ACDI/VOCA PL-480 TITLE II MONETIZATION PROGRAM FOOD SECURITY COMPONENT

FINAL REPORT

MID-TERM EVALUATION REPORT OF USAID FUNDED PL-480 AGRICULTURAL COMPONENT PROGRAM ON SAMPLED TARGETED HOUSEHOLDS IN 7 DISTRICTS OF UGANDA

September 2004

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LIST OF ACRONYMS AND ABBREVIATIONS USED

Grantee abbreviations

BUCADEF	Buganda Cultural and Development Foundation
BUFA	Bugangaizi United Farmers Association
CASHFARM	Center for Advancement of Small Holder Farmers
CEDO	Community Enterprises Development Organization
HA	Hunger Alert
KYAWDA	Kibaale Youth and Women Development Agency
MIS	Market Information Services
MUBUKU	Mubuku Irrigated Maize Seed Production Project
NALG	Nakisenhe Adult Literacy Group
NSARWU	The National Strategy for the Advancement of Rural Women in Uganda
UOSPA	Uganda Oilseed Producers and Processors Association

Other abbreviations

ACDI/VOCA	Agricultural Cooperative Development International/ Volunteers Overseas Cooperative Assistance
BL	Baseline
DB	Direct beneficiaries
DDS	Dietary Diversity Score
ELF's	Extension Link Farmers
FaaB	Farming as a Business
FAL	Functional Adult Literacy
FANTA	Foods and Nutrition Technical Assistance
FAO	Food and Agricultural Organization
FEWS	Field Extension Workers
FSC	Food Security Committee
FY	Financial Year
Ha	Hectares
HH	Household
MFPED	Ministry of Finance, Planning and Economic Development
MoG	Ministry of Gender, Labor Affairs and Community Development

MT	Metric Tones
N/a	Not available (data)
NARO	National Agricultural Research Organization
NGOs	Non-Governmental Organizations
PHHS	Post Harvest Handling and Storage
PL-480	Public Law 480
UBOS	Uganda Bureau of Statistics
%	Percentage
2002B	Second growing season of 2002
2003A	First growing season of 2003
2003B	Second growing season of 2003
2004A	First growing season of 2004

EXECUTIVE SUMMARY

The second phase of agricultural activities managed by ACDI/VOCA PL-480 Title II Monetization Program started in July 2002 and ends in 2006. The main goal of the program is to ensure improvement in food security situation and household incomes of the rural population by increasing production, marketing and consumption of maize, beans, cassava, upland rice, soybean and sunflower. It is now, September 2004, about two and a half years, halfway through the Life of Project. The Ssemwanga Center Ltd. was contracted by ACDI/VOCA to conduct a mid-term evaluation to assess progress of the program to-date. To capture data on the main program indicators, 359 program beneficiaries were interviewed from seven districts of the 34 districts of Uganda where the program operates.

By end of FY2004, the program worked with an accumulative number of 100,131 beneficiaries, which is 83% of the target of 120,000 by end of Life of Project in 2006.

The program achieved 82% of the targeted output of 100,000MT for grains, 33% of 40,000MT for beans, and 8% of 21,000MT for vegetable oil. The program fell short of its annual targeted yield of 1.8MT/Ha of maize, 0.9MT/Ha of beans and 1.2MT/Ha of sunflower by 17%, 36% and 50% respectively. Poor program performance was mainly attributed to erratic weather conditions particularly in 2004A season. Further, vegetable oil production figures were low due to civil strife that disrupted program activities in Lira and Apac districts, the main growing areas for sunflower.

It was observed that in FY2004, there was an increase of 456% in the number of contact farmers who are doing their roles voluntarily. This reflects the increasing popularity of ACDI/VOCA extension approaches, increasing number of participating farmers and ensures sustainability of the program activities since they are the lead farmers. This points to the increasing coverage and outreach of the farmers, which translated to better services and increased adoption of technologies.

There was an increase in the number of groups commercializing and with formal structures from 15% to 23% of 3,022 farmer groups. The program still needs to orient farmers/ groups to enhance their capacities. Adoption of improved agronomic technologies i.e. planting in lines and recommended spacing, timely planting and weed management scored highly above 70% for all the target crops.

In general, 52% of the respondents reported to plan and keep records because adoption is a gradual process. Piloting with few farmers/groups at a given time before expanding to other areas could improve adoption.

The number of FEWS increased from 55 in FY2003 to 65 in FY2004. With this, the FEW: farmer ration improved from 1:1745 to 1:1,242 over the two periods. From FY2003 to FY2004/midterm, there was an increase of 122% in the number of farmer groups. Collectivity of activities reduces costs and improves bargaining power and hence increasing benefits.

Though usage of cribs (19%) remained constant from FY2003, there was an improvement in the use of tarpaulin of 19%, 238% in the use of granary and 172% of separate houses. This shows increased awareness of quality issues that affect prices and therefore profitability attributed to FaaB training

By mid-term, 65% and 66% of the beneficiaries reported to establish vegetable and fruits gardens resulting from grantees' training and extension services. The average number of meals consumed increased from 3.0 at baseline to 3.9 in FY2004 and dietary diversity score (DDS) improved to 5.5 from 4.3 at baseline. This reflects a variety in consumption of different food types and is attributed to the nutrition information given by the grantees.

The level of stunting in children below five years dropped by 23%, from 39% to 30.4%, while the percentage of underweight children reduced from 25% to 19.7%, which shows progress in the nutrition status resulting from improved household diet and grantee trainings.

Prolonged drought, high labor costs related to farm inputs and inadequate investment capital were the main constraints reported by the farmers. Farmers' income would improve f they penetrated better markets, diversified to other income generating activities then, they would address other constraints like labor shortage and cost of other farm inputs.

Table 1. Summary of major PL-480 Title II Food Security Program, Baseline, FY 2003 and Mid-term (FY2004) Impact Indicators

	Baseline [5]	FY 2002 [2]			FY 2003 [3]			FY 2004		
Production (MT)		T	A	A%	T	A	A%	T	A	A%
Grain	68,957	72,000	181,338	252	78,000	34,589	44	100,000	81,869	82
Beans	9,894	25,000	36,686	147	33,000	8,348	25	40,000	13,310	33
Cassava	38,609	10,000	124,972	1,250	50,000	n/a	n/a	100,000	n/a	n/a
Vegetable oil [1]	2,238	18,000	13,349	74	18,000	1,401	8	21,000	1,827	9
Annual Yield (MT/Ha.)										
Maize	1.4	1.4	4.4	314	1.6	2.2	138	1.8	1.7	93
Beans	0.6	0.6	1.0	160	0.7	0.8	114	0.9	0.6	64
Cassava	n/a	8.2	27.4	334	12.0	27.5	229	20.0	n/a	n/a
Oilseeds (sunflower)	0.7	1.0	0.8	76	1.2	0.7	58	1.2	0.6	50
Crop Value (Million USD)										
Grain	2.7	3.6	13.6	378	4.3	3.6	85	5.5	9.4	171
Beans	1.6	3.4	5.6	165	4.5	1.8	39	5.5	3.1	56
Cassava	4.3	0.5	13.9	2,778	2.7	n/a	n/a	5.5	n/a	n/a
Oilseeds	0.9	6.6	8.2	124	8.0	1.8	23	8.0	1.8	23
No. of households with improved practices [7]		35,000		0	42,000	24,860	59	49,000	56,510	115
Dietary Diversity Score	4.3	5	n/a		5.5	6.4	116	5.5	5.5	100
Percent of female beneficiaries	n/a	40	n/a		50	44	88	50	50	100
Children <5 that are stunted (%)	39	n/a				35		34	30	88
Children <5 that are wasted (%)	1	1			1	1	100	1	4.2	420
Children <5 that are underweight (%)	25	25			23	13	57	22	19.7	90
Increase in vehicle traffic by type (%)		20			20			20		
Increase in mills/shops along roads%		TBD			TBD			TBD		
Km. of farm-market roads rehabilitated		30			100			120		
Performing : total loans - % [8]		98			99			99	100	101
% NGOs/groups commercialising	0	0			10	15	150	15	23	153

T = Target A = Achieved A% = Achieved as a percentage of Target n/a = not available

1. Vegetable oil production is calculated as 10% MT soybean + 25% MT sunflower seed, these being the respective yields of oil in an average mill.
2. During FY2002, 1 US $ averaged at Ushs. 1,800.
3. During FY2003 1 US$ averaged at Ushs 1,900.
4. For FY2004, the dollar rate was US$1,728 at the time of compiling this report.
5. Baseline farm-gate prices were Ushs. 70,000/MT for maize, Ushs. 289,000/MT for beans, Ushs. 188,000/MT for sunflower.
6. Actual farm-gate prices in July-September 2004 were Ushs. 200,000/MT for maize, Ushs. 400,000/MT for beans, Ushs. 150,000/MT for cassava, Ushs. 300,000/MT for sunflower oil.
7. FY2004 impact results indicated that 70% of households practiced at least three improved practices i.e. timely planting, recommended spacing, timely weeding, and planting improved seed. The figure was extrapolated to the entire scheme.
8. % Loan performance is relevant to STANCHARTERED bank farmers.

Table 2. Mean area planted, output, yield, gross income and farm gate price by crop

Indicator	Maize			Beans			Cassava [1]			Soya bean			Upland rice			Sunflower		
	Baseline	FY 2003	Mid-term	Baseline	FY 2003	Mid-term	Baseline	FY 2003	Mid-term	Baseline	FY 2003	Mid-term	Baseline	FY 2003	Mid-term	Baseline	FY 2003	Mid-term
% of farmers growing crop	72	63	85	76	68	72	35	38	57	N/a	23	20	6	8	6	11	31	18
Mean area planted, pure stand (Ha)	0.6	0.8	0.96	0.3	0.5	0.5	0.4	0.3	0.4	N/a	0.4	0.5	0.3	0.6	1.3	0.9	0.6	0.6
Mean area planted, mixed stand (Ha)	0.5	0.7	0.5	0.4	0.6	0.4	0.4	0.3	0.5	N/a	0.3	0.5	0.0	0	0	0.5	0.8	0.4
Mean output pure stand (MT)	0.8	1.7	1.2	0.2	0.4	0.2	N/a	N/a	N/a	N/a	0.3	0.4	0.6	0.7	0.9	0.5	0.5	0.4
Mean output mixed stand (MT)	0.6	0.7	0.4	0.2	0.3	0.2	N/a	N/a	N/a	N/a	0.2	0.2	N/a	N/a	0.8	0.2	0.3	0.1
Mean yield pure stand (MT/Ha)	1.4	2.2	1.3	0.6	0.8	0.5	N/a	N/a	N/a	N/a	0.8	0.5	1.8	1.2	1.5	0.7	0.7	0.6
Mean yield mixed stand (MT/Ha)	1.3	1.1	1.0	0.4	0.4	0.5	N/a	N/a	N/a	N/a	0.5	0.4	N/a	N/a	N/a	0.5	0.4	0.4
% Quantity of grain sold of total output	61	55	69	30	69	55	N/a	N/a	N/a	N/a	89	52	86.0	54	26	57.0	97.0	66
Farm gate price per MT (Ushs 000)	70	104	304	289	388	410	N/a	N/a	N/a	N/a	355	579	336	810	600	188.0	245	333
Gross income per farmer (Ushs 000)	44	76	244	47.0	93	81	N/a	N/a	N/a	N/a	89	146	293.0	319	101	87.0	107	66

Table 3: Household indicators on socio-economic, farm planning and management and PHHS

	Baseline	FY2003	Midterm
Dietary diversity and Nutrition			
Dietary score	4.3	6.4	5.5
Mean number of meals taken per day	3.0	3.8	3.9
Socio economic indicators	**Percentage**		
Female headed households	10	16	15
Household heads that did not attend school	13	8	8
Household members under 16 years of age	62	57	56
Farm planning and management			
Households keeping records	17	64	52
Households planting improved planting material	N/a	88	84
Households planting in rows	N/a	92	98
Households accessing extension services	28	89	87
Households belonging to farmer group	32	95	100
Post harvest handling			
Households drying on bare ground	84	55	63
Households storing in cribs	29	19	19
Households selling at farm gate	53	52	52

(ACDI/VOCA surveys for FY2002-04) n/a: Not available

[1] Cassava is harvested in piece meal so farmers were unable to quantity 2003B harvest. Cassava for 2004A season was still young.

1.0 INTRODUCTION

The second phase of agricultural activities managed by ACDI/VOCA PL-480 Title II Monetization Program in Uganda started in September 2001. The main goal of the program is to ensure improvement in food security situation and household incomes of the rural population by increasing the production, marketing and consumption of maize, beans, cassava, upland rice, soybean and sunflower. To achieve the above goal, ACDI/VOCA collaborates with grantees to:

- Increase agricultural productivity by way of encouraging farmers to adopt improved agricultural practices and inputs;
- Increase access to rural financial services for inputs, production and marketing;
- Increase commercial capacities of farmers;
- Increase local and regional market access; and,
- Improve nutritional practices at household level.

A baseline study was carried out in 10 districts of Uganda between March and June 2002. The purpose of the study was to provide a basis for tracking the impact of the PL -480 program activities on food security, rural household incomes and nutrition of the target population. An assessment study of program activities during FY2003 was done in August 2003. Results of the baseline and impact study during FY2003 are shown in Tables 1, 2 and 3. It is about two and a half years, halfway through the Life of Project. This mid-term assessment study was conducted to assess progress of the program to-date.

Specifically, this report shows the:

i. Changes in agricultural production in terms of acreage, output and yield and income distribution among the targeted populations between the period FY2002-2004.
ii. Changes and effects in price differentials between farm-gate and market prices obtained by farmers.
iii. Changes in level of accessibility and utilization of improved technologies, practice and use of market information.
iv. Performance and sustainability of farmer groups, and the level at which the groups are formalized.
v. Changes in the level of awareness of proper food utilization, nutritional status, and dietary diversity of the targeted population.

vi. Changes in the level and quality of record keeping and farm planning as a management tool.

vii. Constraints encountered by the rural households in the production of target crops and what their views are on addressing them.

viii. Aspects of the external environment under which the program has operated since the second phase started, the lessons learned and how best to improve the Program before year 2006, when it winds up.

1.1 Report Structure

The report has five sections and they are presented as follows:

1. Introduction and background;
2. Methodology;
3. Survey findings and discussions;
4. Conclusions and recommendations;
5. Annexes.

2.0 METHODOLOGY

2.1 Approach to the study

To ensure consistency, accuracy, and reliability of information collected, a combination of quantitative and qualitative methods were used in the study. Household interviews using a structured questionnaire (See Appendix 4) were conducted to generate the quantitative data, while discussions with key contact persons of grantee organizations and farmers in small groups were used to generate qualitative data (See Appendix 5.

To obtain complete information since the program started, only grantees whose activities started in FY2002 were included in the study. All grantees collaborate with MIS and IITA for dissemination of market information and distribution of improved cassava planting material to farmers. Specific questions related to market information were included in the questionnaire. Other grantees like CEDO, KYAWDA, NALG, and NSARWU were excluded because their operations started a year after the inception of the program, i.e., their activities, if any, before ACDI/VOCA funding cannot directly be attributed to the program.

2.2 Sample size and sample selection

Sample size determination

Sample size was determined on the basis of the level of precision required from the data collected. For this study, the confidence level of 95% assumes that data obtained does not differ by 5% from the actual figures obtained in the districts. Hence our allowable error was 5%. To determine the sample size, the proportion of households who kept farm records was used because it is one of the valid indicators of adoption and impact of the project, particularly on the FaaB component. In FY2003 it was found that 64% of the respondents kept records.

For the program area,

$$n = [Z \times \{P(1-P)\}^{½}/s]^2$$

Where:

n = sample size

P = the proportion of the population who kept farm records. P =0.64

s = maximum allowable error, expressed as percentage points. s = 0.05 (i.e. 5%),

Z = 1.96 (from statistical tables) and

giving a sample size of 354.

