892	6,023	1	0.4
Mbarara											-	-	-		
Rwebitaba	3,280	3,194	3,448	1.1	1.1	4,364	4,276	7,117	1.7	1.6	7,644	7,470	10,565	1.4	1.4
Uganda	113,454	68,352	75,608	1.1	0.7	64,212	61,300	90,988	1.5	1.4	177,666	129,652	166,596	1.3	0.9

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 8a: Coefficients of variation for Rice area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	37.4	73.2	90.4	45.6	45.6	43.1	31	41.4	40.1
Buginyanya	14.7	15	18	23.5	24.3	24.1	15.9	16.5	17
Bulindi	40.3	40.3	56.2	39.8	40.7	40.5	32.9	33.4	32.1
Kachwekano	71.3	94.6	97.2	71	73.1	69.6	57.5	70.7	71.1
Mukono	39.8	39.8	39.9	51.6	51.6	58.5	41.8	41.8	49.1
Ngetta	26.4	46.9	46.8	27.9	28.2	29.8	25	31.2	29.5
Nabuin	100	100	100				100	100	100
Serere	29.2	35.7	41.1	37.3	41.3	48	26.1	32	39
Mbarara									
Rwebitaba	80.9	82.9	83.1	63.5	64.9	67	66	67.1	69.2
Uganda	11.5	13.8	14.9	14.1	14.4	16.4	10.9	12.1	12.9

Table 7- 9: Beans area, production and yields, by Sub-region

Sub-region	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	59,153	53,269	28,374	0.5	0.5	48,261	44,469	28,721	0.6	0.6	107,414	97,738	57,095	0.6	0.5
North Buganda	84,454	67,605	33,260	0.5	0.4	67,060	56,104	39,045	0.7	0.6	151,514	123,709	72,305	0.6	0.5
West Nile	14,196	12,046	7,657	0.6	0.5	6,133	5,869	3,081	0.5	0.5	20,329	17,915	10,738	0.6	0.5
Lango	58,016	48,528	19,691	0.4	0.3	16,928	14,553	4,915	0.3	0.3	74,944	63,081	24,606	0.4	0.3
Acholi	11,190	9,127	3,603	0.4	0.3	3,678	3,678	1,738	0.5	0.5	14,868	12,805	5,341	0.4	0.4
Kigezi	18,619	16,152	9,135	0.6	0.5	21,119	18,648	10,582	0.6	0.5	39,738	34,800	19,717	0.6	0.5
Bunyoro	70,179	66,114	44,027	0.7	0.6	53,612	51,233	33,400	0.7	0.6	123,791	117,347	77,427	0.7	0.6
Tooro	52,703	46,405	26,524	0.6	0.5	45,977	43,048	25,432	0.6	0.6	98,680	89,453	51,956	0.6	0.5
Busoga	17,732	13,510	5,130	0.4	0.3	7,222	6,180	2,565	0.4	0.4	24,954	19,690	7,695	0.4	0.3
Teso	8,080	6,174	2,099	0.3	0.3	1,870	1,564	598	0.4	0.3	9,950	7,738	2,697	0.3	0.3
Bukedi	7,886	5,710	1,619	0.3	0.2	4,698	3,761	1,221	0.3	0.3	12,584	9,471	2,840	0.3	0.2
Elgon	52,012	44,884	17,625	0.4	0.3	34,735	28,086	14,297	0.5	0.4	86,747	72,970	31,922	0.4	0.4
Karamoja	4,452	4,102	660	0.2	0.1						4,452	4,102	660	0.2	0.1
Ankole	51,415	49,114	38,826	0.8	0.8	45,829	44,917	33,784	0.8	0.7	97,244	94,031	72,610	0.8	0.7
Uganda	510,086	442,741	238,230	0.5	0.5	357,123	322,111	199,380	0.6	0.6	867,209	764,852	437,610	0.6	0.5

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 9a: Coefficients of variation for Beans area and production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	11	11.1	13.2	12.5	13.1	15.5	10.7	10.8	12.8
North Buganda	14.3	16.6	18.9	14.8	15	17	13.7	15.1	17.3
West Nile	19.1	21	22.3	26	27	27.4	18.6	20	20.9
Lango	8.5	9.4	11.8	14.2	15.6	21.3	7.6	8.8	11.6
Acholi	24.3	25.1	24.2	30.1	30.1	30.9	21.2	21.9	22.2
Kigezi	8.2	9.5	11.9	8.9	9.7	14.4	7.6	8.8	11.6
Bunyoro	11	11.1	13.1	11.4	10.5	10.4	9.2	9.1	9.8
Tooro	9.9	9.3	13.4	8.3	8.7	9.4	8.3	8.3	10.3
Busoga	29.8	38.2	39	27.6	31.9	32.3	25.4	29.9	30.4
Teso	28.9	33.7	36	38.4	33.2	28.6	26.8	30.7	29.8
Bukedi	17.9	23.5	28.4	25.5	27.7	38.1	16.7	20.2	25.8
Elgon	13	13.9	13.7	12.5	13.1	15.2	11.6	12.5	12.8
Karamoja	38	41.3	44				38	41.3	44
Ankole	8.7	9	9.9	8.5	8.7	9.4	8.2	8.4	9.2
Uganda	4	4.3	4.9	4.3	4.3	5.1	3.7	3.9	4.5

Table 7- 10: Beans area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	14,196	12,046	7,657	0.6	0.5	6,133	5,869	3,081	0.5	0.5	20,329	17,915	10,738	0.6	0.5
Buginyanya	77,630	64,104	24,374	0.4	0.3	46,656	38,028	18,083	0.5	0.4	124,286	102,132	42,457	0.4	0.3
Bulindi	70,179	66,114	44,027	0.7	0.6	53,612	51,233	33,400	0.7	0.6	123,791	117,347	77,427	0.7	0.6
Kachwekano	18,619	16,152	9,135	0.6	0.5	21,119	18,648	10,582	0.6	0.5	39,738	34,800	19,717	0.6	0.5
Mukono	122,318	100,817	49,534	0.5	0.4	97,723	83,690	54,192	0.6	0.6	220,041	184,507	103,726	0.6	0.5
Ngetta	69,206	57,655	23,294	0.4	0.3	20,607	18,231	6,653	0.4	0.3	89,813	75,886	29,947	0.4	0.3
Nabuin	4,452	4,102	660	0.2	0.1						4,452	4,102	660	0.2	0.1
Serere	8,080	6,174	2,099	0.3	0.3	1,870	1,564	598	0.4	0.3	9,950	7,738	2,697	0.3	0.3
Mbarara	72,704	69,171	50,925	0.7	0.7	63,426	61,800	47,359	0.8	0.7	136,130	130,971	98,284	0.8	0.7
Rwebitaba	52,703	46,405	26,524	0.6	0.5	45,977	43,048	25,432	0.6	0.6	98,680	89,453	51,956	0.6	0.5
Uganda	510,086	442,741	238,230	0.5	0.5	357,123	322,111	199,380	0.6	0.6	867,209	764,852	437,610	0.6	0.5

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 10a: Coefficients of variation for Beans area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
Abi	19.1	21	22.3	26	27	27.4	18.6	20	20.9
Buginyanya	11.2	12.8	13	10.5	11.3	13.1	9.7	10.8	11.2
Bulindi	11	11.1	13.1	11.4	10.5	10.4	9.2	9.1	9.8
Kachwekano	8.2	9.5	11.9	8.9	9.7	14.4	7.6	8.8	11.6
Mukono	11.3	12.5	14.2	11.8	12	13.6	10.8	11.6	13.3
Ngetta	8.2	8.8	10.6	12.9	13.9	17.7	7.3	8.2	10.3
Nabuin	38	41.3	44				38	41.3	44
Serere	28.9	33.7	36	38.4	33.2	28.6	26.8	30.7	29.8
Mbarara	9.8	10	10.3	9.9	10.1	11.2	9.5	9.7	10
Rwebitaba	9.9	9.3	13.4	8.3	8.7	9.4	8.3	8.3	10.3
Uganda	4	4.3	4.9	4.3	4.3	5.1	3.7	3.9	4.5