Sample selection procedure

i) In each district, one sub-county was randomly selected. From each sub-county, two parishes were randomly selected.
ii) Lists of beneficiary households in each parish were obtained from the grantees.
iii) Using beneficiary lists at household level, respondents were purposively sampled by selecting households with children below five years of age.

A sample of 359 program beneficiaries was interviewed from seven districts out of 34 districts of Uganda where the program operates as shown in Table 3 below and Appendix 6.

Table 4. Distribution of sample beneficiaries by district and grantee

District[1]	**Grantee**	**No. of beneficiaries**	**Sample size** (Direct beneficiaries)
Lira/Apac	UOSPA	10,764	131
Mbale	BFA	3,381	59
Kiboga	BUCADEF	4,206	52
Kasese	MUBUKU	119	30
Kibaale	BUFA	1,056	42
Kamuli	CASHFARM	4,625	45
Total			**359**

Districts were purposively selected basing on size of grantee scheme coverage and approach to extension delivery. The total sample size was apportioned in such a way that the sample size for each grantee was proportional to the number of farmers who were participating in the production activities by June 2004. In total, the team collected anthropometrical data from 225 children below five years. To verify, qualify and confirm data from household interviews, six group discussions were carried out in Kamuli, Kiboga and Kibaale districts with numbers ranging between 7-11 members per group.

2.3 Data analysis and presentation

Combinations of qualitative and quantitative methods were used for data analysis. SPSS was used for analysis and tabulation, EpiInfo 2000 for nutritional data analysis, and Microsoft Word for word processing. Data is presented using tables, graphs and descriptive analysis.

2.4 Study limitations

1. Given that production data collected was for the previous two seasons, some farmers had a problem of memory lapse where they could not instantly remember their achievements. So more time was spent to capture the required data.

2. To minimize error, resulting from inaccurate reporting on age, only 225 of 575 children below five years whose immunization cards were available were included for anthropometrical measurements.

3. Due to poor road networks in Kibaale and Kiboga districts, the bumpy conditions of the roads caused the weighing scales to break down due to shock effect so more time was spent in the field to collect reliable anthropometrical data.

3.0 SURVEY FINDINGS AND DISCUSSIONS

3.1 Program structure

Table 5. Program structure and linkages since FY2003 to date

Indicators	FY2003	Mid-term
Number of farmer groups	1,362	3,022
Number of beneficiaries	96,473	100,131
Number of FEWs	55	65
Number of voluntary contact farmers/ELFs	543	3,022
Number of paid contact farmers/ELFs	4	4
Number of groups with formal structures e.g., bank accounts, constitution, by-laws, registered.	668	697
Number of groups that are commercially oriented i.e., with group savings and credit schemes, do collective purchasing and ownership of inputs and assets, and sell collectively	61	69

(Source: Grantee reports)

Cumulatively, the program had contact with 100,131 beneficiaries, 83% of the program target of 120,000 by end of Life of Project (LOP) in 2006. An increase from FY2003 by 4% was due to the expansion of program activities resulting from grantee mobilization efforts. Given the subsistence nature of agriculture in Uganda at present, organizing farmers into small active groups is an imperative step to early adoption of the technologies promoted by any developmental program. There was percent increase in the number of groups by 122% and voluntary contact farmers of 456%, which ensures sustainability when the program winds up. Not only does it ease the FEW's role of accessing farmers in groups, it is usually a prerequisite of many micro finance providers in accessing funds that could be used as farm credit.

In addition, collective group storage and produce marketing would shield individual farmers from exploitative middlemen offering prices usually below the prevailing market prices. Table 5 shows the types of activities carried out by farmers at baseline survey and mid-term.

Table 6. Percentage distribution of farmer group activities at baseline, FY2003 and Mid-term

Activity	Baseline	FY2003	Midterm
	Percentages		
Collective marketing	10	35	44
Trainings	27	17	40
Farm input procurement	7	24	18
Savings and credit	18	62	24
Collective farming	59	32	38

(ACDI/VOCA surveys for FY2002-04)

Unlike the scenario at the baseline survey, majority of the respondents reported collective marketing (44%), as their main activity in groups, followed by collective training (40%), and collective cultivation

as the third most important. The highest percentage of farmers having collective farming (68%) were sunflower growers in Lira and Apac districts, where UOSPA and other oilseed players like *Mukwano* set up collecting centers for marketing sunflower. To an extent other grantees, BUFA, BUCADEF, NALG and CASHFARM carried out collective marketing activities. The prioritization of collective marketing at mid-term is a positive manifestation of the grantee efforts in ensuring better prices for their farmers, thus boosting household incomes. The proportion of groups with propensity to save dropped to 24% from 62% at mid-term, because of limited incomes resulting from poor harvests; most of the output was reserved for food.

With respect to extension support offered by the program 30% of the respondents report grantee services as very adequate, 59% as adequate/average and 11% felt the services were inadequate. The proportion of respondents who found extension services as adequate increased from 45% to 59% indicating an improvement in extension delivery. The level of farm visits was reported as low as 15% compared to other services like trainings (93%) and extension advice reported by 85% of the beneficiaries. The two services are carried out at group level. A closer analysis of the program structure data shows that the FEW : farmer ration at the mid term was 1 : 1,242. It is a reduction from 1:1754 during FY2003. The high ratios explain the fewer farm visits FEWs had to make to individual farmers.

3.2 Household characteristics

Table 7. Household characteristics at baseline, FY2003 and mid-term

Household characteristics	**Variable**		**Percentage**		
			Baseline	**FY 2003**	**FY2004**
Sex of household head	Male		90	84	85
	Female		10	16	15
Marital status	Single		6	1	2
	Married		86	84	90
	Widowed		8	10	11
	Separated		0	5	2
Education level of household head	None		13	8	8
	Adult education		0	1	1
	Primary		59	56	57
	Secondary		23	30	25
	Post secondary		5	5	8
Household age distribution	**Baseline**	**FY2003**			
	0-18yrs	0-5 years	62	21	20
	18-25yrs	6-15 years	13	37	36
	25-49yrs	16-65 yrs	19	40	42
	>50yrs	>65yrs	6	1	2
Mean household size (Number)	Person/ household		6	7	7

(ACDI/VOCA surveys for FY2002-04) Age brackets are changed to compare survey findings with national figures reported by UBOS.

The head of household is an important member of the household in terms of day-to-day running of the household. Further, the sex of the household head determines the nature of household activities and the extent of overall participation in development (MoG, 1998). It was found that 85% of sampled households were male-headed. A similar trend was observed at baseline and FY2003. This depicts that physical and financial resources are predominantly owned and controlled by men. While the program strongly advocates for women participation as one of the ways of spearheading socio-economic welfare at household level, it should not overlook the fact that as beneficiaries acquire the desired skills, they may not at all times adopt and apply them due to the above reason. About 56% of the respondents is below 15 years compared to the national figure of 52% of the population of Uganda. This implies that the dependency ratio is still high among the target population. This affects the way resources are allocated and negatively impact on production (UBOS, 2003).

Education plays a vital role in promoting sustainable development through capacity building of the population. It raises awareness of various issues of national importance and improves general standards of living. Over 50% of the sampled household members attained primary education, which is significantly different from the national figure of 55% of the total population above 15 years. The average household size was reported at 7 compared to the national figure of 5.1 (UBOS, 2003).

3.3 Land availability and utilization

Table 8. Mean size of land holdings by ownership in seven districts of Uganda, baseline, FY2004 & FY2004

District	Mean cultivated land (Ha)			Mean land owned (Ha)		
	Baseline	FY2003	FY2004	Baseline	FY2003	FY2004
Apac	4.1	2.6	2.4	3.9	2.7	2.0
Kibaale	4.7	3.6	2.8	4.7	3.5	2.5
Kamuli	1.9	2.6	2.5	1.7	2.1	2.4
Kasese	N/a	3.3	3.4	N/a	3.3	2.0
Lira	3.5	3.2	2.3	3.2	3.0	1.8
Mbale	1.8	2.4	1.9	1.5	2.3	1.7
Kiboga	7.6	N/a	2.7	3.2	N/a	2.3
Total Mean	**3.3**	**2.8**	**2.4**	**2.6**	**2.4**	**2.0**

(ACDI/VOCA surveys for FY2002-04)

Land is one of the main factors of production; its availability has a direct influence on the level of agricultural production and development. The average land holding per household was reported above 2Ha, and 80% of it was self owned. The trend was almost similar at baseline and FY2003. A comparison between districts shows that Kibaale district reported the highest figure of land availability. A reduction

in cultivatable land was a result of insecurity in northern Uganda and probably unfavorable weather in FY2004, there was not much increase in land opened for crops.

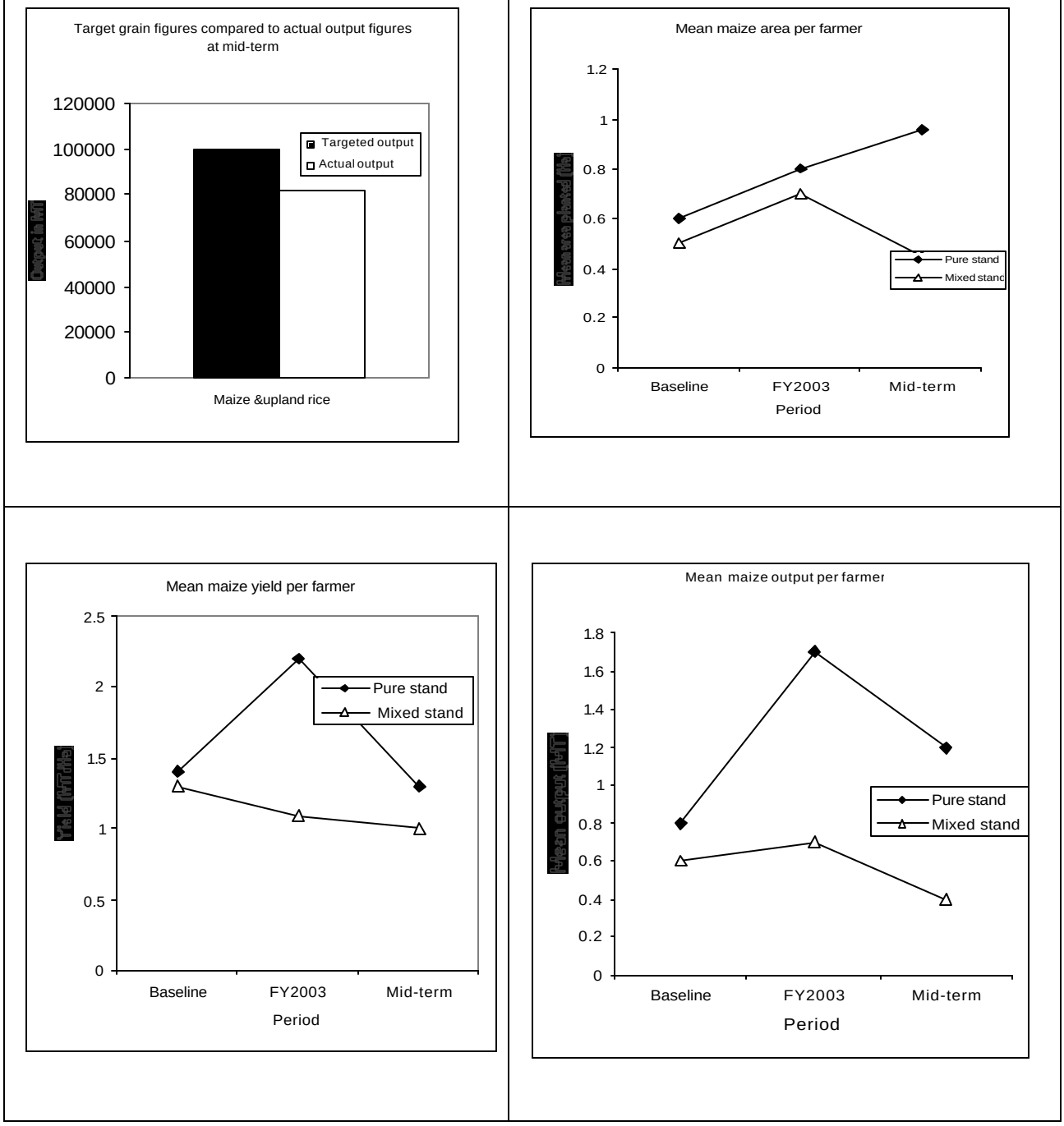
3.4 Production and Productivity of the target crops

Production of the target crops was analyzed basing on the major program indicators, namely output obtained, area planted and productivity per unit area. Information on mean area per farmer under each target crop, mean output and mean yield per hectare are shown in Table 1, appendix 2 and graphs. (Figures 1-6).

Except for a few irrigation schemes, agriculture in Uganda is rain fed so it is prone to adverse weather conditions. Rains in seasons, 2003B and 2004A were unpredictable; and this had a negative effect on output and yield levels. While parts of the north, central and eastern districts suffered from serious drought some parts in Kibaale district, the main bean growing area, received excessive rains and affected the crop at podding/flowering hence reducing the output and quality as well. Political instability in the northern and eastern regions of Uganda remained a detrimental factor to program activities because beneficiaries had to migrate for safety and could not fully concentrate on agricultural activities.

3.4.1 Maize

Owing to the long drought period that occurred during the 2004A-growing season as reported and confirmed by 71% of the respondents, there was a general reduction in the production and productivity indicators for maize in FY2004. It was found that crop management was better in terms of using recommended spacing, timely weeding and use of improved seed (See section 3.5). Poor weather thus had a bearing on the downward trends observed on the maize production and productivity as illustrated below. The program achieved 82% of the targeted output of 100,000MT for grains (maize and upland rice). Total output was above baseline and FY2003 output by 18% and 134% (Refer to Table 1) respectively.



Total actual figures= % of farmers growing the crop*80,728 beneficiaries* mean output for maize and upland rice.

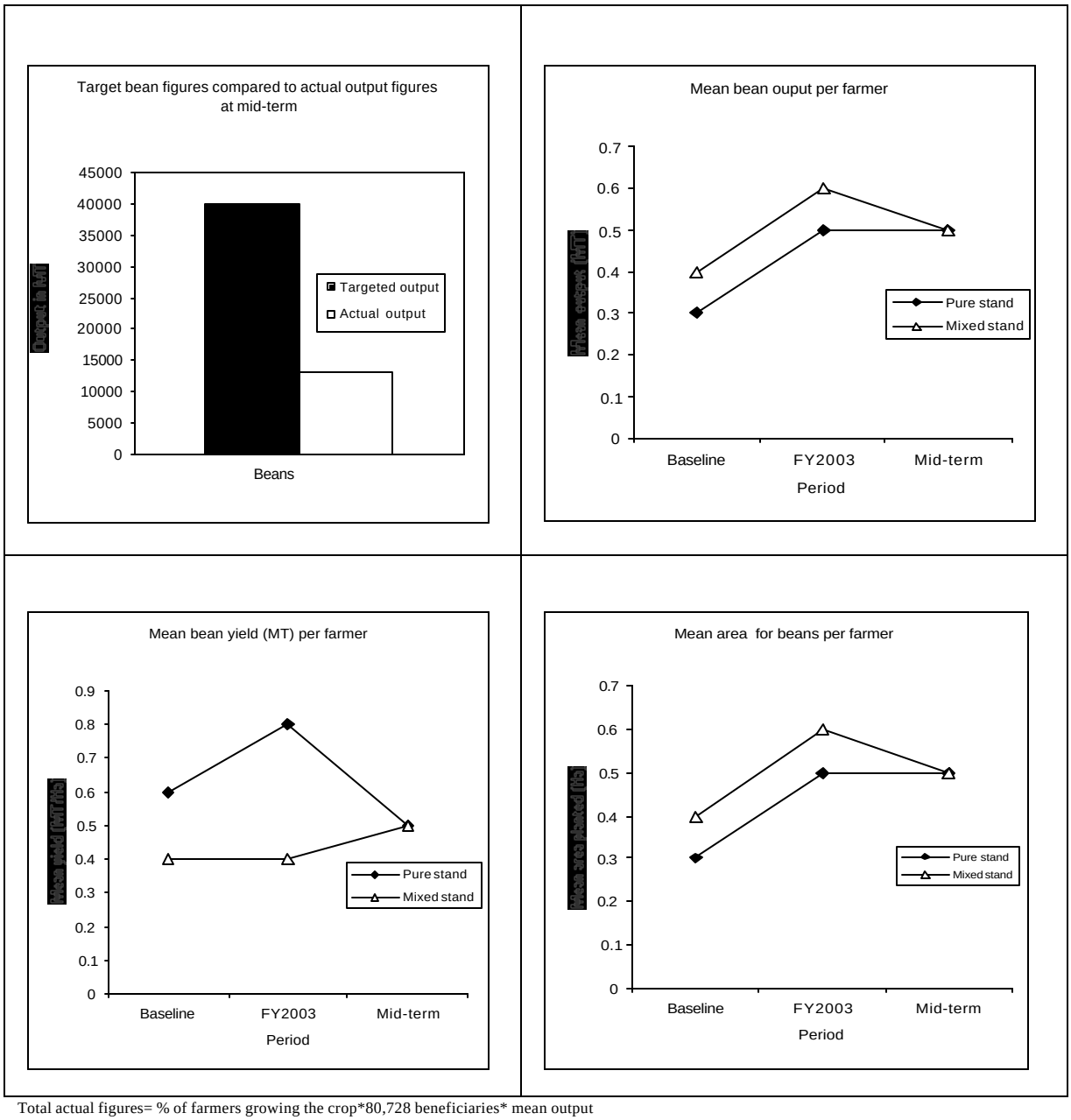
Figure 1: Production parameters for maize

Although there was a 20% increase in the mean area planted for maize in pure stand, there was a 29% reduction in output. Correspondingly, there was a 20% decrease in area planted for maize under mixed stand during FY2004, compared to FY2003, resulting in a 43% reduction in maize output from mixed stand. Compared to the transition from the baseline survey to FY2003, there was a decrease in the

number of farmers growing maize as mixed stands in FY2004. This demonstrates that more beneficiaries of this program are adopting the practice of growing crops as pure stands for increased productivity.