Table 7- 11: Soya beans area, production and yields, by sub-region

Sub-region	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda						56	56	85	1.5	1.5	56	56	85	1.5	1.5
North Buganda	2,199	2,157	969	0.4	0.4	3,401	3,373	1,626	0.5	0.5	5,600	5,530	2,595	0.5	0.5
West Nile	1,715	969	564	0.6	0.3	855	737	510	0.7	0.6	2,570	1,706	1,074	0.6	0.4
Lango	79,296	73,870	55,721	0.8	0.7	49,562	48,983	33,128	0.7	0.7	128,858	122,853	88,849	0.7	0.7
Acholi	18,245	15,066	11,243	0.7	0.6	7,746	7,397	3,951	0.5	0.5	25,991	22,463	15,194	0.7	0.6
Kigezi	34	34	3	0.1	0.1	12	12	6	0.5	0.5	46	46	9	0.2	0.2
Bunyoro	1,548	1,526	689	0.5	0.4	1,374	1,369	382	0.3	0.3	2,922	2,895	1,071	0.4	0.4
Tooro	1,717	976	348	0.4	0.2	1,349	1,097	717	0.7	0.5	3,066	2,073	1,065	0.5	0.3
Busoga	11,311	10,511	5,427	0.5	0.5	7,161	6,744	2,603	0.4	0.4	18,472	17,255	8,030	0.5	0.4
Teso	5,528	5,122	2,118	0.4	0.4	6,427	5,293	1,482	0.3	0.2	11,955	10,415	3,600	0.3	0.3
Bukedi	5,990	3,705	1,567	0.4	0.3	6,066	5,945	2,246	0.4	0.4	12,056	9,650	3,813	0.4	0.3
Elgon	421	406	116	0.3	0.3	2,453	2,015	1,007	0.5	0.4	2,874	2,421	1,123	0.5	0.4
Karamoja											-	-	-		
Ankole	449	438	110	0.3	0.2	869	869	263	0.3	0.3	1,318	1,307	373	0.3	0.3
Uganda	128,453	114,781	78,875	0.7	0.6	87,330	83,889	48,004	0.6	0.5	215,783	198,670	126,879	0.6	0.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 11a: Coefficients of variation for Soya beans area and production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda				100	100	100	100	100	100
North Buganda	59	60.1	60.3	55.4	55.2	55.6	47.5	47.8	48.4
West Nile	31.7	40.7	56.8	46.8	41.1	42.1	29.4	30.5	36.3
Lango	13.1	14	17.7	9.5	9.6	11.1	9.7	10.2	13.5
Acholi	23.7	27.6	31.6	31.1	31	30.6	21.9	24.6	27.3
Kigezi	73.8	73.8	73.8	74.2	74.2	82.1	71	71	77.1
Bunyoro	43.6	43.6	55.5	51.6	51.8	38.8	43.7	43.9	46.1
Tooro	35.8	32.7	36	34.5	36.8	37.6	29.7	31.3	30.8
Busoga	24.4	26	30.4	20.8	21.7	22.2	18.9	20	21.7
Teso	31.7	33.9	44.5	27.2	31.4	28.7	23.3	25.1	34.4
Bukedi	24.6	27.2	32.4	21.4	21.2	24.9	19.3	20.8	22.5
Elgon	40.6	40.9	38.8	37.5	31	38.6	32.9	27.4	34.9
Karamoja									
Ankole	40.7	41.7	41.9	52.3	52.3	53.4	36.9	37.2	42.7
Uganda	9.3	10.2	13.5	7.3	7.4	8.6	7	7.4	10.2

Table 7- 12: Soya beans area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	1,715	969	564	0.6	0.3	855	737	510	0.7	0.6	2,570	1,706	1,074	0.6	0.4
Buginyanya	17,722	14,622	7,110	0.5	0.4	15,680	14,704	5,856	0.4	0.4	33,402	29,326	12,966	0.4	0.4
Bulindi	1,548	1,526	689	0.5	0.4	1,374	1,369	382	0.3	0.3	2,922	2,895	1,071	0.4	0.4
Kachwekano	34	34	3	0.1	0.1	12	12	6	0.5	0.5	46	46	9	0.2	0.2
Mukono	2,199	2,157	969	0.4	0.4	3,457	3,428	1,710	0.5	0.5	5,656	5,585	2,679	0.5	0.5
Ngetta	97,541	88,936	66,964	0.8	0.7	57,307	56,380	37,079	0.7	0.6	154,848	145,316	104,043	0.7	0.7
Nabuin											-	-	-		
Serere	5,528	5,122	2,118	0.4	0.4	6,427	5,293	1,482	0.3	0.2	11,955	10,415	3,600	0.3	0.3
Mbarara	449	438	110	0.3	0.2	869	869	263	0.3	0.3	1,318	1,307	373	0.3	0.3
Rwebitaba	1,717	976	348	0.4	0.2	1,349	1,097	717	0.7	0.5	3,066	2,073	1,065	0.5	0.3
Uganda	128,453	114,781	78,875	0.7	0.6	87,330	83,889	48,004	0.6	0.5	215,783	198,670	126,879	0.6	0.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 12a: Coefficients of variation for Soya beans area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	31.7	40.7	56.8	46.8	41.1	42.1	29.4	30.5	36.3
Buginyanya	17.7	20	24.2	13.9	13.8	15.3	12.9	13.8	15.3
Bulindi	43.6	43.6	55.5	51.6	51.8	38.8	43.7	43.9	46.1
Kachwekano	73.8	73.8	73.8	74.2	74.2	82.1	71	71	77.1
Mukono	59	60.1	60.3	54.5	54.3	53.1	47	47.4	47
Ngetta	11.5	12.5	15.6	9.2	9.2	10.4	8.9	9.4	12.2
Nabuin									
Serere	31.7	33.9	44.5	27.2	31.4	28.7	23.3	25.1	34.4
Mbarara	40.7	41.7	41.9	52.3	52.3	53.4	36.9	37.2	42.7
Rwebitaba	35.8	32.7	36	34.5	36.8	37.6	29.7	31.3	30.8
Uganda	9.3	10.2	13.5	7.3	7.4	8.6	7	7.4	10.2

Table 7- 13: Sweet potatoes area, production and yields, by sub-region

Sub-region	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	28,892	23,498	45,084	1.9	1.6	16,546	12,864	49,913	3.9	3	45,438	36,362	94,997	2.6	2.1
North Buganda	61,152	41,470	76,320	1.8	1.2	59,579	48,511	176,752	3.6	3	120,731	89,981	253,072	2.8	2.1
West Nile	8,611	4,547	11,424	2.5	1.3	5,783	5,244	23,400	4.5	4	14,394	9,791	34,824	3.6	2.4
Lango	25,618	8,223	14,870	1.8	0.6	35,168	34,555	123,925	3.6	3.5	60,786	42,778	138,795	3.2	2.3
Acholi	3,998	3,322	5,283	1.6	1.3	3,634	3,634	19,050	5.2	5.2	7,632	6,956	24,333	3.5	3.2
Kigezi	11,707	7,875	25,259	3.2	2.2	7,331	6,089	22,507	3.7	3.1	19,038	13,964	47,766	3.4	2.5
Bunyoro	16,684	9,650	17,556	1.8	1.1	19,855	17,342	54,935	3.2	2.8	36,539	26,992	72,491	2.7	2
Tooro	8,195	6,525	16,511	2.5	2	6,430	5,157	17,644	3.4	2.7	14,625	11,682	34,155	2.9	2.3
Busoga	46,525	29,525	40,070	1.4	0.9	40,147	35,270	134,320	3.8	3.3	86,672	64,795	174,390	2.7	2
Teso	19,728	6,736	9,559	1.4	0.5	22,637	21,473	74,668	3.5	3.3	42,365	28,209	84,227	3	2
Bukedi	14,000	11,332	15,035	1.3	1.1	20,268	18,886	49,539	2.6	2.4	34,268	30,218	64,574	2.1	1.9
Elgon	1,935	615	988	1.6	0.5	4,126	3,174	9,949	3.1	2.4	6,061	3,789	10,937	2.9	1.8
Karamoja	704	17	303	17.8	0.4	474	474	1,457	3.1	3.1	1,178	491	1,760	3.6	1.5
Ankole	7,708	5,136	17,554	3.4	2.3	6,236	5,493	18,133	3.3	2.9	13,944	10,629	35,687	3.4	2.6
Uganda	255,456	158,472	295,816	1.9	1.2	248,214	218,164	776,194	3.6	3.1	503,670	376,636	1,072,010	2.8	2.1

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 13a: Coefficients of variation for Sweet potatoes area and production, by sub-region

Sub-region	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
South Buganda	23.9	29.4	29.1	17.8	19.5	21.5	20.5	23.5	21.7
North Buganda	9.1	10.9	13.9	13.7	14.5	14.5	10.4	11.4	11.9
West Nile	20	33.5	24.9	21.4	19.8	18.3	15.2	18.8	16.5
Lango	9	21.3	22.4	9.8	10.1	12.5	7.7	10.1	12.4
Acholi	21.6	23.6	26.1	22.9	22.9	27.3	16.1	16.9	22
Kigezi	10.6	11.6	12.5	16.6	16.5	16.5	11.7	11.8	12.4
Bunyoro	17	20.4	15.4	20.9	23.5	22.4	15.9	18.6	17.9
Tooro	17	16.6	18.4	16.7	18.2	20.3	15.5	14.9	15.9
Busoga	12	13.4	13.9	11.2	10.7	9.6	11.1	10.9	9.2
Teso	12.5	15	15.5	12.1	13.1	14	9.8	11.5	12.8
Bukedi	16.2	18.2	16.5	9.8	10.5	11.1	10.9	11.5	10.6
Elgon	32.8	44.1	45.6	27.3	27.8	29.2	26.3	28.7	29.2
Karamoja	56.7	100	100	66.4	66.4	65	60.9	72.5	73.5
Ankole	12.5	16.3	19.3	14.8	16.5	16.4	10.7	11.8	13.2
Uganda	4.7	6.4	6.6	4.8	4.9	5.1	4.2	4.7	4.6