3.4.1 Beans

At least 75% of the grantees promote bush beans for consumption and sale, though much of what is produced is reserved for food security. The crop is prone to unfavorable weather conditions, which were common throughout FY2004, and affected the crop at all stages.



Total actual figures= % of farmers growing the crop*80,728 beneficiaries* mean output

Figure 2: Production parameters for beans

Program wide, 33% of the targeted output of 40,000MT of beans was obtained during FY2004. The amount of beans obtained during FY2004 exceeded the baseline figure of 9,894MT by 34%. The mean area planted for beans under pure stand during FY2004 was similar to FY2003 figure of 0.5 Ha, though there was a 33% reduction in the area planted to beans in mixed stand. There was a 50% reduction in output for beans in pure stand, and a corresponding 56% reduction for beans in mixed stand. During FY2004, beans grown as pure stand had a 38% reduction in yield compared to FY2003 and 17% reduction compared to baseline.

However, a 33% increase in yield for beans grown in mixed stand was observed in FY2004 compared to both FY2003 and the baseline. The general reduction in bean output and yield was due to the erratic weather conditions experienced during FY2004. It was also observed that 42% of respondents used home saved seed (42%) or bought seed from shops or local markets (23%) due to high cost of improved seed of Ushs.1500 per kilo compared to local/home saved seed whose prices ranges between Ushs. 500-700 per kilo. Use of such uncertified seed also contributed to the downward trends for bean output and yield in FY2004.

3.4.2 Cassava

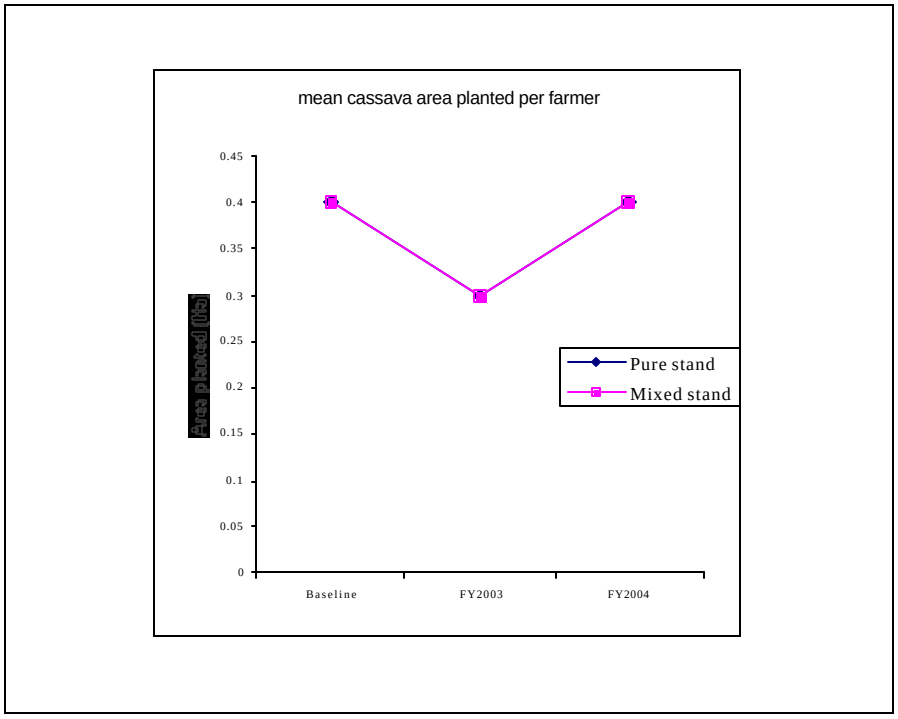


Figure 3: Production parameters for cassava

Since baseline, cassava under pure and mixed stand almost had a similar trend. However, there was a slight increased in area planted for both stand compared to FY2003. No data is presented on mean output and yield per farmer. Farmers could not quantify actual harvests for 2003B season because they harvest in piece-meal and cassava planted in 2004A season was still young.

3.4.4 Soybean

There was a 25% increase in mean area planted for soybean in pure stand, and a corresponding 60% increase in the area planted for soybean in mixed stand in transition from FY2003 to FY2004.

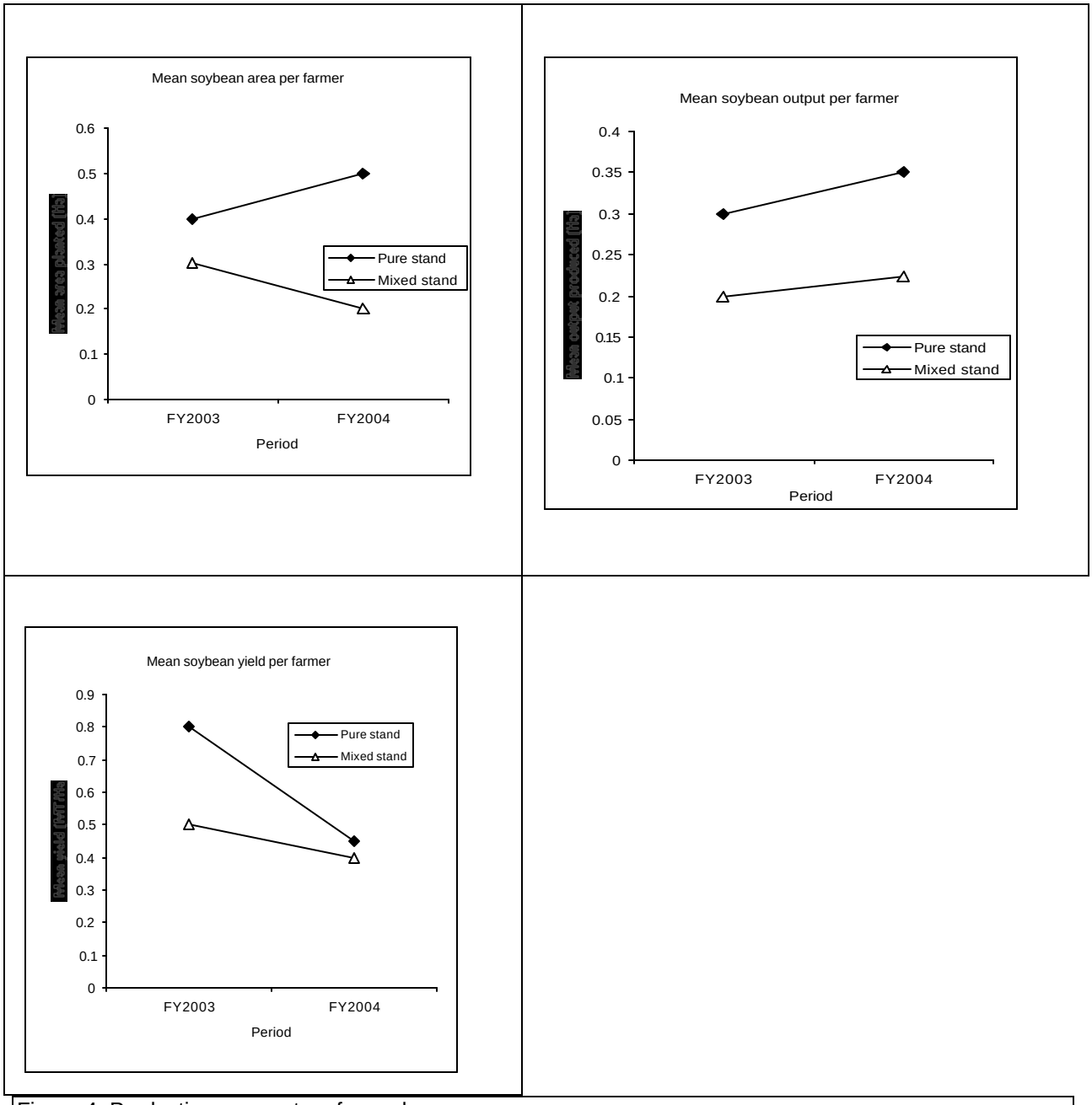


Figure 4: Production parameters for soybean

Soybean output grown under pure stand increased by 33% since FY2003, while conversely, there was a 38% reduction in yield for the same crop in FY2004. Output for soybean under mixed stand remained constant at 0.2 MT in FY2004, though there was a 16% decline in yield.

3.4.5 Sunflower

Two grantees UOSPA and HA promote sunflower production in 12 districts of Uganda. The major sunflower districts of Lira, Apac, Gulu, Kitgum and Pader were insecure due to civil strife. This reduced the number of farmers growing the crop with eventual reduction in production levels.

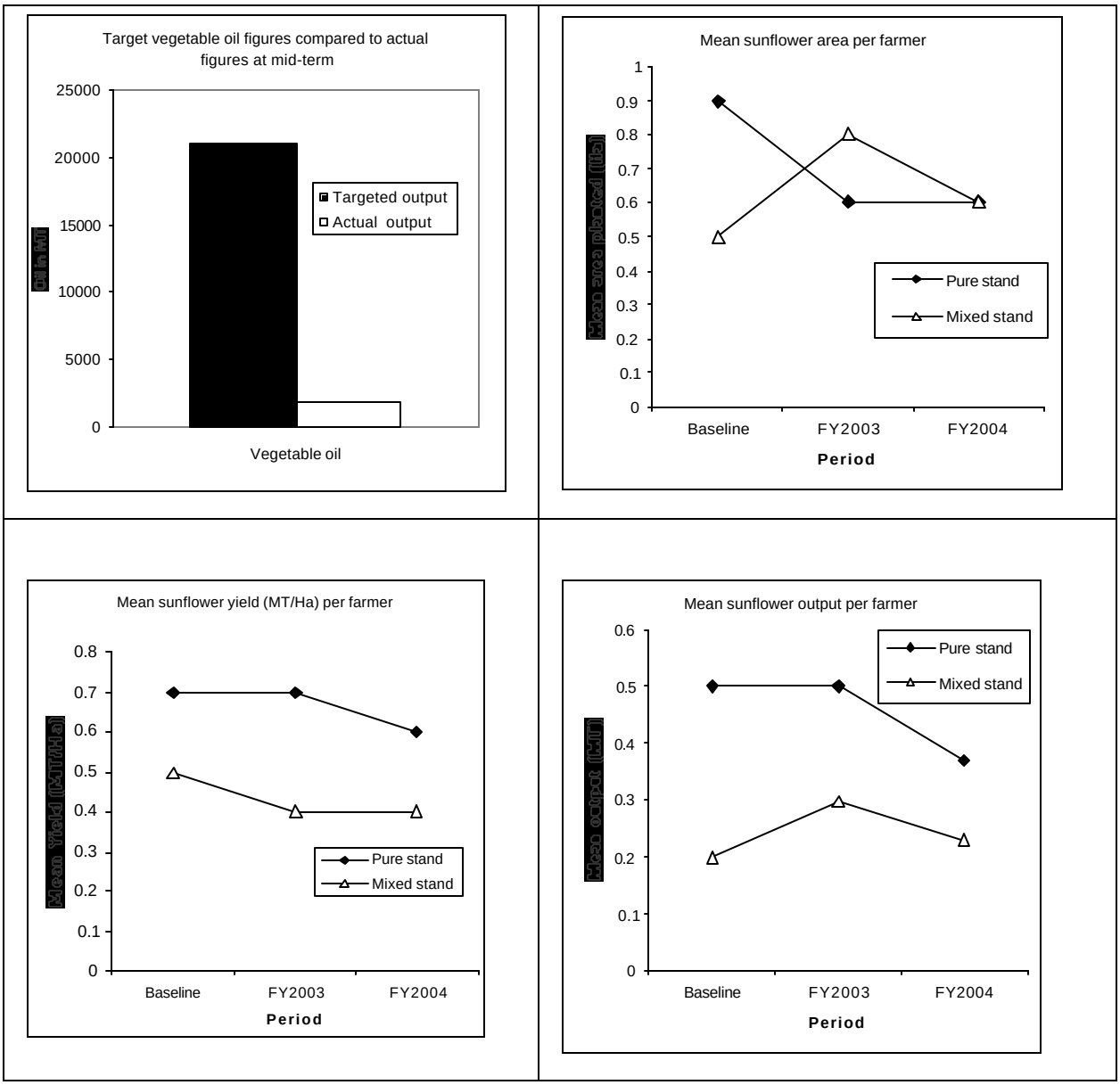


Figure 5: Production parameters for sunflower

About 9% of the targeted vegetable oil of 21,000MT was achieved during FY2004. Research shows a reduction in all production and productivity parameters for sunflower from FY2003 to FY2004. The average area planted for sunflower in pure stand remained constant at 0.5Ha, coupled with a 50% decrease in area planted for sunflower in mixed stand. A 25% reduction in average output for sunflower under pure stand was observed in transition from FY2003 to FY2004, and 66% reduction in output for mixed stand.

A similar trend was observed for sunflower yield, having a 9% reduction in yield for pure stand with constant yield of 0.4MT/Ha for mixed stand crop respectively compared to FY2003. However, actual output and yield figures would be higher if it wasn't for late and unevenly distributed rains particularly in 2004A season resulting in poor yields.

3.4.6 Upland Rice

The crop is predominantly promoted by three grantees, NALG, BUCADEF and H/A. But NALG farmers grow more of paddy than upland rice, which is traditionally known by the farmers and consumers. It is after intervention, when the grantee expects that farmers would gradually appreciate and adopt upland varieties. Of the total production, upland rice contributed 6% of 81,896MT output of grains. MUBUKU farmers took advantage of favorable conditions within the scheme and grew upland rice for commercial purposes. The land area under upland rice was doubled from FY2003 to FY2004. No rice crop was planted in mixed stand.