Table 7- 14: Sweet potatoes area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	8,611	4,547	11,424	2.5	1.3	5,783	5,244	23,400	4.5	4	14,394	9,791	34,824	3.6	2.4
Buginyanya	62,459	41,472	56,094	1.4	0.9	64,541	57,329	193,808	3.4	3	127,000	98,801	249,902	2.5	2
Bulindi	16,684	9,650	17,556	1.8	1.1	19,855	17,342	54,935	3.2	2.8	36,539	26,992	72,491	2.7	2
Kachwekano	11,707	7,875	25,259	3.2	2.2	7,331	6,089	22,507	3.7	3.1	19,038	13,964	47,766	3.4	2.5
Mukono	85,577	63,069	118,000	1.9	1.4	74,271	59,762	218,839	3.7	2.9	159,848	122,831	336,839	2.7	2.1
Ngetta	29,616	11,545	20,152	1.7	0.7	38,802	38,189	142,975	3.7	3.7	68,418	49,734	163,127	3.3	2.4
Nabuin	704	17	303	17.8	0.4	474	474	1,457	3.1	3.1	1,178	491	1,760	3.6	1.5
Serere	19,728	6,736	9,559	1.4	0.5	22,637	21,473	74,668	3.5	3.3	42,365	28,209	84,227	3	2
Mbarara	12,175	7,035	20,958	3	1.7	8,090	7,107	25,960	3.7	3.2	20,265	14,142	46,918	3.3	2.3
Rwebitaba	8,195	6,525	16,511	2.5	2	6,430	5,157	17,644	3.4	2.7	14,625	11,682	34,155	2.9	2.3
Uganda	255,456	158,472	295,816	19	12	248,214	218,164	776,194	3.6	3.1	503,670	376,636	1,072,010	28	21

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 14a: Coefficients of variation for Sweet potatoes area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	20	33.5	24.9	21.4	19.8	18.3	15.2	18.8	16.5
Buginyanya	9.7	10.7	10.9	7.8	7.6	7.4	8.2	8.1	7.1
Bulindi	17	20.4	15.4	20.9	23.5	22.4	15.9	18.6	17.9
Kachwekano	10.6	11.6	12.5	16.6	16.5	16.5	11.7	11.8	12.4
Mukono	10.5	13.2	14.4	11.7	12.5	12.6	9.9	11	10.9
Ngetta	8.3	16.6	17.9	9.1	9.4	11.4	7.1	9	11
Nabuin	56.7	100	100	66.4	66.4	65	60.9	72.5	73.5
Serere	12.5	15	15.5	12.1	13.1	14	9.8	11.5	12.8
Mbarara	14.6	17.6	17.9	17.1	19.2	20.9	13.2	13.3	14.6
Rwebitaba	17	16.6	18.4	16.7	18.2	20.3	15.5	14.9	15.9
Uganda	4.7	6.4	6.6	4.8	4.9	5.1	4.2	4.7	4.6

Table 7- 15: Irish potatoes area, production and yields, by sub-region

Subregion	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area Planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	8,724	8,269	17,382	21	20	5,030	4,735	11,566	24	23	13,754	13,004	28,948	22	21
North Buganda	7,627	3,587	5,757	1.6	0.8	3,242	2,601	5,953	23	1.8	10,869	6,188	11,710	1.9	1.1
West Nile	1,401	1,187	1,629	1.4	1.2	669	669	1,188	1.8	1.8	2,070	1,856	2,817	1.5	1.4
Lango															
Achol	29		-								29				
Kigezi	10,134	9,121	36,993	4.1	3.7	5,974	5,391	23,833	4.4	4	16,108	14,512	60,826	4.2	3.8
Bunyoro	4,873	4,873	10,259	2.1	2.1	1,910	1,773	4,206	2.4	2.2	6,783	6,646	14,465	2.2	2.1
Tooro	17,350	16,598	44,972	2.7	2.6	15,188	14,994	49,405	3.3	3.3	32,538	31,592	94,377	3	2.9
Busoga															
Teso															
Bukedi															
Elgon	6,869	6,799	32,015	4.7	4.7	1,263	1,252	5,988	4.8	4.7	8,132	8,051	38,003	4.7	4.7
Karamoja															
Ankole	2,810	2,705	5,841	2.2	2.1	1,502	1,251	3,860	3.1	2.6	4,312	3,956	9,701	2.5	2.2
Uganda	59,817	53,138	154,848	2.9	2.6	34,779	32,665	105,998	3.2	3	94,596	85,803	260,846	3	2.8

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 15a: Coefficients of variation for Irish potatoes area, production, by sub-region

Sub-region	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
South Buganda	35.9	37.9	40.9	39.2	40.6	38.1	35.7	37.5	38.8
North Buganda	36.7	45.2	69.6	37.8	32.7	44.2	34.6	37.7	48
West Nile	71.8	68.2	67.3	96.4	96.4	91.9	78.8	76.7	76.2
Lango									
Acholi	100		.				100		.
Kigezi	29.5	30.9	37.6	26.6	28.8	35.6	24.9	26.3	30.3
Bunyoro	33.6	33.6	31.8	37	35.1	32	29.3	29.2	27.2
Tooro	22	22.1	28.5	22.9	23.3	25	21.4	21.7	24.6
Busoga									
Teso									
Bukedi									
Elgon	46.2	46.3	49.4	62.6	62.8	67.4	42.3	42.4	44.4
Karamoja									
Ankole	28.7	29.7	30.9	31.7	30.5	31.6	26.6	26.8	27.4
Uganda	12.5	13.0	17.0	13.4	13.9	15.6	11.7	12.2	14.1

Table 7- 16: Irish potatoes area, production and yields, by Zardi

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	1,401	1,187	1,629	1.4	1.2	669	669	1,188	1.8	1.8	2,070	1,856	2,817	1.5	1.4
Buginyanya	6,869	6,799	32,015	4.7	4.7	1,263	1,252	5,988	4.8	4.7	8,132	8,051	38,003	4.7	4.7
Bulindi	4,873	4,873	10,259	2.1	2.1	1,910	1,773	4,206	2.4	2.2	6,783	6,646	14,465	2.2	2.1
Kachwekano	10,134	9,121	36,993	4.1	3.7	5,974	5,391	23,833	4.4	4	16,108	14,512	60,826	4.2	3.8
Mukono	9,054	4,559	6,765	1.5	0.7	3,846	3,043	7,159	2.4	1.9	12,900	7,602	13,924	1.8	1.1
Ngeta	29		-								29	-	-		
Nabuin											-	-	-		
Serere											-	-	-		
Mbarara	10,107	10,002	22,215	2.2	2.2	5,929	5,544	14,220	2.6	2.4	16,036	15,546	36,435	2.3	2.3
Rwebitaba	17,350	16,598	44,972	2.7	2.6	15,188	14,994	49,405	3.3	3.3	32,538	31,592	94,377	3	2.9
Uganda	59,817	53,138	154,848	2.9	2.6	34,779	32,665	105,998	3.2	3.0	94,596	85,803	260,846	3.0	2.8

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 16a: Coefficients of variation for Irish potatoes area, production, by Zardi

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	71.8	68.2	67.3	96.4	96.4	91.9	78.8	76.7	76.2
Buginyanya	46.2	46.3	49.4	62.6	62.8	67.4	42.3	42.4	44.4
Bulindi	33.6	33.6	31.8	37	35.1	32	29.3	29.2	27.2
Kachwekano	29.5	30.9	37.6	26.6	28.8	35.6	24.9	26.3	30.3
Mukono	31.7	37.5	59.8	32.8	29.2	38.2	29.6	31.6	40.9
Ngetta	100		.				100		.
Nabuin									
Serere									
Mbarara	32	32.4	33.1	34.3	35.4	32.1	31.7	32.3	31.9
Rwebitaba	22	22.1	28.5	22.9	23.3	25	21.4	21.7	24.6
Uganda	12.5	13.0	17.0	13.4	13.9	15.6	11.7	12.2	14.1

Table 7- 17: Simsim area, production and yield, by Sub-region

Sub-region	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda											-	-	-		
North Buganda	733	633	120	0.2	0.2	120	120	12	0.1	0.1	853	753	132	0.2	0.2
West Nile	21,467	6,073	1,374	0.2	0.1	17,325	16,058	4,430	0.3	0.3	38,792	22,131	5,804	0.3	0.1
Lango	28,271	19,516	5,748	0.3	0.2	31,865	31,172	9,169	0.3	0.3	60,136	50,688	14,917	0.3	0.2
Acholi	22,021	3,474	1,035	0.3		61,967	59,335	14,806	0.2	0.2	83,988	62,809	15,841	0.3	0.2
Kigezi											-	-	-		
Bunyoro	4,064	3,997	1,469	0.4	0.4	621	508	404	0.8	0.7	4,685	4,505	1,873	0.4	0.4
Tooro	7,005	5,554	307	0.1		2,545	2,413	478	0.2	0.2	9,550	7,967	785	0.1	0.1
Busoga	3,858	3,771	584	0.2	0.2	1,980	1,980	434	0.2	0.2	5,838	5,751	1,018	0.2	0.2
Teso	6,813	4,000	965	0.2	0.1	5,984	5,253	1,347	0.3	0.2	12,797	9,253	2,312	0.2	0.2
Bukedi	1,761	1,761	286	0.2	0.2	585	585	88	0.2	0.2	2,346	2,346	374	0.2	0.2
Elgon	12	12	7	0.6	0.6						12	12	7	0.6	0.6
Karamoja	2,554	2,213	522	0.2	0.2						2,554	2,213	522	0.2	0.2
Ankole											-	-	-		
Uganda	98,560	51,002	12,416	0.2	0.1	122,992	117,426	31,169	0.3	0.3	221,552	168,428	43,585	0.3	0.2

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 17a: Coefficients of variation for Simsim area, production, by Sub-region

Sub-region	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
South Buganda									
North Buganda	62.4	71.8	58.4	70.9	70.9	70.3	55.9	63	57.5
West Nile	39.2	72.3	71.6	28.6	29.1	34	29	30.1	32.6
Lango	19	23.7	25.2	18.6	18.7	21.1	13.8	14.2	16.4
Acholi	29.3	36.4	55.1	18	18.7	17.8	18.2	18	17.8
Kigezi									
Bunyoro	87.8	89.3	90.5	58.8	69.1	93.7	76.3	79.4	73.3
Tooro	88.5	94.7	92	83.5	87.6	89.8	87.1	92.5	90.7
Busoga	44.1	43.4	36.4	64.7	64.7	64.4	49.4	49	42
Teso	27.7	39.1	41	29.8	28.6	29	24.7	27.4	26.6
Bukedi	32	32	36.9	65.1	65.1	60.8	32.8	32.8	37.9
Elgon	100	100	100				100	100	100
Karamoja	62.9	68.9	77.2				62.9	68.9	77.2
Ankole									
Uganda	14.4	18.7	19.1	11.3	11.7	11.8	10.4		10.4

Table 7- 18: Simsim area, production and yield, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	21,467	6,073	1,374	0.2	0.1	17,325	16,058	4,430	0.3	0.3	38,792	22,131	5,804	0.3	0.1
Buginyanya	5,631	5,544	876	0.2	0.2	2,566	2,566	522	0.2	0.2	8,197	8,110	1,398	0.2	0.2
Bulindi	4,064	3,997	1,469	0.4	0.4	621	508	404	0.8	0.7	4,685	4,505	1,873	0.4	0.4
Kachwekano															
Mukono	733	633	120	0.2	0.2	120	120	12	0.1	0.1	853	753	132	0.2	0.2
Ngetta	50,292	22,990	6,783	0.3	0.1	93,832	90,507	23,974	0.3	0.3	144,124	113,497	30,757	0.3	0.2
Nabuin	2,554	2,213	522	0.2	0.2						2,554	2,213	522	0.2	0.2
Serere	6,813	4,000	965	0.2	0.1	5,984	5,253	1,347	0.3	0.2	12,797	9,253	2,312	0.2	0.2
Mbarara											-	-	-		
Rwebitaba	7,005	5,554	307	0.1		2,545	2,413	478	0.2	0.2	9,550	7,967	785	0.1	0.1
Uganda	98,560	51,002	12,416	0.2	0.1	122,992	117,426	31,169	0.3	0.3	221,552	168,428	43,585	0.3	0.2

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 18a: Coefficients of variation for Simsim area and production, by ZARDI

ZARDI	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
Abi	39.2	72.3	71.6	28.6	29.1	34	29	30.1	32.6
Buginyanya	31.8	31.2	27.1	52.1	52.1	54.5	36.4	36	32.2
Bulindi	87.8	89.3	90.5	58.8	69.1	93.7	76.3	79.4	73.3
Kachwekano									
Mukono	62.4	71.8	58.4	70.9	70.9	70.3	55.9	63	57.5
Ngetta	16.7	20.8	22.9	13.5	13.9	13.6	12.1	11.8	12.1
Nabuin	62.9	68.9	77.2				62.9	68.9	77.2
Serere	27.7	39.1	41	29.8	28.6	29	24.7	27.4	26.6
Mbarara									
Rwebitaba	88.5	94.7	92	83.5	87.6	89.8	87.1	92.5	90.7
Uganda	14.4	18.7	19.1	11.3	11.7	11.8	10.4	10.4	10.4

Table 7- 19: Groundnuts area, production and yields, by sub-region

Sub-region	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	14,178	12,425	4,357	0.4	0.3	6,864	6,705	3,317	0.5	0.5	21,042	19,130	7,674	0.4	0.4
North Buganda	15,426	11,525	3,208	0.3	0.2	6,853	6,036	3,010	0.5	0.4	22,279	17,561	6,218	0.4	0.3
West Nile	23,153	19,861	7,258	0.4	0.3	11,220	11,069	6,006	0.5	0.5	34,373	30,930	13,264	0.4	0.4
Lango	24,663	21,509	7,558	0.4	0.3	5,902	5,843	3,268	0.6	0.6	30,565	27,352	10,826	0.4	0.4
Acholi	33,812	21,967	8,958	0.4	0.3	11,613	11,613	6,515	0.6	0.6	45,425	33,580	15,473	0.5	0.3
Kigezi	4,008	2,423	705	0.3	0.2	1,493	1,440	870	0.6	0.6	5,501	3,863	1,575	0.4	0.3
Bunyoro	17,120	13,189	5,604	0.4	0.3	11,622	11,211	7,245	0.6	0.6	28,742	24,400	12,849	0.5	0.4
Tooro	30,116	21,995	7,653	0.3	0.3	10,909	10,420	4,082	0.4	0.4	41,025	32,415	11,735	0.4	0.3
Busoga	42,150	33,098	9,723	0.3	0.2	10,932	10,489	2,706	0.3	0.2	53,082	43,587	12,429	0.3	0.2
Teso	60,327	50,109	20,132	0.4	0.3	1,153	1,153	329	0.3	0.3	61,480	51,262	20,461	0.4	0.3
Bukedi	33,554	26,238	5,852	0.2	0.2	1,583	1,531	598	0.4	0.4	35,137	27,769	6,450	0.2	0.2
Elgon	5,299	4,457	1,176	0.3	0.2	2,684	2,684	698	0.3	0.3	7,983	7,141	1,874	0.3	0.2
Karamoja	7,214	4,634	1,854	0.4	0.3						7,214	4,634	1,854	0.4	0.3
Ankole	19,981	19,137	8,066	0.4	0.4	6,502	6,149	2,553	0.4	0.4	26,483	25,286	10,619	0.4	0.4
Uganda	330,999	262,566	92,105	0.4	0.3	89,330	86,343	41,197	0.5	0.5	420,329	348,909	133,302	0.4	0.3

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 19a: Coefficients of variation for groundnuts area, production, by sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	30	31.6	38.2	32.9	33.1	34	26.2	27.5	28.3
North Buganda	15.4	16.8	15.8	20.7	21.5	23.9	14.3	16.1	16.7
West Nile	20.7	20.6	17.3	26	26.4	24.2	15.8	15.4	15
Lango	16.1	16.7	16.3	33.2	33.4	31.7	16.3	17.3	15.3
Acholi	20.1	19.4	21.2	27.2	27.2	29.1	16.2	16.4	17
Kigezi	26.6	31.4	34.3	42.2	42.8	47	28.2	28.6	34.6
Bunyoro	13.4	14.5	16.9	16.7	17.5	20.9	11.7	12.4	16.3
Tooro	26.4	24.3	31.7	20.4	20.8	23.7	23.3	21.8	28
Busoga	45.8	55.1	43.5	53.9	56.2	38.1	41.1	43.6	35.1
Teso	10.7	10.9	13.3	46.8	46.8	53	10.7	10.9	13.4
Bukedi	17.4	20.4	21.1	33.4	33.1	35.7	16.5	19	18.9
Elgon	30.3	35.4	41.5	38	38	39	23.8	26.3	28.9
Karamoja	35.4	36.3	34.5				35.4	36.3	34.5
Ankole	10.7	11	11.2	15.7	16.1	19.1	10.3	10.4	10.4
Uganda	7.6	8.5	7.3	9.8	10	8.9	6.8	7	6

Table 7- 20: Groundnuts area, production and yields, by ZARDI

ZARDI	First Season					Second Season					Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	23,153	19,861	7,258	0.4	0.3	11,220	11,069	6,006	0.5	0.5	34,373	30,930	13,264	0.4	0.4
Buginyanya	81,003	63,792	16,751	0.3	0.2	15,198	14,704	4,001	0.3	0.3	96,201	78,496	20,752	0.3	0.2
Buindi	17,120	13,189	5,604	0.4	0.3	11,622	11,211	7,245	0.6	0.6	28,742	24,400	12,849	0.5	0.4
Kachwekano	4,008	2,423	705	0.3	0.2	1,493	1,440	870	0.6	0.6	5,501	3,863	1,575	0.4	0.3
Mukono	24,618	20,137	6,183	0.3	0.3	13,045	12,069	6,152	0.5	0.5	37,663	32,206	12,335	0.4	0.3
Ngetta	58,475	43,476	16,516	0.4	0.3	17,516	17,457	9,782	0.6	0.6	75,991	60,933	26,298	0.4	0.3
Nabuin	7,214	4,634	1,854	0.4	0.3						7,214	4,634	1,854	0.4	0.3
Serere	60,327	50,109	20,132	0.4	0.3	1,153	1,153	329	0.3	0.3	61,480	51,262	20,461	0.4	0.3
Mbarara	24,967	22,950	9,449	0.4	0.4	7,175	6,821	2,729	0.4	0.4	32,142	29,771	12,178	0.4	0.4
Rwebitaba	30,116	21,995	7,653	0.3	0.3	10,909	10,420	4,082	0.4	0.4	41,025	32,415	11,735	0.4	0.3
Uganda	330,999	262,566	92,105	0.4	0.3	89,330	86,343	41,197	0.5	0.5	420,329	348,909	133,302	0.4	0.3

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 20a: Coefficients of variation for groundnuts area, production, by sub-region