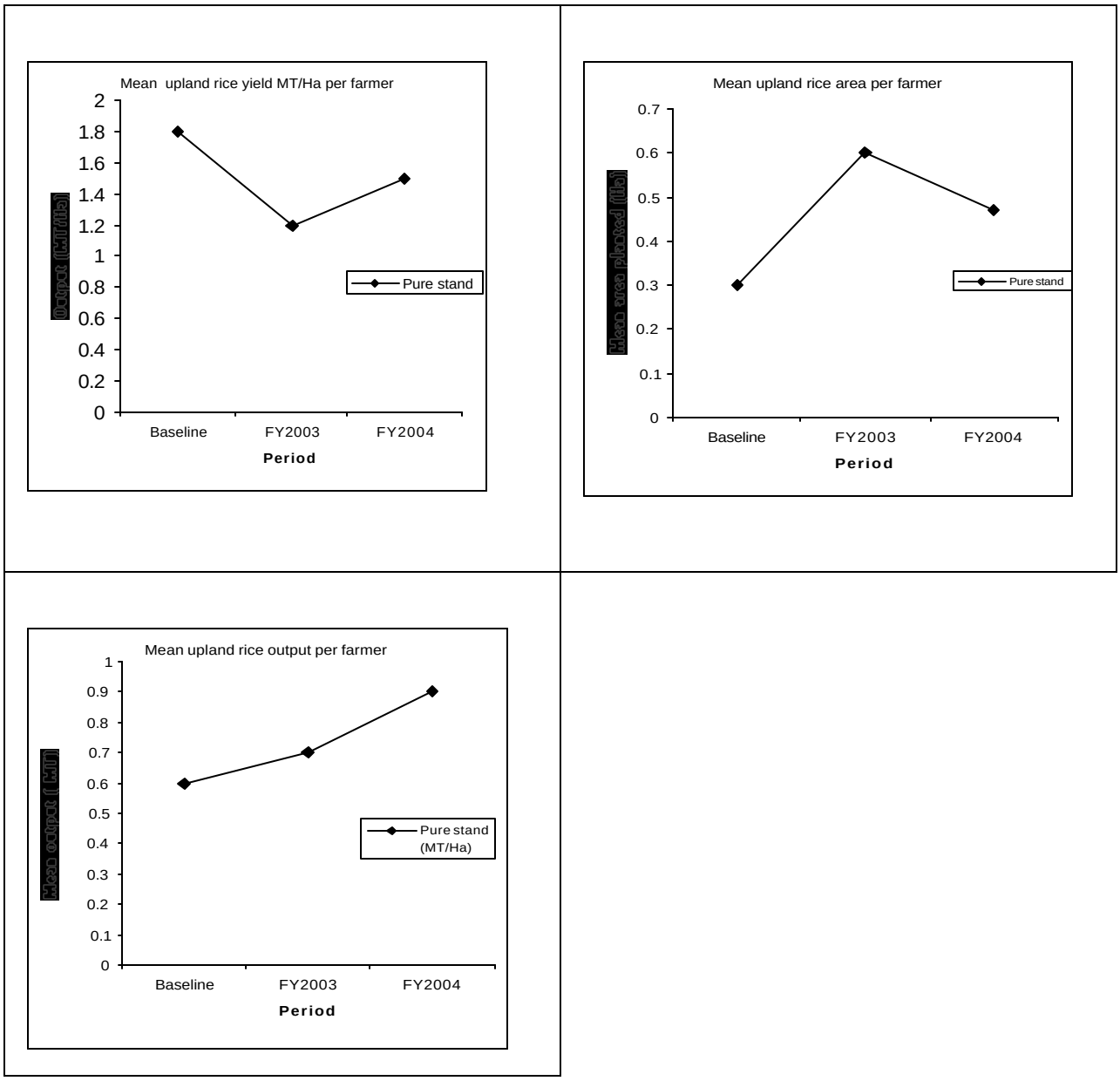


Figure 6. Production parameters for upland rice

Upland rice output had an increase of 29% from FY2003 to FY2004, and a 50% increase in transition from the baseline to FY2004. Similarly, upland rice yield increased by 25% in transition from FY2003 to FY2004. The increase in rice output and yield in FY2004 was attributed to the use of certified seed (100%) and better crop management particularly in MUBUKU scheme whose yield level was as high as 2.8MT/Ha in 2003B season.

3.5 Rate of adoption of technologies

In order to enhance agricultural productivity, all grantees have been advocating improved agronomic practices. This is done through trainings, field demonstrations and provision of extension services. With exception of pest and disease and soil fertility it was found that there was a high adoption of improved agronomic technologies. Despite the trainings, other technologies related to post harvest handling and marketing, farm planning and record keeping registered low adoption rates. Section 3.6 discusses the barriers to technology adoption specifically with low percentages, which were highlighted by respondents.

3.5.1. Crop agronomy and farm planning

Table 9. Percentage distribution of technology adoption by crop

Technology	Maize		Beans		Cassava		Soybean		Sunflower		Upland rice	
	Base line	Mid-term	Base line	Mid-term	Base line	Mid-term	Base line	Mid-term	Base line	Mid-term	Baseline	Mid-term
Timely planting	85	77	84	81	76	85	n/a	96	82	82	74	92
Row line planting	95	99	56	92	89	95	n/a	100	50	99	9	100
Recommended spacing	50	92	29	91	49	91	n/a	99	20	96	9	100
Weed management	87	91	86	88	78	83	n/a	86	82	83	66	93
Pest/disease management	11	22	6	23	7	13	n/a	13	3	17	18	39
Soil fertility management	25	69	23	62	25	62	n/a	65	26	69	21	80
Planting improved seed	30	83	5	59	26	72	n/a	94	26	95	24	100
Farm work plan	n/a	47	n/a	50	n/a	38	n/a	46	n/a	42	n/a	73
Record keeping	n/a	49	n/a	55	n/a	40	n/a	54	n/a	43	n/a	72

(ACDI/VOCA surveys for FY2002-04)

Over 80% of the farmers interviewed carried out timely planting for all the target crops as soon as it started raining, while over 90% of the respondents planted in lines. Similarly, 90% of the respondents planted the target crops following the recommended spacing, while over 83% of them carried out weeding. This is a general improvement for the farmers at mid-term compared to the baseline situation. Although the percentage of farmers carrying out pest management at mid-term was greater than at baseline, the figures are still low, the highest being 39% in upland rice production. . Pest infestation and damage tends to increase during long dry spells, as was the situation particularly in 2004A season. Given

that a few respondents did not control pests, high crop damage and loss could have happened and this could explain the low output and yield for almost all the target crops in FY2004.

There was a general improvement of farmers (over 60%) carrying out proper soil fertility management, notably for crop rotation rather than improved fertilizers in FY2004 compared to baseline. Similarly, more farmers in FY2004 used improved seed material for the target crops (over 50%) compared to the baseline. However, it should be noted that 59% of the farmers grew improved beans, which was lowest compared to other crops. This could explain the low figures for output and yield for this crop at mid-term.

Farming as a business is hinged upon the premise of proper farm planning and record keeping. It was generally noted that program-wide, not many farmers prepared individual farm work plans and production records. Percentages of farmers carrying out these practices were generally below 46%, with the exception of those growing upland rice mostly in MUBUKU. Much as respondents attested to the fact that they were taught by the FEWs how to prepare farm work plans and records, but were (the farmers) reluctant to document and use them.

3.5.2 Post harvest handling and Storage and marketing

Table 10. Major drying and storage facilities during Baseline, FY 2003 and Mid-term

Facility	**Percentage**		
	Baseline	FY2003	Mid-term
Drying facilities			
Tarpaulin	9	26	31
Crib	3	14	16
Bare ground/none	84	56	63
Papyrus mat	6	2	20
Storage facilities			
Crib	n/a	19	19
Granary	n/a	8	27
Separate house with earth floor	4.3	11	30

(ACDI/VOCA surveys for FY2002-04)

There is a direct relationship between quality and economic benefits, therefore grantees tried to improve farmers' awareness and skills in proper handling of produce through training seminars and practical demonstrations in using better PHHS technologies. Percentage of farmers using cribs remained constant and farmers with separate stores increase by 172% from FY2003. Further, there was an improvement in the usage of tarpaulin sheet from 26% to 31%, though drying on bare ground was still common among the targeted population. Indeed, poor post-harvest handling was mainly observed in Apac, Mbale and Kamuli districts. This factor still remains a challenge to the program, if farmers' incomes are to improve. The

fact that traders/middlemen, the main buyers at farm gate (the main marketing outlet) do offer the same price regardless of quality, may affect the level of adoption. Limitations to adoption are discussed in section 3.6.

3.6 Cause of non-adoption of technologies

Across technologies, labor constraint and financial resources were reported as the major limitations to adoption. This implies that individually, incomes obtained from the target crops are not sustainable enough for re-ploughing back into farming.

Table 11. Reasons why farmers did not adopt pest and disease management

List of reasons	% of respondents during FY2003	% of respondents during FY2004
Reported low pest damage	15	41
Lacked money for buying inputs	50	44
Lack of knowledge	11	9

(ACDI/VOCA surveys for FY2002-04)

Focus group discussions reported a wide range of pest and diseases like leaf bright for soybean, stalk borer and monkeys that commonly attacks maize. Kamuli farmers pointed out the *striga* weed, which is common in cereal fields and greatly, reduces yields. Focus group discussions confirmed that whereas maize farmers control pests and diseases by rouging; they have no remedy for beans. They urged that more money is used at planting time and by the time pest infestation occurs, they have no money to purchase pesticides.

Table 12. Reasons why farmers did not adopt soil fertility management

List of reasons	% of respondents during FY2003	% of respondents during FY2004
Lacked money for buying inputs	31	31
Soils still fertile/No need	67	62
Lack of knowledge	14	8

(ACDI/VOCA surveys for FY2002-04)

Whereas some farmers from all the six focus group discussions reported to plant both local and improved seed. They affirmed that none of them used improved fertilizers on their individual fields. Some believe the soils were fertile enough while others didn't have money to buy them. So when they consider other costs like hiring labor, they opt to omit costs for fertilizers as one of the ways to reduce costs.

Table 13. Reasons why farmers did not adopt use of plastic sheet for drying

List of reasons	% of respondents during FY2004
It is costly to construct	83
No need	5
Had other drying facility	6

(ACDI/VOCA surveys for FY2002-04)

Table 14. Reasons why farmers did not use store in crib

List of reasons	% of respondents during FY2004
It is costly to construct	46
Produces small quantities	5
Lack of knowledge	21
No need	11
Thefts	10

(ACDI/VOCA surveys for FY2002-04)

Focus group discussions confirmed that whereas grantees constructed cribs for demonstration individual farmers had not replicated them. While some participants reported not to use cribs for fear of thieves, others perceived the cost of constructing cribs as high. It was estimated that a 3MT- crib costs about Ushs. 200,000. Farmers reported that they produce small quantities therefore it was not cost effective to construct cribs. Though farmers perceived the cost of PHHS technologies as high, they tend to sell immediately after harvest (34%) and others sell as need arose (47%). With the liberalization of the economy farmers had options to sell to any market. The need for future storage therefore may not arise as majority produce at subsistence level.

In Kamuli district, sensitization on the use of a hand sheller and a motorized maize sheller was done by the grantee. Although farmers expressed that they had shown interest in buying the hand sheller, they were not clear on the procurement procedure, where farmers had to order with cash payment and not cash on delivery. But the grantee does not facility of procuring equipment for farmers to pay later. Farmers explained the advantages of using a hand sheller like having clean maize i.e. no broken grain, they cited one disadvantage of the hand sheller as time consuming since small quantities are shelled at time while shelling using a stick, the activity is accomplished in a short time. With respect to tangible technologies particularly for PHHS, farmers still expected the program to provide them freely; even if some machines cost as less as Ushs.1,500/- per unit.

Table 15. Reasons why farmers did not keep farm records/work plans

List of reasons	% of respondents during FY2003	% of respondents during FY2004
Lack of adequate knowledge	50	18
Not important	N/a	17
Reluctant/no individual commitment	38	32
Illiteracy	16	23
Others	N/a	5

All participants of the focus group discussions recognized the benefits of keeping such that they are able to compare expenses to incomes, know why they make losses and adjust accordingly to increase on profit. Whereas Kamuli and Kibaale farmers admitted having been trained on the practice, they affirmed that they do not keep records. The main reasons given for non- adoption were illiteracy and lack of individual commitment. Though some farmers insisted that they sought assistance from literate friends to write for them, it was not very useful because they could not read. But the proportion of non-committal farmers slightly dropped showing that farmers are gradually realizing the importance of records.

On the use of Project Income Statement, one farmer commented that it does not make sense for one to plan if he has no money while others gave up on records because whenever they attempted to record, their projections reflected losses. For those reasons, farmers prefer to operate their farm activities without a clear picture of results. A participant in Kibaale district reported to have invested Ushs.250,000 in bean production, harvested 300kgs and her gross income was Ushs.60,000. But her explanation appeared unrealistic. At price of Ushs.400 per kilo BUFA offers her farmers, she would get a gross income of Ushs.120,000/-. This shows her projections were not conclusive and she did not properly grasp FaaB concepts.

Compared to other districts, MUBUKU farmers in Kasese district scored the highest percentage of 85% on record keeping for maize mainly because one needs to have proper farming records to benefit from the services of the revolving fund for accountability purposes. Farmers expect financial benefits in return; and appreciate them as a cost-benefit towards their farming activities. Other districts lack proper and organized facilities, as MUBUKU's and this partly explains why farmers don't bother to keep proper records. .

3.7 Access and utilization of market information

Half way through the program, 94% of program beneficiaries had access to market information related to price and quality of agricultural produce from different sources as shown in Table 19. Farmers use

market information to decide which crops to grow in subsequent seasons, what, when and where to sell and improve quality as well.

Table 16. Sources of market information for the beneficiaries

Source	FY2003	Mid-term
	%	%
Traders	25	29
Extension workers	47	27
Radio	29	18
Other farmers	10	15
Notices	N/a	1.8
Newspapers	0.3	0.3
Other	N/a	2

(ACDI/VOCA surveys for FY2002-04)

Similar to FY2003, traders were the most common source of market information, followed by extension workers and the radio. Although farmers reported extension staff as one of the major sources of market information, farmers recalled and quoted traders as the main source of information because traders were more involved in the actual buying of their produce than the grantees. However, in Kasese and Lira districts, where farmers largely sold their produce to MUBUKU and UOSPA, extension workers were quoted as the main source of market information.

Farmers depending on region, quoted stations such as CBS FM, Open-Gate FM, Radio Lira FM and Radio Way FM, which MIS uses to disseminate price and market information. No respondent reported using the MTN-SMS market information facility launched during FY2004. As the program targets the rural poor, the facility is more relevant to big farmers, traders/produce buyers and other users who can afford mobile telephone services. The fact that farmers mainly rely on traders for market information and yet they are the main buyers at farm-gate, shows traders determine and set prices for the farmers, thus reducing their bargaining power.

3.8 Credit accessibility and utilization

About 38% of the beneficiaries at mid-term accessed credit services for their agricultural activities compared to 14% at baseline. The main reasons for not accessing credit services include lack of credit services (69%), insufficient collateral (8%) and risk averseness (15%). Given the risks involved in production credit, a few financial institutions venture to lend money for agricultural activities particularly on a small-scale.

Table 17. Percentage distribution of credit by type and purpose at baseline, FY2003 and mid-term

	Baseline	FY2003	Mid-term
Indicator	%	%	%
Credit type			
Cash	82	17	29
Farm inputs	18	48	71
Loan use			
Crop farming	81	50	93
Livestock	1	N/a	0
Trade/Business*	2	N/a	5
Household food items	N/a	5	1
Household non-food items	N/a	11	1

(ACDI/VOCA surveys for FY2002-04)

Whereas at baseline 82% received cash credit, 29% of the respondents received credit in cash form. A large proportion of respondents (71%) reported that they received credit in kind, in form of inputs. MUBUKU farmers received production loan in form of inputs and access the existing savings and credit scheme to meet their farm labor requirements. The amount of credit in monetary terms is then deducted from farmers' earnings at the time of marketing. The average amount of credit in cash at mid-term was Ushs.171,182 compared to Ushs.194,300 in FY2003. More cash was spent on fertilizers at mid-term of Ushs.80,733 compared to Ushs.93,750 on FY2003 , followed by land clearance at Ushs.70,000. Other farm expenses, planting, first and second ploughing weeding, planting material and harvesting ranged between Ushs.27,500 and Ushs.67,000 compared to FY2003 when the same expenses ranged between Ushs.20,000 and Ushs.36,000.