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Buginyanya	25	29.9	26.4	39.5	40.8	27.2	23.6	25.2	22
Bulindi	13.4	14.5	16.9	16.7	17.5	20.9	11.7	12.4	16.3
Kachwekano	26.6	31.4	34.3	42.2	42.8	47	28.2	28.6	34.6
Mukono	15.5	17.4	23.3	20.5	21.4	21.8	15.2	17	18.2
Ngetta	13.4	12.8	13.7	21.2	21.3	22.1	11.7	11.9	11.8
Nabuin	35.4	36.3	34.5				35.4	36.3	34.5
Serere	10.7	10.9	13.3	46.8	46.8	53	10.7	10.9	13.4
Mbarara	15.8	15.5	14.7	15.1	15.4	18.3	13.4	13.1	12.6
Rwebitaba	26.4	24.3	31.7	20.4	20.8	23.7	23.3	21.8	28
Uganda	7.6	8.5	7.3	9.8	10	8.9	6.8	7	6

Table 7- 21: Banana food area, production and yields, by Sub-region

Sub-region	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	127,881	119,861	865,123	107,970	103,793	829,968	107,970	103,793	1,695,091	16.3	15.7
North Buganda	108,397	88,112	431,626	117,148	105,740	546,596	117,148	105,740	978,222	9.3	8.4
West Nile	5,544	5,233	60,945	5,598	5,484	42,661	5,598	5,484	103,606	18.9	18.5
Lango	632	123	397	229	128	384	229	128	781	6.1	3.4
Acholi	621	297	1,259	769	585	2,155	769	585	3,414	5.8	4.4
Kigezi	16,062	15,227	140,691	16,251	15,552	150,961	16,251	15,552	291,652	18.8	17.9
Bunyoro	42,933	38,209	244,314	47,485	43,937	377,455	47,485	43,937	621,769	14.2	13.1
Tooro	69,793	66,540	621,976	81,474	78,600	1,037,870	81,474	78,600	1,659,846	21.1	20.4
Busoga	15,423	13,724	55,448	19,067	15,821	96,326	19,067	15,821	151,774	9.6	8
Teso	752	602	1,922	1,457	1,427	2,613	1,457	1,427	4,535	3.2	3.1
Bukedi	1,106	1,038	2,764	2,257	1,997	12,306	2,257	1,997	15,070	7.5	6.7
Elgon	25,084	21,598	125,056	33,206	29,042	244,672	33,206	29,042	369,728	12.7	11.1
Karamoja	44	32	38	402	390	490	402	390	528	1.4	1.3
Ankole	163,128	157,117	1,626,189	156,066	149,002	1,916,203	156,066	149,002	3,542,392	23.8	22.7
Uganda	577,399	527,712	4,177,749	589,378	551,498	5,260,662	589,378	551,498	9,438,411	17.1	16

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 21a: Coefficients of variation for Banana food area, production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	14.4	15.0	19.0	10.5	10.8	11.4	10.5	10.8	13.0
North Buganda	10.1	11.5	12.7	9.4	9.6	10.7	9.4	9.6	10.2
West Nile	48.2	50.5	70	51.7	52.5	56.9	51.7	52.5	64.1
Lango	74.8	89.2	86.6	70.2	100	100	70.2	100	92.9
Acholi	36.8	43.8	51.3	26.2	32.2	30.8	26.2	32.2	30.2
Kigezi	19.4	20	23.1	17.7	17.9	20.3	17.7	17.9	21.1
Bunyoro	25.4	28.5	36.3	23	24.7	30.4	23	24.7	32.5
Tooro	13.3	13	13.4	14	13.3	18.6	14	13.3	16.2
Busoga	16.7	18.1	19.8	11.5	13.1	15.5	11.5	13.1	15.9
Teso	53.7	64.5	72.9	42.9	43.9	45.6	42.9	43.9	54.4
Bukedi	34.9	34	31.1	23.2	25.9	30.5	23.2	25.9	28.9
Elgon	14.4	15.3	17.9	11.4	11.4	14	11.4	11.4	14.6
Karamoja	76.9	100	100	66.4	68.6	65.8	66.4	68.6	69
Ankole	8.3	7.5	8.3	8.8	8.2	8.5	8.8	8.2	8.2
Uganda	5.2	5.3	6.2	4.6	4.6	5.8	4.6	4.6	5.5

Table 7- 22: Banana food area, production and yields, by ZARDI

ZARDI	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	5,544	5,233	60,945	5,598	5,484	42,661	5,598	5,484	103,606	18.9	18.5
Buginyanya	41,612	36,360	183,268	54,529	46,860	353,305	54,529	46,860	536,573	11.5	9.8
Bulindi	42,933	38,209	244,314	47,485	43,937	377,455	47,485	43,937	621,769	14.2	13.1
Kachwekano	16,062	15,227	140,691	16,251	15,552	150,961	16,251	15,552	291,652	18.8	17.9
Mukono	172,184	147,051	859,785	176,800	162,808	1,001,386	176,800	162,808	1,861,171	11.4	10.5
Ngetta	1,253	420	1,656	998	713	2,539	998	713	4,195	5.9	4.2
Nabuin	44	32	38	402	390	490	402	390	528	1.4	1.3
Serere	752	602	1,922	1,457	1,427	2,613	1,457	1,427	4,535	3.2	3.1
Mbarara	227,221	218,039	2,063,154	204,383	195,727	2,291,382	204,383	195,727	4,354,536	22.2	21.3
Rwebitaba	69,793	66,540	621,976	81,474	78,600	1,037,870	81,474	78,600	1,659,846	21.1	20.4
Uganda	577,399	527,712	4,177,749	589,378	551,498	5,260,662	589,378	551,498	9,438,411	17.1	16

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 22a: Coefficients of variation for Banana food area, production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	48.2	50.5	70.0	51.7	52.5	56.9	51.7	52.5	64.1
Buginyanya	10.7	11.4	13.6	8.1	8.4	10.7	8.1	8.4	11
Bulindi	25.4	28.5	36.3	23	24.7	30.4	23	24.7	32.5
Kachwekano	19.4	20	23.1	17.7	17.9	20.3	17.7	17.9	21.1
Mukono	9	9.9	11.4	8.6	8.8	9.9	8.6	8.8	9.5
Ngetta	41.9	40.5	44.2	25.8	31.9	30.2	25.8	31.9	30.1
Nabuin	76.9	100	100	66.4	68.6	65.8	66.4	68.6	69
Serere	53.7	64.5	72.9	42.9	43.9	45.6	42.9	43.9	54.4
Mbarara	10.5	10.3	10.4	8.9	8.6	8.3	8.9	8.6	8.6
Rwebitaba	13.3	13	13.4	14	13.3	18.6	14	13.3	16.2
Uganda	5.2	5.3	6.2	4.6	4.6	5.8	4.6	4.6	5.5

Table 7- 23: Banana Sweet area, production and yields, by sub-region

Sub-region	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	1,250	1,250	4,254	968	968	3,201	968	968	7,455	7.7	7.7
North Buganda	10,085	8,480	27,124	8,696	8,613	22,461	8,696	8,613	49,585	5.8	5.7
West Nile	258	235	880	229	229	1,206	229	229	2,086	9.1	9.1
Lango	512	436	503	148	65	651	148	65	1,154	17.8	7.8
Acholi	1,090	793	1,161	771	706	1,923	771	706	3,084	4.4	4
Kigezi	537	477	2,121	278	161	652	278	161	2,773	17.2	10
Bunyoro	337	95	233	1,278	1,261	3,594	1,278	1,261	3,827	3	3
Tooro	2,777	2,581	13,984	1,149	1,120	7,515	1,149	1,120	21,499	19.2	18.7
Busoga	932	750	1,274	608	342	1,228	608	342	2,502	7.3	4.1
Teso	123	-	-	-	-	-	-	-	-	-	-
Bukedi	34	-	-	52	-	-	52	-	-	-	-
Elgon	1,753	1,588	2,731	2,034	1,968	7,139	2,034	1,968	9,870	5	4.9
Karamoja				125	-	-	125	-	-	-	-
Ankole	5,573	5,319	22,543	4,270	4,070	18,325	4,270	4,070	40,868	10	9.6
Uganda	25,260	22,003	76,809	20,607	19,503	67,893	20,607	19,503	144,702	7.4	7

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 23a: Coefficients of variation of Banana Sweet area, production, by sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	36.8	36.8	36.0	37.8	37.8	38.2	37.8	37.8	31.2
North Buganda	39.1	37.9	36.7	42.3	42.7	40.6	42.3	42.7	36.8
West Nile	54.1	57.6	58.1	47.3	47.3	73.7	47.3	47.3	56.3
Lango	64.2	74.9	64.5	63.4	73.2	72.6	63.4	73.2	58.2
Acholi	38.1	45	52.7	24.7	25.3	23.3	24.7	25.3	24.5
Kigezi	41.1	45.9	49.9	50.7	52.5	50.9	50.7	52.5	44.3
Bunyoro	46.9	62	41.5	37.5	38.1	41.9	37.5	38.1	39.2
Tooro	29.3	31.4	32.1	24.2	24.6	28.7	24.2	24.6	25.9
Busoga	44.3	40.7	38.8	48.1	51.3	54.9	48.1	51.3	40.5
Teso	100		.						.
Bukedi	100		.	100		.	100		.
Elgon	50.6	55.2	49.3	49	47.8	51.8	49	47.8	41.4
Karamoja				100		.	100		.
Ankole	13.2	13.7	20.1	12.9	13.6	16.3	12.9	13.6	17.1
Uganda	16.9	16.3	15.7	19.1	20	15.9	19.1	20	14.5