Table 18: Different form of credit in kind obtained by farmers during FY2003-Mid-term

Loan usage	FY2003	Mid-term
	%	%
Seed loan	44	85
Fertilizers	19	53
Pesticides	9	31
Herbicides	9	33
Farm implements	4	10

(ACDI/VOCA surveys for FY2002-04)

About 85% of farmers received credit in form of seed compared to 44% during FY2003. At mid-term a bigger proportion of farmers obtained fertilizers (53%) and herbicides (33%) on credit than last FY. As a result of grantee trainings, progressive farmers working with NALG, BUCADEF and MUBUKU improved efficiency on their farms by using zero tillage. Zero tillage does not only reduce farm labor requirements but also permits timely management of field activities.

3.9 Farm gate prices and gross income from the target crops

Mean gross incomes were computed by multiplication of the mean farm-gate prices and mean crop output sold in different forms, while crop value is the product between the total quantities of crop output obtained and mean farm gate prices. Table 19 shows the trend in gross income of the target crops.

Table 19. Mean total output and level of crop prices at farm gate and local markets at baseline and mid-term situation

Crop	Mean total Output per farmer (MT)	Mean total Output per farmer (MT)	Farm-gate price/Ushs/MT	Farm-gate Price (Ushs/MT)	Market prices (Ushs/MT)
	Baseline	Mid-term	Baseline	Mid-term	Mid-term
Maize	0.606	1.123	70,000	304,000	262,000
Beans	0.163	0.229	289,000	410,000	450,000
Soybean	n/a	0.345	n/a	579,000	600,000
Sunflower	0.403	0.351	188,000	333,000	350,000
Upland rice	0.583	0.993	336,000	600,000	800,000

(ACDI/VOCA surveys for FY2002-04)

There was a shift in mean total output per farmer for maize and beans and a drop for sunflower and upland rice from the baseline. Similarly, there was an improvement in farm gate price for all crops. Market prices were higher than price at farm gate with percentage difference ranging between 4%-25%. Prices at farm gate for maize were higher in Kasese at Ushs.600 per kilo, where MUBUKU farmers grow maize on contract for FICA a local company multiplying hybrid maize seed leading to a higher increase in the mean farm gate price for maize. While Lira farmers reported the highest farm gate price for beans of Ushs.600 per kilo. Kibaale farmers reported the highest price of Ushs.420 at a local store because BUFA facilitates collective marketing to WFP and other big buyers.

Table 20. Crop value and gross income per farmer from the target crops at baseline and Mid-term

Crop	Mean crop value (Ushs)	Mean crop value (Ushs.)	Mean quantity sold as grain per farmer (MT)	Mean quantity sold as grain per farmer (MT)	Mean gross income (Ushs.)	Mean gross income (Ushs.)
	Baseline	Mid-term	Baseline	Mid-term	Baseline	Mid-term
Maize	42,420	341,392	0.367	0.779	44,000	244,329
Beans	47,107	93,890	0.047	0.127	38,000	81,338
Soybean	n/a	199,755	n/a	0.178	n/a	146,363
Sunflower	75,764	116,883	0.231	0.231	87	65,756
Upland rice	195,888	560,400	0.503	0.243	293,758	101,000

(ACDI/VOCA surveys for FY2002-04)

In general, there has been an improvement in crop values for all the target crops since the baseline survey, however, the highest percentage at mid-term compared to the baseline survey was realized in maize (82%), followed by upland rice (66%), sunflower having the least (36%). This shift is attributed to an increase in prices and output sold since baseline. Increased production due to program intervention in form of training and extension support increased the surplus for sale. Similarly, the mean farm-gate price for maize as shown in Table 21 is higher than the current mean market price of Ushs.200,000/MT in Uganda due to the fact that MUBUKU farmers are contract seed producers for FICA Seed Company, and they sell their maize at 600/= per kilo. There was an improvement in gross income values except upland rice because farmers hadn't sold much of their produce.

3.8.1 Farmers achievements from the incomes

Table 21. below shows major farmers' achievements from the target crops during the FY2004.

Table 21. Farmers' achievements from the target crops during FY2004 and Mid-term

	FY2003	**Mid-term**
Achievement	%	%
Paid school fees	53	71
Re-invested in farming	27	55
Bought food for the household	N/a	47
Bought animals	25	46
Built a house	15	27
Paid for land	5	15
Invested in a shop	2	6

(ACDI/VOCA surveys for FY2002-04)

There was an increase in expenditure on education (71%) from 53% during FY2003, re-investing in agriculture (55%) from 27%, house improvement, livestock in stock. Focus group discussions confirmed that beneficiaries bought pigs, chicken and paid schools dues for their children. The results in the above table are consistent with the findings of the Uganda Bureau of Statistics' from the National Household Survey for 2002/03, which reported that percentage of school children enrolled increases with increased household income. A large proportion of income was spent on education.

Re-investing into farming and food purchases were some of the indicators of farmers' appreciation of food security principles that are being promoted by the program. Most of the food items bought were of the animal protein nature and they included eggs (87%), meat (84%), milk and milk products (77%), and fish (55%). (Refer to figure 9).

3.8.2 Dwelling units characteristics of the surveyed population

Dwelling unit characteristics as a household indicator are used as a proxy to measure the change in income and livelihood status of project beneficiaries.

Table 22. Percent distribution of construction materials for a) walls, b) floor and c) roof

a) Wall material

Wall structure	%	
	FY2003	Mid-term
Burnt stabilized brick	23	32
Cement blocks	1	0.3
Unborn bricks	20	32
Pole and mud	54	35
Wood	2	0

b) Floor material

Wall structure	%	
	FY2003	Mid-term
Concrete	1	2
Cement screed	9	18
Rammed earth	85	81
Wood	6	0

c) Roofing material

Wall structure	%	
	FY2003	Mid-term
Iron sheets	41	61
Tiles	0	0
Asbestos	0	0
Papyrus	2	0.3
Grass	56	39

It was found that pole and mud walled, rammed earth and iron-roofed houses were the commonest dwelling units. However compared to FY2003 there was an upward trend of burnt stabilized brick, iron roofed and cemented screed dwelling units of 9%, 10% and 9% respectively. Use of pole and mud for the walls was declining while use of bricks was increasing, a positive indicator showing that beneficiaries are improving their housing conditions. About 26% of the beneficiaries reported to spend part of their income from proceeds of the target crops on house improvement. As expected, more than 80% of the

houses had rammed earth floor and is not significantly different from national figure of 83% of the total population (UBOS, 2003).

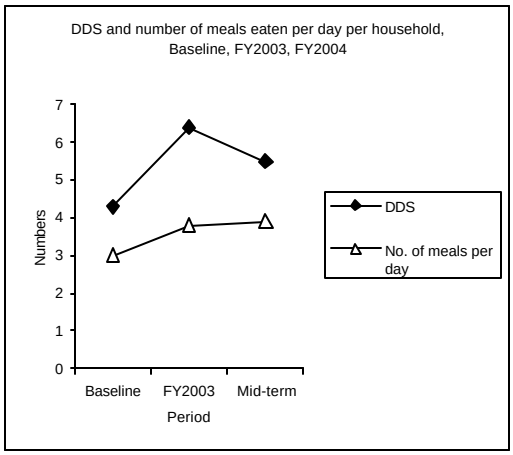
3.10. Nutrition and Dietary Diversity

The grantees enhance farmers' awareness and utilization of food types available at household level by encouraging them to set up fruit and vegetable gardens and poultry units, consuming different food types in proper proportions promoting better feeding practices among young children, expectant /lactating mothers and the sick. In order to determine improvement in nutrition practices of the target population changes in DDS and level of stunting, underweight and wasted children were assessed.

Dietary diversity

Dietary diversity is a measure of the quality of diet of a given population and is measured by using the dietary diversity score (DDS). Dietary diversity is the number of major food groups consumed by a given population over a given period of time To determine the Dietary Diversity Score (DDS) of the targeted population, the 12 major food crops recognized by the Food and Agriculture Organization (FAO) of the United Nations were used as the main yard stick as listed below. A 24-hour recall method was used to capture this data. Figures 7 and 8 illustrate the consumption of different groups and their sources at mid-term.

Food Group 1:	Cereals	Food Group 7:	Fish
Food Group 2:	Roots and Tubers	Food Group 8:	Oils/fats
Food Group 3:	Pulses and Legumes	Food Group 9:	Sugar/ honey
Food Group 4:	Milk and milk products	Food Group 10:	Fruits
Food Group 5:	Eggs	Food Group 11:	Vegetables
Food Group 6:	Meat and offal	Food Group 12:	Miscellaneous



It was found that the dietary diversity score (DDS) was not significantly different ranging between 5.1 and 6.5 by district and the mean as 5.5. Though the mean score was below that of 6.5 during FY2003 it is a 100% achievement of the program target of FY2004 (mid-term situation.). A higher percentage of root tubers, cereals, legumes and oils were mainly consumed due to improved production resulting from grantee training programs. Observations and discussions showed low percentages for vegetables and fruits were mainly due to the dry weather conditions.

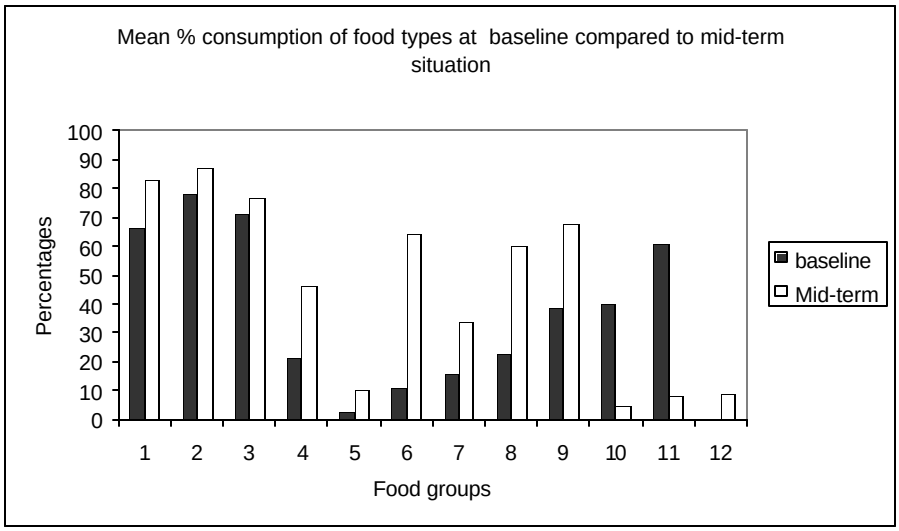


Figure 7. Mean % consumption of food types of program beneficiaries at baseline compared to mid-term situation

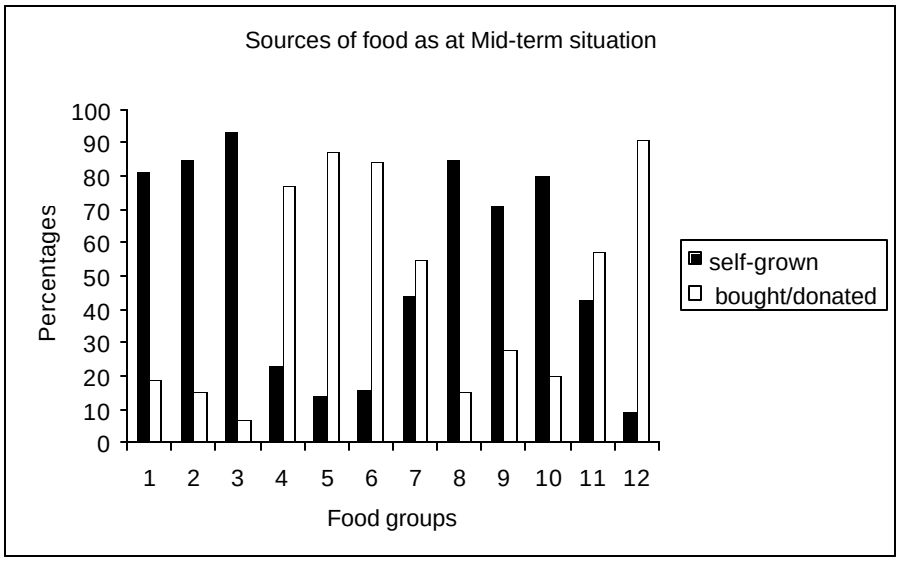


Figure 8. Sources of food as at Mid-term situation

In general, root tubers (87%), cereals (83%) and legumes (77%) were predominantly consumed at mid-term compared to baseline situation because they are the ones mainly promoted by the program; they are grown and therefore readily available at household level. Beneficiaries supplemented their diet by purchasing animal proteins foods that constitutes eggs, meat, milk products and fish. It was found that 47% of the beneficiaries spent part of their income from sale of the target crops on food.

With regard to vegetable growing, 65% and 66% of the beneficiaries established vegetable and fruit gardens during FY2004. With the exception of Kibaale and Kamuli districts, other districts recorded over 70% achievement. Grantees like BUCADEF, MUBUKU and UOSPA stepped up vegetable/fruit production by setting up multiplication gardens to ensure adequate supply of planting material. In Lira district, farmers took advantage of wetlands; they had better vegetable gardens even during the dry spell.

On average, every household reported to grow 3 types of vegetable and fruits respectively. Green leafy vegetables, cabbages, tomatoes, eggplants, onions and carrots were the most popular types of vegetables at household level. Further, it was noted that farmers consume bean and cassava leaves and they serve the same purpose as green vegetables. It was observed that although 80% and 43% reported to grow fruits and vegetables, less than 10% consumed the two food types. This is because at the time of data collection, the weather was generally dry to allow sufficient growth of vegetables in particular.

Breakfast fed to children below 5 years

Source	FY2003	Mid-term
	%	%
Maize	25	34
Milk	20	23
Cassava/sweet potato	17	1.2
Black tea	13	17
Beans	6	N/a
Matooke/Banana	5	0.4
Roasted maize	3	0.4
Greens	1	N/a
Eggs	N/a	2

(ACDI/VOCA surveys for FY2002-04)

At mid-term beneficiaries fed their children more on maize porridge, milk and black tea. Children feeding on maize porridge and milk increased to 34% and 23% from 25% and 20% respectively, showing increased awareness and appreciation of nutrition knowledge given by the grantees. Indeed beneficiaries identified at least poor signs of feeding among children including swollen tummy (69%), loss of weight (15%), retarded growth (8%) and general weakness (4%) in that order. All respondents (100%) acknowledged receiving information on child nutrition compared to 46% at baseline, signifying an improvement in the level of awareness in nutrition education.

Table 23. Percentage of children below five years who were stunted, wasted and under weight

Age months	Sex	% stunted (<-2sd)		% under weight (<-2sd		% wasted (<-2sd)	
		Baseline	Mid-term	Baseline	Mid-term	Baseline	Mid-term
12-23.9	Male	42	28	21	44	0	0
	Female	35	50	13	14	0	0
24-35.9	Male	38	21	28	25	2	0
	Female	35	13	21	19	0	0
36-47.9	Male	40	21	7	20	0	7
	Female	42	11	12	16	0	0
48-59.9	Male	39	17	14	7	0	3
	Female	35	9	12	0	0	0
Sample mean		**39**	**30**	**25**	**19.7**	**1**	**4.2**

(ACDI/VOCA Impact assessment surveys for FY2003-04)

Information on nutritional status of sampled households was assessed by using indices on stunting, underweight and wasting for children less than five years of age. The 359 sampled households comprised of 2,896 members of which 575 (20%) were under five years old. In order to minimize error, resulting from inaccurate reporting on age, 225 (39%) children whose immunization cards were available were included for anthropometrical measurements.

The proportion of children less than fives of age with low weight for age decreased from 25% to 19.7% while percentage of children with low height for age decreased from 39% to 30%. Positive changes for stunting and underweight were more significant among children between 24-35.9 months and 48-59.9 months respectively. This implies improved nutrition status among children less than five years of age. The increase in DDS (4.3-5.5), increase in percentage of households feeding their children on milk (23%) and porridge (34%), growing vegetables/fruits and better incomes due to program intervention may be contributing factors to the changes in nutrition status. However, nutrition status is affected by other factors like safe water availability and hygiene practices and disease control. The program does not directly address these factors.