Table 7- 24: Banana Sweet area, production and yields, by ZARDI

ZARDI	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	258	235	880	229	229	1,206	229	229	2,086	9.1	9.1
Buginyanya	2,719	2,338	4,006	2,695	2,310	8,366	2,695	2,310	12,372	5.4	4.6
Bulindi	337	95	233	1,278	1,261	3,594	1,278	1,261	3,827	3	3
Kachwekano	537	477	2,121	278	161	652	278	161	2,773	17.2	10
Mukono	11,013	9,408	30,340	9,515	9,432	25,435	9,515	9,432	55,775	5.9	5.9
Ngetta	1,601	1,229	1,664	919	771	2,573	919	771	4,237	5.5	4.6
Nabuin	-	-	-	125	-	-	125	-	-	-	-
Serere	123	-	-	-	-	-	-	-	-	-	-
Mbarara	5,895	5,640	23,581	4,419	4,219	18,552	4,419	4,219	42,133	10	9.5
Rwebitaba	2,777	2,581	13,984	1,149	1,120	7,515	1,149	1,120	21,499	19.2	18.7
Uganda	25,260	22,003	76,809	20,607	19,503	67,893	20,607	19,503	144,702	7.4	7

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 24a: Coefficients of variation of Banana Sweet area, production, by ZARDI

ZARDI	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
Abi	54.1	57.6	58.1	47.3	47.3	73.7	47.3	47.3	56.3
Buginyanya	36	39.7	35.8	38.6	41.4	45	38.6	41.4	34
Bulindi	46.9	62	41.5	37.5	38.1	41.9	37.5	38.1	39.2
Kachwekano	41.1	45.9	49.9	50.7	52.5	50.9	50.7	52.5	44.3
Mukono	35.9	34.3	33	38.9	39.1	36.2	38.9	39.1	32.9
Ngetta	33.1	39.4	41.7	23.1	24	25.3	23.1	24	23.8
Nabuin				100		.	100	-	.
Serere	100		.				-	-	.
Mbarara	13.5	14	19.7	12.9	13.6	16.1	12.9	13.6	16.8
Rwebitaba	29.3	31.4	32.1	24.2	24.6	28.7	24.2	24.6	25.9
								-	
Uganda	16.9	16.3	15.7	19.1	20	15.9	19.1	20	14.5

Table 7- 25: Banana-beer area, production and yields, by Sub-region

Sub-region	First Season			Second Season			Total					
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)	
South Buganda	-	-	-	-	-	-	-	-	-	-	-	-
North Buganda	7,303	6,007	23,000	11,592	11,118	43,168	11,592	11,118	66,168	6	5.7	
West Nile	-	-	-	-	-	-	-	-	-	-	-	-
Lango	-	-	-	-	-	-	-	-	-	-	-	-
Acholi	271	222	1,985	-	-	-	-	-	1,985	-	-	
Kigezi	1,314	1,151	10,588	965	805	9,828	965	805	20,416	25.4	21.2	
Bunyoro	769	717	8,360	859	393	6,399	859	393	14,759	37.6	17.2	
Tooro	2,606	2,606	30,882	1,549	1,549	20,487	1,549	1,549	51,369	33.2	33.2	
Busoga	405	387	1,884	160	160	498	160	160	2,382	14.9	14.9	
Teso	-	-	-	-	-	-	-	-	-	-	-	-
Bukedi	203	13	125	305	305	619	305	305	744	2.4	2.4	
Elgon	-	-	-	367	367	877	367	367	877	2.4	2.4	
Karamoja	-	-	-	-	-	-	-	-	-	-	-	-
Ankole	10,802	10,605	128,544	10,096	9,680	119,137	10,096	9,680	247,681	25.6	24.5	
Uganda	23,673	21,709	205,367	25,893	24,377	201,015	25,893	24,377	406,382	16.7	15.7	

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 25a: Coefficients of variation for Banana-beer area, production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda									
North Buganda	41.2	44.3	45.8	63.5	66.2	66.7	63.5	66.2	49.3
West Nile									
Lango									
Acholi	55.3	67	63.7						63.7
Kigezi	46.3	51.7	48.9	50.5	52.5	63.1	50.5	52.5	55
Bunyoro	54.9	58.9	49	59.3	61.6	57.7	59.3	61.6	46.2
Tooro	55.9	55.9	47.5	58.2	58.2	58.4	58.2	58.2	47.9
Busoga	35.9	36.4	35.9	67.4	67.4	58.2	67.4	67.4	37.1
Teso									
Bukedi	93.4	83	72	78.2	78.2	78.4	78.2	78.2	68.4
Elgon				100	100	100	100	100	100
Karamoja									
Ankole	20.6	21	24.8	22.3	22.5	25.1	22.3	22.5	24.7
Uganda	17.3	17.7	18.1	30.1	31.8	21.8	30.1	31.8	18.4

Table 7- 26: Banana-beer area, production and yields, by ZARDI

ZARDI	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	-	-	-	-	-	-	-	-	-	-	-
Buginyanya	608	400	2,009	832	832	1,995	832	832	4,004	4.8	4.8
Bulindi	769	717	8,360	859	393	6,399	859	393	14,759	37.6	17.2
Kachwekano	1,314	1,151	10,588	965	805	9,828	965	805	20,416	25.4	21.2
Mukono	7,303	6,007	23,000	11,592	11,118	43,168	11,592	11,118	66,168	6	5.7
Ngetta	271	222	1,985	-	-	-	271	222	1,985	8.9	7.3
Nabuin	-	-	-	-	-	-	-	-	-	-	-
Serere	-	-	-	-	-	-	-	-	-	-	-
Mbarara	10,802	10,605	128,544	10,096	9,680	119,137	10,096	9,680	247,681	25.6	24.5
Rwebitaba	2,606	2,606	30,882	1,549	1,549	20,487	1,549	1,549	51,369	33.2	33.2
Uganda	23,673	21,709	205,367	25,893	24,377	201,015	25,893	24,377	406,382	16.7	15.7

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 26a: Coefficients of variation for Banana-beer area, production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi									
Buginyanya	39.3	35.3	33.9	54.2	54.2	52.3	54.2	54.2	33.6
Bulindi	54.9	58.9	49	59.3	61.6	57.7	59.3	61.6	46.2
Kachwekano	46.3	51.7	48.9	50.5	52.5	63.1	50.5	52.5	55
Mukono	41.2	44.3	45.8	63.5	66.2	66.7	63.5	66.2	49.3
Ngetta	55.3	67	63.7				-	67	63.7
Nabuin							-	-	
Serere							-	-	
Mbarara	20.6	21	24.8	22.3	22.5	25.1	22.3	22.5	24.7
Rwebitaba	55.9	55.9	47.5	58.2	58.2	58.4	58.2	58.2	47.9
Uganda	17.3	17.7	18.1	30.1	31.8	21.8	30.1	31.8	18.4

Table 7- 27: Cassava area, production and yields, by sub-region

Sub-region	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	38,392	29,386	130,875	17,867	12,261	58,455	17,867	12,261	189,330	15.4	10.6
North Buganda	81,017	32,595	142,608	67,103	23,552	123,084	67,103	23,552	265,692	11.3	4
West Nile	126,893	19,868	124,401	119,996	52,737	346,133	119,996	52,737	470,534	8.9	3.9
Lango	91,358	8,856	43,307	92,927	84,678	313,883	92,927	84,678	357,190	4.2	3.8
Acholi	41,909	13,644	80,696	35,863	23,503	137,134	35,863	23,503	217,830	9.3	6.1
Kigezi	2,808	1,545	8,060	1,978	528	3,725	1,978	528	11,785	22.3	6
Bunyoro	64,187	18,850	84,699	60,134	30,781	188,996	60,134	30,781	273,695	8.9	4.6
Tooro	32,192	8,035	44,286	20,153	4,119	23,025	20,153	4,119	67,311	16.3	3.3
Busoga	61,399	16,146	80,656	65,409	45,518	216,425	65,409	45,518	297,081	6.5	4.5
Teso	85,470	25,762	142,139	94,753	27,957	136,416	94,753	27,957	278,555	10	2.9
Bukedi	42,073	5,782	19,496	68,094	41,456	138,002	68,094	41,456	157,498	3.8	2.3
Elgon	6,734	832	6,399	6,864	3,823	16,518	6,864	3,823	22,917	6	3.3
Karamoja	2,171	269	1,376	1,151	1,063	4,188	1,151	1,063	5,564	5.2	4.8
Ankole	7,952	3,244	18,486	6,268	3,903	27,537	6,268	3,903	46,023	11.8	7.3
Uganda	684,554	184,814	927,484	658,561	355,878	1,733,522	658,561	355,878	2,661,006	7.5	4

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 27a: Coefficients of variation for Cassava area, production, by sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda									
North Buganda	16.1	16.3	14.4	13.9	15.7	16.8	13.9	15.7	12.9
West Nile	11.1	15	17.6	11	16.5	17	11	16.5	15
Lango	7.4	25.2	23.8	7.4	8.4	9.8	7.4	8.4	9.6
Acholi	19.1	28.1	30.3	20.9	23	23.7	20.9	23	20.4
Kigezi	27.7	29.4	30.6	48	33.4	33.3	48	33.4	26
Bunyoro	11.9	18.3	17.1	13.3	17.4	22.4	13.3	17.4	18.2
Tooro	15.3	16	27.2	15.8	24.2	32.1	15.8	24.2	21.4
Busoga	16.1	20.8	23.1	18.4	20.8	19.6	18.4	20.8	17
Teso	7.5	14	26.3	8.3	12	13.4	8.3	12	17.8
Bukedi	16.1	28.6	29.6	15.9	20.6	18.8	15.9	20.6	17.3
Elgon	22.6	51.8	39.4	27.4	26.8	26.4	27.4	26.8	23.2
Karamoja	90.7	74.6	70.1	70.3	77.5	74.5	70.3	77.5	65.8
Ankole	15.3	19.4	20	14.4	19.1	21.2	14.4	19.1	15.9
Uganda	4.1	6.1	7	4.2	5.5	6	4.2	5.5	5.2

Table 7- 28: Cassava area, production and yields, by ZARDI

ZARDI	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	126,893	19,868	124,401	119,996	52,737	346,133	119,996	52,737	470,534	8.9	3.9
Buginyanya	110,206	22,761	106,551	140,367	90,796	370,946	140,367	90,796	477,497	5.3	3.4
Bulindi	64,187	18,850	84,699	60,134	30,781	188,996	60,134	30,781	273,695	8.9	4.6
Kachwekano	2,808	1,545	8,060	1,978	528	3,725	1,978	528	11,785	22.3	6
Mukono	111,440	57,101	249,691	79,323	31,253	159,921	79,323	31,253	409,612	13.1	5.2
Ngetta	133,267	22,500	124,003	128,790	108,181	451,017	128,790	108,181	575,020	5.3	4.5
Nabuin	2,171	269	1,376	1,151	1,063	4,188	1,151	1,063	5,564	5.2	4.8
Serere	85,470	25,762	142,139	94,753	27,957	136,416	94,753	27,957	278,555	10	2.9
Mbarara	15,921	8,124	42,278	11,916	8,463	49,155	11,916	8,463	91,433	10.8	7.7
Rwebitaba	32,192	8,035	44,286	20,153	4,119	23,025	20,153	4,119	67,311	16.3	3.3
Uganda	684,554	184,814	927,484	658,561	355,878	1,733,522	658,561	355,878	2,661,006	7.5	4

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (Ha). ***Ratio between production (MT) and area planted (Ha).

Table 7- 28a: Coefficients of variation for Cassava area, production, by ZARDI

ZARDI	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
Abi									
Buginyanya	10.9	16.5	18.5	11.6	14.1	13.5	11.6	14.1	12
Bulindi	11.9	18.3	17.1	13.3	17.4	22.4	13.3	17.4	18.2
Kachwekano	27.7	29.4	30.6	48	33.4	33.3	48	33.4	26
Mukono	13	13.6	11.8	12.3	14.2	15.1	12.3	14.2	11.3
Ngetta	7.9	19.7	21.4	7.9	8.3	9.9	7.9	8.3	9.8
Nabuin	90.7	74.6	70.1	70.3	77.5	74.5	70.3	77.5	65.8
Serere	7.5	14	26.3	8.3	12	13.4	8.3	12	17.8
Mbarara	16.6	20.7	21.4	18.8	22.2	21.6	18.8	22.2	18.3
Rwebitaba	15.3	16	27.2	15.8	24.2	32.1	15.8	24.2	21.4
Uganda	4.1	6.1	7	4.2	5.5	6	4.2	5.5	5.2

Table 7- 29: Coffee Robusta area, production and yields, by Sub-region

Sub-region	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda	120,538	107,150	32,520	103,884	92,314	36,011	103,884	92,314	68,531	0.7	0.7
North Buganda	128,615	76,678	17,639	121,296	101,422	34,914	121,296	101,422	52,553	0.5	0.4
West Nile	26	-	-	38	-	-	38	-	-	-	-
Lango				80	-	-	80	-	-	-	-
Acholi							-	-	-	-	-
Kigezi	9,197	7,744	3,108	7,917	6,999	4,240	7,917	6,999	7,348	1	0.9
Bunyoro	14,275	1,311	273	15,641	11,501	5,120	15,641	11,501	5,393	0.5	0.3
Tooro	7,991	6,144	2,698	5,729	5,615	2,413	5,729	5,615	5,111	0.9	0.9
Busoga	17,918	7,277	2,326	15,730	13,153	5,714	15,730	13,153	8,040	0.6	0.5
Teso							-	-	-	-	-
Bukedi				216	216	21	216	216	21	0.1	0.1
Elgon							-	-	-	-	-
Karamoja							-	-	-	-	-
Ankole	39,267	36,765	25,598	39,411	32,649	19,556	39,411	32,649	45,154	1.4	1.1
Uganda	337,829	243,068	84,161	309,942	263,869	107,990	309,942	263,869	192,151	0.7	0.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (ha) in the second season. ***Ratio between production (MT) and annual area planted (ha).

Table 7- 29a: Coefficients of variation for Coffee Robusta area, production, by Sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda	16.8	18.1	16.2	16	16.4	16.5	16	16.4	15.8
North Buganda	13.8	16.3	16.4	13.4	14.7	13.3	13.4	14.7	13.4
West Nile	100		.	100		.	100		.
Lango				100		.	100		.
Acholi									
Kigezi	32.7	32.7	30.2	31	31.8	32.2	31	31.8	30.5
Bunyoro	14.4	42.2	42.6	16.8	18.2	20.3	16.8	18.2	19.6
Tooro	23.2	24.2	26.7	27.8	27.6	28.3	27.8	27.6	25.2
Busoga	24.6	36.9	33.9	20.2	19.8	18.4	20.2	19.8	20.6
Teso									
Bukedi				100	100	100	100	100	100
Elgon									
Karamoja									
Ankole	16	16.1	17.6	16.1	16	16.8	16.1	16	16.1
Uganda	8.4	9.9	9.1	7.9	8.4	7.9	7.9	8.4	7.9

Table 7- 30: Coffee Robusta area, production and yields, by ZARDI

ZARDI	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	26	-	-	38	-	-	38	-	-	-	-
Buginyanya	17,918	7,277	2,326	15,947	13,369	5,736	15,947	13,369	8,062	0.6	0.5
Bulindi	14,275	1,311	273	15,641	11,501	5,120	15,641	11,501	5,393	0.5	0.3
Kachwekano	9,197	7,744	3,108	7,917	6,999	4,240	7,917	6,999	7,348	1	0.9
Mukono	217,043	153,642	41,165	192,316	165,526	59,712	192,316	165,526	100,877	0.6	0.5
Ngetta				80		-	80	-	-	-	-
Nabuin							-	-	-	-	-
Serere							-	-	-	-	-
Mbarara	71,378	66,950	34,591	72,275	60,858	30,769	72,275	60,858	65,360	1.1	0.9
Rwebitaba	7,991	6,144	2,698	5,729	5,615	2,413	5,729	5,615	5,111	0.9	0.9
Uganda	337,829	243,068	84,161	309,942	263,869	107,990	309,942	263,869	192,151	0.7	0.6

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (ha) in the second season. ***Ratio between production (MT) and annual area planted (ha).

Table 7- 30a: Coefficients of variation for Coffee Robusta area, production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Buginyanya	24.6	36.9	33.9	20	19.6	18.3	20	19.6	20.5
Bulindi	14.4	42.2	42.6	16.8	18.2	20.3	16.8	18.2	19.6
Kachwekano	32.7	32.7	30.2	31	31.8	32.2	31	31.8	30.5
Mukono	12.3	14.7	14.6	11.8	12.5	12.4	11.8	12.5	12.7
Ngetta				100			100	-	
Nabuin							-	-	
Serere							-	-	
Mbarara	17.8	18.3	15.6	17.8	18.1	16.1	17.8	18.1	14.9
Rwebitaba	23.2	24.2	26.7	27.8	27.6	28.3	27.8	27.6	25.2
Uganda	8.4	9.9	9.1	7.9	8.4	7.9	7.9	8.4	7.9

Table 7- 31: Coffee Arabica area, production and yields, by sub-region

Sub-region	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
South Buganda							-	-	-		
North Buganda	1,763	1,632	1,362	21	21	45	21	21	1,407	67	67
West Nile	915	848	160		769	266	-	769	426	0.6	
Lango	40		-	941			941	-	-		
Acholi				10	10	28	10	10	28	2.8	2.8
Kigezi	1,378	1,236	903	888	645	400	888	645	1,303	2	1.5
Bunyoro	3,466	87	110	4,395	4,138	2,033	4,395	4,138	2,143	0.5	0.5
Tooro	36,903	31,714	13,378	40,713	35,870	19,235	40,713	35,870	32,613	0.9	0.8
Busoga	2,756	699	376	2,620	2,075	882	2,620	2,075	1,258	0.6	0.5
Teso							-	-	-		
Bukedi							-	-	-		
Elgon	24,022	7,557	4,347	29,237	26,483	17,086	29,237	26,483	21,433	0.8	0.7
Karamoja							-	-	-		
Ankole	3,881	3,615	750	3,950	3,523	1,660	3,950	3,523	2,410	0.7	0.6
Uganda	75,125	47,386	21,386	82,774	73,532	41,634	82,774	73,532	63,020	0.9	0.8

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (ha) in the second season. ***Ratio between production (MT) and annual area planted (ha).