3.11 Major crop production constraints and suggested solutions

Crop production and marketing in the tropics and more especially, in the Ugandan situation, is characterized by a series of constraints. Given that this is primarily a rain-fed type of agriculture, farmers tend to suffer from weather extremes. Outstanding problems were crop damage by drought, inadequate financial resources and high labor costs.

Table 24: Farmers' views of the main crop production and marketing constraints at mid-term by percentage

Constraints	**% FY2003**	**% Mid-term**
Drought damage	26	28
Lack of capital	n/a	14
High cost of labor	6	9
Poor road conditions	12	8
Low price of farm produce	17	8
Pests and disease damage	17	7
High cost of farm inputs	35	7
Labor shortage	21	6
Lack of farm credit facilities	2	5
Lack of storage facilities	23	5

Though percentages reported at mid-term were low, farmers raised almost similar problems and they have a direct impact on output and yield levels of the target crops. The program may not have a remedy for natural disasters like drought, but farmers (30%) felt that the program could address the problem of better markets and provide credit services. With the liberalization of the economy, it is the responsibility of the private sector and farmers as well to attempt and penetrate better markets. In the short run, the program could continue to lobby for better organized and strengthen the existing local structures i.e. farmers groups.

CONCLUSIONS AND RECOMMENDATIONS

1. By end of FY2004, the program registered an accumulative number of 100,131, which is 83% of the target of 120,000 beneficiaries of the Life of the Project by end of 2006. Other production parameters namely mean output, area planted and productivity per unit area reduced compared to FY2003; but remained above baseline levels. This is attributed to the unfavorable weather conditions in FY2004 as reported by most farmers.

2. Basing on survey results, the program achieved 82% of the target of 100,000MT of grains, 33% of 40,000MT of beans, and 8% of 21,000MT for vegetable oil. Poor program performance resulted from adverse weather conditions particularly in 2004A season and insecurity in the northern parts of the country.

3. There was high adoption in the use of agronomic practices including planting in line and recommended spacing and weed management compared to other technologies. Drying on bare ground remained the main facility for drying produce and the percentage of farmers storing in cribs remained constant as during FY2003. However, using tarpaulin, granary and separate storage houses improved to 31%, 27% and 30% respectively.

4. Approximately, 94% of the farmers accessed market information, which helped farmers to select which crops to grow in a particular season, what price to sell at, where to sell and how to improve on quality. But traders were main source of information compared to FY2003.

5. There was an improvement in crop value and gross incomes from the crops mainly due high farm-gate prices at mid-term compared to baseline figures. Farmers (53%) still sold at farm gate as they produce and sell in small quantities. Except for upland rice, there was a general increase in the farm gate prices of all the crops from baseline to FY2004 (mid-term). The biggest increase was for maize due to MUBUKU prices, where farmers are seed producers and therefore obtain better prices than other areas. Retail prices in local markets were slightly higher than farm-gate prices.

6. Farm planning and record keeping activities were below 60% though were above baseline. It is proposed that the program pilots with a few farmers at a time taking note of limitations and lessons learnt by the beneficiaries before expanding to other areas. Functional Adult Literacy

(FAL) program may also be incorporated to refresh/equip farmers with better reading and writing skills. The program needs to give more attention to these areas in the remaining years.

7. Sale proceeds were just enough to meet farmers' basic needs such as education, food purchases and house improvement. Compared to FY2003, there was an upward trend of burnt stabilized brick, iron roofed and cemented screed dwelling units of 9%, 10% and 9%. A decline in the use of pole and mud for the walls and an increase in stabilized brick units is a positive indicator showing that beneficiaries are improving their housing conditions.

8. The level of access to nutrition education for infants among program beneficiaries increased from 46% to 100%. The number of stunted and underweight children dropped by 23% and 21%. The average number of meals consumed increased from 3.0 at baseline to 3.9, at mid-term. Likewise dietary diversity score (DDS) of the targeted population increased by 83% from baseline indicating a high degree of consumption of different food types. This shows increased nutrition status among the targeted households as a result of grantee efforts in addition to other factors.

9. During FY2004, 65% and 66% of the beneficiaries set up vegetable and fruits gardens but the consumption of vegetables was 10%, which calls for more sensitization on maintenance of backyard vegetable growing even during dry spells.

10. Farmers raised almost similar problems as last year and baseline time. They include prolonged drought, high labor and input costs and inadequate capital. To tackle the problem of insufficient capital and high costs of production in the short run, the program could start with a few organized groups using the revolving fund system. But the strategy is only effective with proper management and coordination, better records, accountability both at grantee and farmer level, a good marketing system and of course, favorable weather conditions.

APPENDICES

Appendix 1. Percentage distribution of source of farm inputs by crop at baseline, FY2003, and FY2004

Inputs	Home saved			Local market			NGO/Grantee			Stockiest			Urban market		
	BL	FY 03	FY 04	BL	FY 03	FY 04	BL	FY 03	FY 04	BL	FY 03	FY 04	BL	FY 03	FY 04
Maize seed	50	16	23	27	14	18	27	15	22	10	14	24	2	8	7
Beans seed	56	24	42	38	40	23	38	40	19	1	7	8	0	3	2
Cassava cuttings	50	63	64	4	1.8	0.5	4	2	5	2	n/a	n/a	1	7	5
Soy beans	n/a	20	14	n/a	23	10	n/a	23	46	n/a	5	10	n/a	10	5
Sunflower seed	30	9	10	35	4	4	35	4.3	51	3	13	16	3	22	6
Fertilizers, Pesticides, Herbicides	2	4		44	2		44	2		53	10		0	n/a	
Implements	n/a	27		67	67		67	66.7		5	1		1	1	
Bags	8	18		89	56		89	56		2	1		n/a	n/a	

N.B. BL = Baseline; FY03 = FY2003; FY04 = FY2004

Appendix 2 Production parameters of target crops in pure stand by district during FY2004

District	Maize			Beans			Cassava	Soybean			Sunflower			Upland rice		
	Area (Ha)	Output (MT)	Yield (MT/Ha)	Area (Ha)	Output (MT)	Yield (MT/Ha)	Area (Ha)	Area (Ha)	Output (MT)	Yield (MT/Ha)	Area (Ha)	Output (MT)	Yield (MT/Ha)	Area (Ha)	Output (MT)	Yield (MT/Ha)
Apac	0.80	0.70	1.10	0.50	0.21	0.48	0.50	0.50	0.22	0.56	0.40	0.28	0.72	0.29	0.06	0.07
Kibaale	0.96	1.51	1.77	0.60	0.22	0.48	0.37	0.20	0.07	0.35	-	-	-	0.37	0.09	0.45
Kasese	1.30	1.07	1.80	0.40	0.22	1.07	0.19	-	-	-	-	-	-	0.40	1.86	2.78
Kiboga	0.70	0.95	1.42	0.30	0.24	0.85	0.30	0.10	0.02	0.19	-	-	-	0.30	0.21	0.39
Mbale	1.20	1.19	1.19	0.46	0.19	0.43	0.20	0.20	0.05	0.18	0.40	0.14	0.53	-	-	-
Kamuli	1.20	1.26	1.29	0.26	0.06	0.23	0.50	0.40	0.10	0.31	-	-	-	-	-	-
Lira	0.70	0.32	0.47	0.60	0.12	0.25	0.60	0.50	0.18	0.41	0.50	0.22	0.54	-	-	-
Mean	**0.96**	**1.03**	**1.30**	**0.47**	**0.19**	**0.53**	**0.40**	**0.50**	**0.17**	**0.45**	**0.50**	**0.25**	**0.64**	**1.30**	**0.889**	**1.44**

Appendix 2 Production parameters of target crops in mixed stand by district during FY2004

District	Maize			Beans			Cassava	Soybean			Sunflower FY2004		
	Area (Ha)	Output (MT)	Yield (MT/Ha)	Area (Ha)	Output (MT)	Yield (MT/Ha)	Area (Ha)	Area (Ha)	Yield (MT/Ha)	Yield	Area (Ha)	Output (MT)	Yield (MT/Ha)
Apac	0.45	0.38	0.82	0.48	0.34	0.45	0.50	0.40	0.19	0.38	0.34	0.28	0.29
Kibaale	0.45	0.19	0.79	0.38	0.43	0.45	0.30	-	-	-	-	-	-
Kasese	-	-	-	-	-	-	0.10	-	-	-	-	-	-
Kiboga	0.31	0.37	1.77	0.30	0.43	0.62	0.23	-	-	-	-	-	-
Mbale	0.60	0.48	0.81	0.40	0.42	0.46	0.70	-	-	-	-	-	-
Kamuli	0.45	0.60	1.64	0.10	0.06	0.26	0.40	0.40	0.33	0.35	-	-	-
Lira	0.45	0.17	0.75	0.46	0.27	0.37	0.68	0.50	0.35	0.46	0.37	0.20	0.38
Mean	**0.45**	**0.31**	**0.99**	**0.40**	**0.34**	**0.46**	**0.47**	**0.50**	**0.29**	**0.42**	**0.36**	**0.23**	**0.35**

Appendix 3. Production indicators by crop

Indicator	Maize		
	Baseline	FY 2003	Mid-term
% of farmers growing crop	72	63	86
Mean area planted, mixed stand (Ha)	0.6	0.8	0.96
Mean area planted, pure stand (Ha)	0.5	0.7	0.5
Mean output pure stand (MT)	0.8	1.7	1.2
Mean output mixed stand (MT)	0.6	0.7	0.4
Mean yield pure stand (MT/Ha)	1.4	2.2	1.3
Mean yield mixed stand (MT/Ha)	1.3	1.1	1.0
% Quantity of grain sold of total output	61	55	69

Production Indicator	Beans		
	Baseline	FY 2003	Mid-term
% of farmers growing crop	76	68	72
Mean area planted, mixed stand (Ha)	0.3	0.5	0.5
Mean area planted, pure stand (Ha)	0.4	0.6	0.4
Mean output pure stand (MT)	0.2	0.4	0.2
Mean output mixed stand (MT)	0.2	0.3	0.2
Mean yield pure stand (MT/Ha)	0.6	0.8	0.5
Mean yield mixed stand (MT/Ha)	0.4	0.4	0.5
% Quantity of grain sold of total output	30	69	55

Production Indicator	Cassava		
	Baseline	FY 2003	Mid-term
% of farmers growing crop	35	63	86
Mean area planted, mixed stand (Ha)	0.4	0.8	0.96
Mean area planted, pure stand (Ha)	0.4	0.7	0.5

Indicator	Soya bean		
	Baseline	FY 2003	Mid-term
% of farmers growing crop	N/a	23	70
Mean area planted, mixed stand (Ha)	N/a	0.4	0.5
Mean area planted, pure stand (Ha)	N/a	0.3	0.5
Mean output pure stand (MT)	N/a	0.3	0.4
Mean output mixed stand (MT)	N/a	0.2	0.2
Mean yield pure stand (MT/Ha)	N/a	0.8	0.5
Mean yield mixed stand (MT/Ha)	N/a	0.5	0.4
% Quantity of grain sold of total output	N/a	89	52

Indicator	Upland rice		
	Baseline	FY 2003	Mid-term
% of farmers growing crop	6	8	5
Mean area planted, mixed stand (Ha)	0.3	0.6	1.3
Mean area planted, pure stand (Ha)	0.0	0	0
Mean output pure stand (MT)	0.6	0.7	0.9
Mean output mixed stand (MT)	N/a	N/a	0.8
Mean yield pure stand (MT/Ha)	1.8	2	1.5
Mean yield mixed stand (MT/Ha)	N/a	N/a	N/a
% Quantity of grain sold of total output	86	54	26

Production Indicator	Sunflower		
	Baseline	FY 2003	Mid-term
% of farmers growing crop	11	31	65
Mean area planted, mixed stand (Ha)	0.9	0.6	0.5
Mean area planted, pure stand (Ha)	0.5	0.8	0.4
Mean output pure stand (MT)	0.5	0.5	0.4
Mean output mixed stand (MT)	0.2	0.3	0.1
Mean yield pure stand (MT/Ha)	0.7	0.7	0.6
Mean yield mixed stand (MT/Ha)	0.5	0.4	0.4
% Quantity of grain sold of total output	57	97	66

Appendix 4. Household questionnaire

Serial No._____

ACDI/VOCA PL-480 TITLE II MONETIZATION PROGRAM

SURVEY OF IMPACT ON FOOD SECURITY AND RURAL HOUSEHOLD INCOME DURING FY2004

1.0 IDENTIFICATION

1.1a Date of the interview_____ b) Time started_____ c) Time ended_____

1.2 Interviewer's code_____

1.3 Name of Grantee_____

1.4a Village_____ 1.4b) Parish_____

1.4c) Sub county_____ 1.4d) District_____

2.0: HOUSEHOLD PARTICULARS

2.1a. Name of respondent _____

2.1 Name of household head_____

2.2 Sex of household head 1 = Female 2 = Male

2.3 What is the age of the household head (years)?_____

2.4 What is the marital status of household head?
1 = Single 2 = Married 3 = Widow/widower 4 = Separated/Divorced

2.5 What was the highest educational level attained by the household head?
1 = None 2 = Adult education 3 = Primary 4 = Secondary 5 = Post secondary

2.6 Record in the table below number of members of the household (**including the household head**)

Sex	**Below 5 yrs**	**6-15 yrs**	**16-65 yrs**	**Above 65 yrs**
Male				
Female				

3.0 FARM PRODUCTION AND PRODUCTIVITY

3.1a) Total land holding (acres)_____ 3.1 b) Own land holding (acres)_____

3.2 Show in the table below acreage and output during 2003B and 2004A.

CROP		2003B			2004A		
		Acreage	Kg planted	Kg harvested*	Acreage	Kg planted	Kg harvested*
Maize	Pure stand						
	Mixed						
Beans	Pure stand						
	Mixed						
Cassava	Pure stand						
	Mixed						
Soybean	Pure stand						
	Mixed						
Sunflower	Pure stand						
	Mixed						
Upland rice (Unhusked)	Pure stand						
	Mixed						

*Kilos harvested include fresh, dry, consumed, bartered, and donated produce
1 bag of fresh beans = 20 Kg dry beans; 140 fresh cobs of maize = 1 bag; Seven cobs of fresh maize is equal to 1kg of dry maize,
1 bag of fresh of cassava=120-140 kgs of fresh tubers.

3.3 Comments on table above e.g. Drought affected season etc.
2003B

_____

2004A_____

3.4a Mention in the table below the varieties of planting material used during 2003B, and 2004A for the target crops.

2003B		
	Varieties planted	
Crop	Name of Local variety	Names of Improved variety
Bean seed		
Maize seed		
Cassava material		
Soya bean seed		
Upland rice		
Sunflower seed		

3.4b

2004A		
	Varieties planted	
Crop	**Name of Local variety**	**Names of Improved variety**
Bean seed		
Maize seed		
Cassava material		
Soya bean seed		
Upland rice		
Sunflower seed		

3.5 What was the source and cost of the following farm inputs in 2004A season?

2004A	**Source of farm inputs**	**If bought, state unit cost (UShs)**
Maize seed (Kg)		
Beans seed (Kg)		
Cassava material (Ushs/bag)		
Soybean seed (Kg)		
Sunflower seed (Kg)		
Upland rice (Kg)e		
Fertilizers (Kg) (e.g., DAP, UREA)		
Herbicide (Ltrs) (e.g., Roundup)		
Pesticides (Kgs/Ltrs) (e.g., Ambush, Bull dock)		
Bag (No.)		
Farm tools (e.g., hoes, slashers, pangas)		
Others (specify)		

Codes for source of farm inputs are:1=Stockist 2=Local shops/market 3=NGO (Specify)

_____

4 = Family owned 5 = borrowed from a neighbor 6 = Other (Specify)

_____

3.6 What was the cost of the following farm operations during 2004A for **ONE ACRE** of Maize *(for the districts of Kamuli, Kasese,, Kiboga,, Sironko)* or Sunflower *(for the districts of Lira, Apac)*

SELECTED CROP _____(*Indicate the crop*)

	Family			**Hired**		
Operation	**No. of people**	**Man days**	**Oxen (Ushs)**	**Tractor (Ushs)**	**Oxen (Ushs)**	**Hired labor (Ushs)**
Land clearance						
1st ploughing						
2nd ploughing						
Planting						
Weeding/thinning						
Fertilizer application						
Spraying						
Harvesting						
Transportation*						

N.B. Communal labor is treated as family labor; Transportation* = From the garden to the home.