Table 7- 31a: Coefficients of Variation for Coffee Arabica area, production, by sub-region

Sub-region	First Season			Second Season			Total		
	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production	CV area planted	CV area harvested	CV production
South Buganda									
North Buganda	93.9	100	100	100	100	100	100	100	96.8
West Nile	58.2	59.5	60.5		70.7	63.3		70.7	58.8
Lango	100			59.6			59.6		
Acholi				100	100	100	100	100	100
Kigezi	48.1	50.9	50.8	45.1	36.2	50.6	45.1	36.2	43.8
Bunyoro	26.6	100	100	36	38.2	35.6	36	38.2	37.9
Tooro	21.2	23.7	23.6	20.9	21.8	21.4	20.9	21.8	21.3
Busoga	40	61.8	53.3	65.3	61.5	56.2	65.3	61.5	42.7
Teso									
Bukedi									
Elgon	22.7	34.4	44.4	23	23.9	26	23	23.9	27.3
Karamoja									
Ankole	76.2	79.9	52	70.6	78.3	60	70.6	78.3	56.4
Uganda	13.7	18.3	18.7	13.9	14.5	14.9	13.9	14.5	14.8

Table 7- 32: Coffee Arabica area, production and yields, by ZARDI

ZARDI	First Season			Second Season			Total				
	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Area planted (Ha)	Area harvested* (Ha)	Production (MT)	Yield** (MT/Ha)	Yield*** (MT/Ha)
Abi	915	848	160	941	769	266	941	769	426	0.6	0.5
Buginyanya	26,778	8,255	4,723	31,857	28,558	17,968	31,857	28,558	22,691	0.8	0.7
Bulindi	3,466	87	110	4,395	4,138	2,033	4,395	4,138	2,143	0.5	0.5
Kachwekano	1,378	1,236	903	888	645	400	888	645	1,303	2	1.5
Mukono	1,763	1,632	1,362	21	21	45	21	21	1,407	67	67
Ngetta	40	-	-	10	10	28	10	10	28	2.8	2.8
Nabuin	-	-	-	-	-	-	-	-	-	-	-
Serere	-	-	-	-	-	-	-	-	-	-	-
Mbarara	3,881	3,615	750	3,950	3,523	1,660	3,950	3,523	2,410	0.7	0.6
Rwebitaba	36,903	31,714	13,378	40,713	35,870	19,235	40,713	35,870	32,613	0.9	0.8
Uganda	75,125	47,386	21,386	82,774	73,532	41,634	82,774	73,532	63,020	0.9	0.8

Notes: *The total area harvested is the total area planted calculated on those observations whose production is available (not missing) and higher than zero. **Ratio between production (MT) and area harvested (ha) in the second season. ***Ratio between production (MT) and annual area planted (ha).

Table 7- 32a: Coefficients of Variation for Coffee Arabica area, production, by ZARDI

ZARDI	First Season			Second Season			Total		
	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>	<i>CV area planted</i>	<i>CV area harvested</i>	<i>CV production</i>
Abi	58.2	59.5	60.5	59.6	70.7	63.3	59.6	70.7	58.8
Buginyanya	20.8	31.9	41.1	21.8	22.6	24.9	21.8	22.6	25.9
Bulindi	26.6	100	100	36	38.2	35.6	36	38.2	37.9
Kachwekano	48.1	50.9	50.8	45.1	36.2	50.6	45.1	36.2	43.8
Mukono	93.9	100	100	100	100	100	100	100	96.8
Ngetta	100			100	100	100	100	100	100
Nabuin							-	-	
Serere							-	-	
Mbarara	76.2	79.9	52	70.6	78.3	60	70.6	78.3	56.4
Rwebitaba	21.2	23.7	23.6	20.9	21.8	21.4	20.9	21.8	21.3
Uganda	13.7	18.3	18.7	13.9	14.5	14.9	13.9	14.5	14.8

Table 7- 33: Percentage of Households cultivating major crops, national

Crops	% Ag HHs			% Ag HHs		
	Season one			Season two		
	% Ag HHs	Confidence Interval		% Ag HHs	Confidence Interval	
Maize	69	68	71	48	47	50
Millet	11	11	12	7	7	8
Sorghum	15	14	16	7	6	7
Rice	4	4	5	3	2	3
Beans	54	52	55	42	41	43
Soya beans	8	7	9	7	6	7
Groundnuts	29	28	30	11	10	12
Simsim	5	5	6	6	6	7
Irish potatoes	7	7	8	5	4	6
Sweet potatoes	36	35	37	32	30	33
Cassava	53	52	54	45	44	46
Banana food	47	45	48	47	46	49
Banana beer	4	4	5	4	3	4
Banana sweet	6	6	7	6	5	6
Coffee arabica	7	7	8	7	7	8
Coffee robusta	22	21	23	21	20	22

Table 7- 34: Area, production and yields in 2018 and 2019, national

	AAS 2018									
	AAS 2018, first season					AAS 2018, second season				
	Area (ha) planted	Area (ha) harvested	Production (mt)	Yield on area planted	Yield on area harvested	Area (ha) planted	Area (ha) harvested	Production (mt)	Yield on area planted	Yield on area harvested
Maize	1,549,631	N/A	2,135,475	1.4	N/A	930,466	755,176	1,306,955	1.4	1.7
Rice	98,745	N/A	105,464	1.1	N/A	100,792	87,169	93,801	0.9	1.1
Sorghum	372,250	N/A	216,176	0.6	N/A	119,661	96,496	52,317	0.4	0.5
Millet	170,613	N/A	83,435	0.5	N/A	111,994	102,330	58,547	0.5	0.6
Soya beans	96,530	N/A	74,749	0.8	N/A	93,180	77,626	32,874	0.4	0.4
Groundnuts	319,057	N/A	158,269	0.5	N/A	195,984	174,364	95,009	0.5	0.5
Simsim	34,561	N/A	14,047	0.4	N/A	155,763	138,174	31,287	0.2	0.2
Irish potatoes	48,275	N/A	139,332	2.9	N/A	62,849	53,842	187,999	3.0	3.5
Sweet Potatoes	289,614	N/A	556,308	1.9	N/A	336,792	278,840	927,855	2.8	3.3
Beans	622,569	N/A	434,367	0.7	N/A	582,518	494,216	293,285	0.5	0.6
Cassava	765,040	N/A	2,101,043	N/R	N/R	940,902	501,748	2,289,188	N/R	N/R
Banana (food)	507,497	N/A	2,452,825	N/R	N/R	578,757	526,702	4,041,231	N/R	N/R
Coffee arabica	66,553	N/A	35,301	N/R	N/R	88,286	71,556	39,681	N/R	N/R
Coffee robusta	457,543	N/A	147,486	N/R	N/R	339,855	256,808	85,043	N/R	N/R

	AAS 2019									
	AAS 2019 first season					AAS 2019 second season				
	Area (ha) planted	Area (ha) harvested	Production (mt)	Yield on area planted	Yield on area harvested	Area (ha) planted	Area (ha) harvested	Production (mt)	Yield on area planted	Yield on area harvested
Maize	1,073,426	964,464	1,463,572	1.4	1.5	813,647	774,989	1,296,007	1.6	1.7
Rice	113,454	68,352	75,608	0.7	1.1	64,212	61,300	90,988	1.4	1.5
Sorghum	244,634	92,363	52,647	0.2	0.6	79,244	73,709	44,661	0.6	0.6
Millet	168,068	144,945	46,597	0.3	0.3	62,248	58,767	26,061	0.4	0.4
Soya Beans	128,453	114,781	78,875	0.6	0.7	87,330	83,889	48,004	0.5	0.6
Groundnuts	330,999	262,566	92,105	0.3	0.4	89,330	86,343	41,197	0.5	0.5
Simsim	98,560	51,002	12,416	0.1	0.2	122,992	117,426	31,169	0.3	0.3
Irish potatoes	59,817	53,138	154,848	2.6	2.9	34,779	32,665	105,998	3.1	3.2
Sweet potatoes	255,456	158,472	295,816	1.2	1.9	248,214	218,164	776,194	3.1	3.6
Beans	510,086	442,741	238,230	0.5	0.5	357,123	322,111	199,380	0.6	0.6
Cassava	684,554	184,814	927,484	N/R	N/R	658,561	355,878	1,733,522	N/R	N/R
Banana (food)	577,399	527,712	4,177,749	N/R	N/R	589,378	551,498	5,260,662	N/R	N/R
Coffee arabica	75,125	47,386	21,386	N/R	N/R	82,774	73,532	41,634	N/R	N/R
Coffee robusta	337,829	243,068	84,161	N/R	N/R	309,942	263,869	107,990	N/R	N/R

Notes: N/A,, not available; N/R, note relevant. Yields of permanent crops and cassava have been calculated for the entire agricultural year dividing the annual production by the area harvested in the second season.

List of references

1. FAO (2015), World Programme for the Census of Agriculture 2020. Volume 1: Programme, concepts and definitions.
2. Wetlands International (2018) "Uganda National Wetlands: 20 years in the making finally kicks off 2 July. <https://africa.wetlands.org/en/news/uganda-national-wetlands-policy-review-23-years-making-finally-kicks-off/>
3. Mafabi P. (2018) National Wetland Policy: Uganda. In: Finlayson C.Male. et al. (eds) The Wetland Book. Springer, Dordrecht. https://doi.org/10.1007/978-90-481-9659-3_154
4. MAIF, Extension Guidelines and Standards
5. Bank of Uganda, Agricultural Credit Facility. <https://www.bou.or.ug/bou/bouwebsite/ACF/moreinfo.html>.
6. World Food Summit (1996)
7. Uganda Food and Nutrition Policy (2003).



ANNUAL AGRICULTURAL SURVEY

2019 REPORT

PUBLISHED IN 2022

Visit us @ Statistics House, Plot 9 Colville Street P.o Box 7186 Kampala, Uganda.  ubos@ubos.org  www.ubos.org

 Uganda Bureau of Statistics  @statisticsug, App: UGStat  +256 414 706 000