3.7 What was the cost of these types of labor (Ushs/man-day) for **ploughing** during 2003B and 2004A? (***This applies only to farmers who hired labor***)

Type of labor	2003B	2004A
Casual		
Permanent		
Contract		

3.7.1 Did you have access to extension services by the grantee?

1 = Yes 2 = No

2003B	2004A

3.7.2 If yes, how many times in the season?

3.7.3 What type of services do you receive from the grantee extension agent? (*Multiple answers are possible*)

1 = Farm visits 2 = Advisory 3 = Training 4 = Farm input purchasing

5.= Others (Specify)

3.7.4 How has the extension service delivery by the grantee been effected since the project started?

1 = Very adequate

2 = Adequate

3 = Inadequate

3.8 a) During 2003B did you carry out any of the following farming practices? (*Tick where appropriate*)

Practice	**Crop**					
	Maize	Beans	Cassava	Soybean	Sunflower	Upland rice
Timely planting (Onset of rains)						
Row/Line planting						
Recommended spacing						
Weed management						
Pest management						
Soil fertility management						
Planting improved seed						
Farm work plan*						
Record on farm activities e.g. planting dates, seed/acreage planted etc.*						

Practice	**1=Yes 2=No**	**If no, state ONE main reason why**
Timely planting		
Recommended spacing		
Row/Line planting		
Weed management		
Pest management		
Soil fertility management		
Planting improved seed		
Farm work plan*		
Record on farm activities e.g. planting dates, seed/acreage		

planted etc.*		

Soil fertility mgt incl. fertilizer application, mulching, crop rotation

*Note: enumerator should request the respondent for actual records

3.8 b) During 2004A season did you carry out any of the following farming practices? (Tick where appropriate)

Practice	**Crop**					
	Maize	Beans	Cassava	Soybean	Sunflower	Upland rice
Timely planting						
Recommended spacing						
Row/Line planting						
Weed management						
Pest management						
Soil fertility management						
Farm work plan*						
Record on farm activities e.g. planting dates, seed/acreage planted etc.*						

*Note: enumerator should request the respondent for actual records.

Practice	**1=Yes 2=No**	**If no, state ONE main reason why**
Timely planting		
Recommended spacing		
Row/Line planting		
Weed management		
Pest management		
Soil fertility management		
Planting improved seed		
Farm work plan*		
Record on farm activities e.g. planting dates, seed/acreage planted etc.*		

Soil fertility mgt incl. fertilizer application, mulching, crop rotation

*Note: enumerator should request the respondent for actual records

3.9a) Did you receive any agricultural production credit during the two seasons 2003B and 2004A

1 = Yes 2 = No

2003B	2004A

If NO,

3.9b) State the major reason for not acquiring production credit

1= Lack of security 2 = No source of credit 3 = No need 4 = Other (Specify)_____

If YES,

3.9c) If in cash form, what was the amount (UShs)? _____

3.9d) If in kind, state the form of the loan in the table below

	1=Yes	**2=No**
Form of loan	**2003B**	**2004A**
Seed		
Fertilizer		
Pesticide		
Herbicide		
Agricultural implements		

Others (specify)		

3.9e) If the loan was in cash indicate how you utilized it.

Type of expense	**Amount allocated (Ushs)**
Buying planting material/seed	
Land clearance	
1st ploughing	
2nd ploughing	
Planting	
Weed/thinning	
Fertilizer/chemicals	
Harvesting	
Thresh/winnowing	
Transport	
House Hold food expenses	
Non food House Hold expenses	
Buying farm implements	
Other (Specify)	

3.9f) Do you belong to a formal and active farmer/marketing group or association*? (e.g. formally registered, with bank account and constitution , contact with produce buyer/ agent etc.) (PLEASE TICK WHAT IS AVAILABLE WITH THE GROUP)* 1=Yes 2=No

If NO,

3.9g) State one major reason for not belonging to an active group
1= Lack of awareness/training 2 = Lack of trust/transparency 3 = No need 4 = Other _____

If YES,

3.9h) What type of activities do you carry out as a group? *(Multiple answers are possible, tick where applicable)*

1= Collective marketing 2 = Input procurement 3 = Savings and credit 4 = Attending Trainings
5= Collective cultivation 6= Other_____

4.0 POST HARVEST HANDLING, STORAGE AND MARKETING

4.1a). Did you use any of the following drying facilities during 2003B?

Facility	**1=Yes 2=No**	**If no, give ONE major reason why**
Tarpaulin/plastic sheet		
Papyrus mat		
Bag outside house		
Rock		
Crib		
None/bare ground		
Others (specify)		

4.1b). Did you use any of the following drying facilities during 2004A?

Facility	**1=Yes 2=No**	**If no, give ONE major reason why**
Tarpaulin/plastic sheet		
Papyrus mats		
Bag outside house		
Rock		
None/bare ground		
Others (specify)		

4.2 a) Did you use any of the following storage facilities during 2003B?

Storage facility	**1=Yes 2=No**	**If no state ONE main reason why**
Crib		
Granary		
Drums/tins		
Floor of dwelling house		
Separate house with earth/cement store		
None		
Other (Specify)		

4.2 b) Did you use any of the following storage facilities during 2004A?

Storage facility	**1=Yes 2=No**	**If no state ONE main reason why**
Crib		
Granary		
Drums/tins		
Floor of dwelling house (earth)		
Floor of dwelling house (cement)		
Separate house with earth/cement store		
None		
Other		

4.3a) Indicate the value added activities carried out on your farm and the methods used

Activity	Method *1 = Hand operated* *2 = Motorized electric* *3 = Motorized fuel* *4 = Other, specify*
1 = Grading	
2 = Sorting	
3 = Milling	
4 = Packaging	
5 = Other, specify	

4.4.1 Did you use any of the following post harvest handling equipment?

1=Power sheller 2= Hand sheller 3=Grading machine 4=Stick
5= Others (Specify)_____

4.4a) Do you have access to market information? 1=Yes 2 = No

4.4b) If Yes, state type of information, from where/whom you get it and how you use it?
(price, buyer quality demands, competing suppliers etc.)

Type of information	Source	How you use the information

Codes for source of information are:1=Other farmers 2=Extension worker 3=Traders
4 = Radio(Specify)_____5 = Newspaper 6 = Notices 7 = Others (Specify) _____

4.5a). What is the distance from your home to the nearest local market (km) _____

4.5b) Did you sell any crop produce in the seasons of 2003B_____ and 2004A? _____ 1= Yes 2= No
4.6. Please state the current cost of transport to the market for the various form (s) over the two seasons
(average cost for the 2 seasons)

Mode of transport	**Rate (Ushs/100Kgbag/km)**	
	2003B	**2004A**
Head load		
Wheel burrow		
Bicycle		
Motorcycle		
Pick-up/Truck		
Tractor		
Donkey/oxen		

5.0 HOUSEHOLD INCOME

5.1 Indicate household income from the target crops in the table below (*Compare with Table 3.2*).

SEASON 2003B	Units/Type	Amount sold kg	Selling point*	Unit price (UShs)	Amount consumed/stored (kgs)
Maize dry	Kg				
Maize fresh	Cobs				
Maize flour	Kg				
Beans dry	Kg				
Beans fresh	Kg				
Soybean (dry)	Kg				
Cassava	Fresh (bags)				
	Dry (bags)				
	Flour (kg)				
	Cuttings bags)				
Upland rice	Hulled (kgs)				
	Unhulled (kgs)				
Sunflower	Seed (kgs)				
	Oil (litres)				
	Cake (kg)				
SEASON 2004A					
Maize dry	Kg				
Maize fresh	Cobs				
Maize flour	Kg				
Beans dry	Kg				
Beans fresh	Kg				
Soybean (dry)	Kg				
Cassava	Fresh (bags)				
	Dry (bags)				
	Cuttings bags)				
Upland rice	Hulled (kgs)				
	Unhulled (kgs)				
Sunflower	Seed (kg)				
	Oil (litres)				
	Cake (kg)				

Codes for selling point: 1=Farm gate 2=Local market 3=Urban market 4=Local store
5=Others (specify)_____

5.2. What did you achieve from the proceeds of the target crops as mentioned in question 5.1 *(the target crops are maize, beans, cassava, upland rice soybeans and sunflower)*

1 = Yes 2 = No

Achievement	2003B	2004A
Built house (include unfinished structures)		
Bought oxen/plough		
Bought animals (cows, goats etc.)		
Bought bicycle		
Bought motorcycle		
Paid school fees		
Bought land		
Re-invested in farming		
Invested in shop/re-stocked		
Food		

6.0. CONSTRAINTS TO PRODUCTION

6.1. Mention **THREE** major constraints you still meet in **producing** and **marketing** the target crops in order of severity

Constraint	**Rank** **1 = Very severe** **2 = Severe** **3 = Mild**	**ONE suggested solution**
Low soil fertility		
Flood/Drought damage		
Pests, disease damage		
Weed damage		
Wild animal/Vermin damage		
High cost of animal, mechanical power		
Labor shortage		
High cost of labour		
Shortage of certified seed		
Scarcity of farm inputs e.g. agro-chemicals, fertilizers		
High cost of farm inputs e.g. seed, fertilizers, agro-chemicals		
Low price of farm produce		
Poor road conditions		
Lack of storage facilities		
Lack of farm credit facilities		
Lack of capital		

Mention **three areas** where you think efforts to assist farmers by the grantees should concentrate in the coming years.

1 _____

2 _____

3 _____

Did you use any of the following soil and water conservation measures in the last one year?

1= Fallowing 2= Crop rotation 3=Grass-stabilized/Open bunds along slopes
4=Tree planting 5= Others (Specify)_____

7.0 NUTRITION AND DIETARY DIVERSITY

7.1 Do you have any vegetable garden in your household that was established in the last 8 months?

1=Yes 2=No

IF YES

7.2 What vegetables do you produce on your farm?_____ *(state the number of types)*

7.3 Estimate the area of the vegetable garden in square meters $(m)^2$ _____

7.4 Did you grow any new fruit trees in the last eight months? 1=Yes 2=No

IF YES,

7.5 How many type of fruits do you have?_____(state the number of types)

7.6 What are the signs of poor feeding amongst children between 0-5 years? *(Multiple answers are possible)*

1=Swollen tummy/cheeks 2=Loss of weight 3=Yellowing 4=Retarded growth 5= Brown hair

Notes: *This section is intended to get information about what the household ate within the previous 24-hour period. Try to ensure they recall this information as much as possible without asking intrusive questions. Look at the food waste, peelings and other food wrappers disposed of in the household garbage to find hints of what may have been consumed by the household but perhaps forgotten by the respondent(s).*

Instructions for questions.(7.7-8.2) Yesterday did you or anyone in your household consume…?

	Eating occasion	1=Yes	2=No
7.7	A morning meal		
7.8.	Any food between morning and lunch		
7.9.	Lunch		
8.0	Any food between lunch and supper		
8.1	Supper		
8.2	Any food after supper		

8.3. ***(Instructions for questions 8.4-9.6).*** Did your household consume any of the following foods and what were their sources during the last 24 hours?

Food group	Code	Source of food	Food group	Code	Sources of Food
Cereals: Millet, Maize, Sorghum, Rice, Wheat, Fermented beverage	8.4. 1=Yes 2=No.	*1= Self grown 2= Bought/donated*	**Legumes:** Peas, G.nuts, Soya, Pigeon peas	85. 1=Yes 2=No.	*1= Self grown* 2= Bought/donated
Root/Tubers: Cassava, Yams, Irish/Sweet potato	8.6. 1=Yes 2=No.	*1= Self grown 2= Bought/donated*	**Oil/Fat:** Sunflower, Simsim, Ghee	8.7. 1=Yes 2=No.	*1= Self grown* 2= Bought/donated
Meat:	8.8	*1= Self grown*	***Sugar /Honey***	8.9.	*1= Self grown*

Beef, Mutton, Bacon, Pork, Liver	1=Yes 2=No	2= Bought/donated	***Sugarcane***	1=Yes 2=No	2= Bought/donated
Milk /Milk products	9.0 1=Yes 2=No	*1= Owned* *2= Bought/donated*	**Fruits:** Water melon, Pineapple, Mango, Pawpaw, Guava, Jack fruit, matooke	9.1. 1=Yes 2=No	*1= Self grown* 2= Bought/donated
Vegetable: Avocado, carrots, greens, Eggplant, Tomato	9.2. 1=Yes 2=No.	*1= Self grown* *2= Bought/donated*	**Poultry:** Chicken, Duck, Guinea fowl, Turkey	9.3. 1=Yes 2=No	*1= Owned/reared* 2= Bought/donated
Eggs	9.4 1=Yes 2=No	*1= Owned* 2= Bought/donated	***Fish***	9.5. 1=Yes 2=No.	*1= Self grown* 2= Bought/donated
Miscellaneous Spices e.g. salt, curry powder , tea, coffee	9.6 1=Yes 2=No	*1= Self grown* *2= Brought/donated*			

9.7 What breakfast did you feed your child of less than five years?

1= Porridge 2= Black tea 3= Milk 4=Food 5=Other_____

9.8. Collect the following information for all the children below five years in the household. *(This section can be skipped if there is no child under five in the household.)*

	Sex	Age (in months)	Weight (in Kgs)	Height (in cm)
Child 1				
Child 2				
Child 3				
Child 4				
Child 5				

10.0 DWELLING UNIT CHARACTERISTICS

Note: Observations are to be made by the enumerator about the dwelling unit characteristics. The enumerator need not ask the respondent.

10.1. What are the wall materials of the dwelling units? *(Tick and use other columns if there are more than one dwelling unit.)*

Wall material	**Dwelling units**				
	1	2	3	4	5
Burnt stabilized bricks					
Stone					
Concrete					
Cement blocks					
Unburnt bricks					
Pole and mud					
Wood					
Other (specify)					

10.2. What is the floor material of the dwelling unit? **(Tick and use other columns if more than one dwelling unit)**

Floor material	**Dwelling units**				
	1	2	3	4	5
Concrete					
Brick					
Stone					
Cement screed					
Rammed earth					
Wood					
Other(specify)					

10.3. What is the roof material of the dwelling unit? **(Tick and use other columns if more than one dwelling unit)**

Roof material	**Dwelling units**				
	1	2	3	4	5
Iron sheets					
Tiles					
Asbestos					
Papyrus					
Grass					
Banana leaves/fibers					

Appendix 5

REPORTS OF FOCUS GROUP DISCUSSIONS (FGD) FOR MID –EVALUATION SURVEY

Introduction

The Focus Group Discussions were to provide qualitative information to clarify, support and or compliment the quantitative data got from formal interviews using a questionnaire. Areas of discussion were mainly on crop agronomy, post harvest handling and storage; farm planning and record keeping and marketing.

The discussions took place in three locations; Kamuli district with CASHFARM beneficiaries, Kiboga district with BUCADEF beneficiaries and Kibale district with BUFA beneficiaries. The locations were selected to provide insights if there was a difference in opinions and attitudes among the different grantee clients. A total of 6 FGDs, two in each district with different groups were conducted. Each group was composed of 6-10 beneficiaries of roughly equal mix of men of women and discussions lasted for about one and half to two hours.

A. FOCUS GROUP DISCUSSION WITH CASH FARM BENEFICIARIES, NAWAIKOKE SUB-COUNTY, KAMULI DISTRICT

1.0 Crop agronomy

Use of improved inputs and fertilizers

For season 2004 A farmers reported planting maize, beans, soybean and a few planted cassava. Farmers used home saved improved seed for maize, soybean and beans (K132) and cassava (Akena and Omogole varieties). For farmers who did not use improved seed, lack of money to purchase seeds was cited as the main constraint.

Farmers applied fertilizers only in demos facilitated by grantee. Reasons for not using fertilizers in their gardens were lack of money to purchase fertilizers and that grantee does not provide fertilizers while others commented that if they were to apply fertilizers, the profit margin is small.

They used recommended spacing of 2 by 4ft and 2 by 2.5ft for maize and soybean respectively. However, a minority planted without observing the recommended for spacing beans citing that it requires a lot of labor to carry out activity.

Control of pests

Beneficiaries reported observing a wide range of pests and disease e.g.

- Soya bean- leaf bright
- Maize- Maize cob borer)
- Maize –Striga weed (common in cereal fields)

Farmers reported depending on mechanical methods –uprooting of pest and diseased crops as the control measure but not spraying. They concluded by saying that usually when they think of using inputs like fertilizers, herbicides and pesticides farming is not profitable.

Planting on time

For season A 2004 farmers did not plant on time. Reason given is that CASHFARM delivered the seed for demos late and secondly the rains were irregular to start planting early.

1.1 Post harvest handling and storage

Ownership of cribs, shellers, tarpaulin sheets

All the focus group participants did not own a crib at household level. The only crib reported was the demonstration crib constructed with assistance from grantee and ACDI/VOCA. The reasons given for not using cribs/local granary was fear of thefts of produce and lack of money to afford constructing a crib if they look at materials used for the demonstrations crib.

None of the participants was using tarpaulin or owned one, again attributed to lack of money to afford the facility. However, they understood the importance of not drying on bare ground. Problem is that they expect the grantee to provide such facilities.

On the use of hand shellers farmers admitted having been taught (demonstrations) on their use and explained the advantage like getting clean maize i.e. no broken cobs in grain and secondly the grain is whole unlike when it is shelled using sticks causing lots broken grain and pieces of cob mixed with the grain lot. They cited one disadvantage of the Sheller. It is time consuming since small quantities could be shelled at a time while shelling using a stick can be accomplished in a short time. They would like to use their time in other activities as well.

Though some farmers expressed interest in purchasing the hand Sheller they misunderstood the procurement procedures of the grantee. The conditions were that the farmer makes the order with cash payment. The farmers on the other hand say they want the grantee to bring shellers and pay on delivery. But grantee does not have facility of procuring equipment for farmers to pay later. It seems farmers lack trust in the grantee to part with cash before delivery and vice verse.

The farmers also acknowledged the availability of a fuel motorized maize Sheller that was demonstrated and all the participants appreciated its efficiency in terms of time spent shelling and the high quality of resultant maize grain (its cleanness, wholesomeness and absence of pieces of maize cobs) but none of them is using it. Conditions for use of Sheller were highlighted: - Farmer has to contribute fuel as well as a maintenance fee of Ushs 500 per bag of maize shelled.

Farmers gave different opinions regarding factors affecting accessibility of the motorized Sheller: (i) Transport is an added cost from grantees office in Kaliro town to their area of operation, as they have to hire a car to bring machine. (ii) Maintenance fee of Ushs 500 is not popular with some members and it was suggested that grantee should wave it.

While some participants did not know the cost of motorized Sheller they suggested group procurement of machine and other facilities like tarpaulin sheet.

1.2 Farm planning and record keeping

Even though (old and new farmers) attended training in record keeping and planning none kept records except two who were ELFs.

Reasons given for not recording farm events: -

- Illiteracy and lack of commitment. One farmer on his part said that he gave up on records because whenever he attempted recording farm operations losses were revealed in his operations. This discouraged him.

- Others nevertheless insist that if they seek assistance from literate friends to write for them it is not very useful because even then there are not in position to read what is jotted down to evaluate themselves.
- The small scale farm operations they carry out to them do not warrant record keeping
- On the use of PIS one farmer (ELF) commented that usually his planned expenditure falls short of the cash available to him. While others believe if they were to plan on paper it is not a reality (they do not have the money so it is does not make sense to write things down).

Suggestions given by participants on how to continue promoting practice of record keeping: -

- Farmers said that where possible NGO should continue monitoring and encouraging them to effect the use of records (also to old farmers' group)
- Those that cannot write, contact literate friends to write for them (*may be contradiction though suggested by other members)*

1.3 Marketing

Farmers reported that though thoroughly trained in-group marketing, none of them use collective marketing approach to sell their produce. Reasons highlighted for not practicing collective marketing included: -

1. Lack of trust among group members as for example members do no have stores so cannot entrust their produce to be bulked in other member's house.
2. Different farmers wish to sell produce at different times due to difference in cash needs at particular times.
3. Lack of store and delayed payments in bulk/group marketing operations
4. Farmers also voiced concerns on the legacy left by co-op societies as farmers lost their money during that time. This has bred skepticism among farmers when it comes to collective marketing and delayed produce payment.

Information provided to farmers about collective marketing and its relevance

The grantee conducted a demonstration on group marketing by actually collectively selling for farmers. The grantee was strict on quality and so farmers were supposed to sort the produce. Buyer was UGT Ltd (2003A) at Ushs 230 per kg and as policy of big buyers payment is deferred for some time.

Two (02) out 14 participants identified one advantage of collective marketing like getting a higher price. However, they made some observations regarding collective marketing that for unsorted maize they received Ushs 220 per kg at farm gate (season 2003A) and paid cash promptly. So the difference in price was small only Ush 10 per kg. They expressed a view that group marketing/ bulk selling to bulk buyers demands quality yet the price difference between clean grain and unsorted grain is small. So why bother with all the hassle.

Also transport cost to central collection center was cited as disincentive due to small difference between farm gate and collection center prices.

1.4 Effect of program on beneficiaries

FGD participants have been beneficiaries of Cash Farm for the last 4 seasons. Their view of the program on household food security and income situation was: -

Food security

- Farmers acknowledged having learnt how to plan for what to sale and what to retain for food
- Participants expressed that before the program they believed beans cannot be grown in their sub county, but now they have started growing beans.
- They appreciate introduction of nutrition training in that they introduced vegetable growing for home consumption. A Wide variety of food is now consumed which knowledge was gained through nutrition training.

Income situation

On income situation participants reported that now they can afford household basics like salt and medicine. Others reported assets acquired for example participant constructed a house, another bought a plot of land, bicycle, livestock and ox-plough, laid 5000 bricks and 90 pieces of timber for house construction.

1.5 Way forward-actions to improve performance

Farmers made suggestions below on what should be done by producers and grantee to improve on performance

Farmers

Farmers suggested they intend to form an association for sustainability of group cohesions when the project ends.

NGO (Cash Farm)

- CashFarm should deliver seeds for demo on time in line with timely planting
- There is need to streamline marketing of produce.
- The grantee should not ignore old farmers groups
- NGO should ease access to pesticides to farmers
- Provide herbicides or ideas on how to deal with striga weed

B. FOCUS GROUP DISCUSSION WITH BUCADEF BENEFICIARIES, KIBIGA SUB-COUNTY, KIBOGA DISTRICT

1.0 Crop agronomy

Farmers have group and individual gardens. Crop grown as group for season A 2004 were maize, beans and rice while on an individual basis they included cassava, maize, beans and rice.

Use of improved inputs and fertilizers

Farmers reported using improved varieties; maize (Longe 5), beans (K132) and upland rice (abilony). Fertilizers were only applied in the group maize field. All inputs for group gardens were supplied by BUCADEF and for individual gardens seeds were bought from stockists. All participants have gardens of improved cassava varieties were Two (02) members planted the newly introduced varieties Nakigo and Omogole. However, no fertilizers were applied except in the group maize crop. Reasons given by participants for not using fertilizers were: -

- Lack of money to purchase fertilizers
- Other farmers believe the soils are still fertile so when they look at other unavoidable costs like hiring labour they opt to leave out fertilizers.

Recommended spacing

All farmers reported using recommended spacing for the three crops (maize, beans and rice) and were confident in demonstrating spacing used e.g. maize 2ft by 2 ft.

Pest and disease control

Farmers observed various pests and diseases:

- Beans- Aphids
- Maize- maize streak virus and stalk borer
- Rice-No problem
- Cassava- improved varieties are still okay

Farmers controlled pests and diseases by uprooting diseased crops while for beans no remedy was applied. Reasons given for not controlling pest for beans is that during planting a lot of money was used and by the time of infestation they had no money to purchase pesticides and area infested was wide. While for cassava those who had problems, others believed them to be due to soil fertility differences.

Timely planting

They always plant on time for the group garden while for individual garden sometimes they are unable to practice timely planting due to late delivery of seeds at stockist and when the onset of the rainy season is erratic.

1.1 Post harvest handling and storage

Ownership of crib, shellers, tarpaulin and separate store

A group crib set up as a demonstration by grantee is available for members to use but has not yet been replicated by majority of participants except three (03) out of the 20 members who built cribs from local materials. For the majority reason for not establishing cribs was lack of finance, other cited lack of time to set up one but plan to hire someone to construct one.

Two (02) out of 20 members own tarpaulin while others use alternative drying facilities like polythene sheets, *kadeya* and papyrus mats. Farmers cited the benefit for not drying on ground that clean and quality maize and beans fetch a better price.

Though participants in the FGD do not own shellers they acknowledge that BUCADEF provided 30 Hand Shellers, to be shared by group. The farmers appreciated the use of the hand sheller because the resultant grain is clean. However, they cited some limitations: -

1. If the cob is big the size of shelles they have are difficult to use and others commented that for small cobs it is also a problem.
2. All members agreed that it takes a lot of time shelling maize for example shelling maize from one acre can take 2 months. For 1hr 30min one can shell 20kg (1 'debe') this applies to men but for women it takes much longer, well as they have to do other household chores. To work faster one needs to employ workers and have access to many shellers, which they cannot afford at times.

1.2 Farm planning and record keeping

Twelve (12) out of 20 participants confirmed that they keep records i.e. work plans and records on farm activities. Those who did not were new members in the groups. The farmers attributed literacy levels among members to be due Functional Adult Learning (FAL) projects in the district.

PIS –Some members use it but sometimes do not follow it because of eventualities for example sickness or demands at home to follow it through as planned.

Benefits cited by members on record keeping

1. Time of planting is recorded and if they plant late they can adjust time of planting
2. Can compare expenses to income and can adjust accordingly to increase profit
3. Records help them to know why they made a loss, may be late planting and hence can improve on work plan
4. If information is recorded well on expenditures and get losses one can reduce on unnecessary expenditures to increase income.

To easy the activity of record keeping and farm planning some farmers suggested intensifying training on importance of records while others suggested making it a rule so that they are able to follow closely whether they are making a profit or loss.

1.3 Marketing

All participants use a combination of group and individual marketing. For group gardens, members sell collectively while for produce harvested from individual gardens farmers reported selling a portion individually and bulk the rest with the group depending on the quantities they have, cash needs and home demands. Others expressed that although they would like to use group-marketing approach at all times they cannot because they are forced to sell individually to solve immediate problems such as school fees requirements.

On the relevance and or usefulness of collective marketing, farmers from their experience expressed views outlined below.

- Group sells at a higher price than when sales are done individually
- Sell produce in standard measurement (kg) but when they sell individually, buyers do not purchase in kg. Members seemed to trust the weighing scale of the group marketing approach to that of buyers who visit them at home.
- Under group marketing money is got in lump sum than when they sell small lots over a period hence can invest for example buying a cow.
- Can plan to plant bigger acreage because of market assurance through group marketing.
- Group marketing encourages practice of proper storage measures because of standards set by group

1.4 Effect of programm on beneficiaries

The majority of participants have been beneficiaries of BUCADEF for the last five (05) seasons and highlighted issues below concerning food security and income.

Food security

1. They are assured of food availability in the household because they plant bigger acreage and a variety of crops that is cassava, maize, beans and sweet potatoes.
2. Now observe cooking time for vegetables to preserve the nutrients
3. Understand the importance of fruits (mangoes, avocadoes, greens) unlike before the programme. Both old and young members of the household consume them.
4. They used to sell all the maize and beans but now they always budget for home consumption.
5. Reduced wastage and excessive donation of food
6. Have new methods of preserving sweet potatoes unlike before training when there was lot of wastage

Income situation

Members cited examples to show how their income situation has improved:-

- Some members were able to buy cows from sale of maize and beans
- They are able to meet children needs in school and one farmer bought piglets for children who are going to school.
- Have been able to purchase farm tools e.g. hoes.

1.5 Way forward-actions to improve performance

Farmers made suggestions below on what should be done by producers and grantee to improve on performance

Farmers

- Increase on acreage and use improved seed and associated recommended technologies.
- Implement knowledge acquired through training
- Diversify to other projects like livestock farming (cattle) or other income generating activities that they can rely on in old age when they are less energetic.
- Should do farming with a vision not for the sake of it i.e. vision to generate income for other investments

NGO (BUCADEF)
Opinions on how NGO can improve: -

- Provide improved cassava planting material for individual gardens as they had prepared the gardens but material was never supplied.
- More training on improved techniques of farming as they become available
- Improve on feeder roads for easier movement of produce
- Provide loans to men as well, why do they provide loans to women only when training is attended by all?
- Introduce dairy cows to farmers
- Help with access to sprayers for herbicides because labour is expensive
- Provide calendars to be used for reference of dates for recording activities before they get time to record in books
- BUCADEF should have a marketing system especially for potatoes because the crop does so well here (Kiboga district)

C. FOCUS GROUP DISCUSSION WITH BUFA BENEFICIARIES, KISIITA SUB-COUNTY, KIBALE DISTRICT

1.0 Crop agronomy

All participants for season A 2004 planted improved bean seed (K132) provide by BUFA and local varieties (yellow beans) accessed individually. None of them applied fertilizers and they gave the reasons outlined below**:**

- They believe the soils are fertile hence do not need fertilizers
- Lack of money
- Never been informed about them
- Thought the grantee would provide seeds and fertilizers but never did so.

Recommended spacing

Unanimously farmers reported practicing recommended spacing of 2ft by 4 inches between plants.

Control of pests and diseases

Last season farmers observed no pests because before beans progressed to maturity they were completely destroyed by the drought. So they did not take any control measures because they realized the yield would be low. Hence they abstained from incurring cost of spaying since no profit was to be registered.

For season B 2004 farmers have sighted aphids in their fields and reported being advised by grantee to spray. Lack of money to buy pesticed was given as main reason for not controlling pests. They requested grantee to provide pesticide on credit for them to pay later at time of selling but request was rejected by BUFA.

Timely planting

All reported to have planted on time as the grantee provides the seeds in time for planting. However, the crop was affected by drought.

1.1 Post harvest handling and storage

Ownership of crib, tarpaulin sheet and separate store for produce

One (01) out of the ten (16) participants owned tarpaulin sheet. The rest dried on bare ground and others used alternative facilities like woven mats and polythene sheets. Main reason given for not using tarpaulin sheets is that they do not have money to purchase one.

They admitted being trained on the use of tarpaulin that it keeps the produce clean. Farmer's opinion on usefulness of tarpaulin and other drying facilities (i.e. relevance of information on drying facilities) were: -

- One farmer commented that clean beans fetch higher price e.g. UShs 400 per kg while dirty beans Ushs 300 per kg and once BUFA rejected her beans for being dirty so she gave them to relatives.
- Clean beans fetch better price and have higher demand
- One may be able to sell beans when dried on bare ground during the dry period but during the rainy period the beans become soiled hence may be difficult to sell.
- When sorting on tarpaulin it is easy to remove stones.

Crib

Though grantee does not promote maize farmers use local cribs

Separate store

All participants did not have stores because normally they sell immediately after drying but put beans in woven baskets for short storage.

1.2 Farm planning and record keeping

Currently only seven (07) out of the 16 participants kept records and others though they have ever tried are now not practicing record keeping. Reason being that they lost interest because they would discover losses. So now they prefer to operate without a clear picture of results. Do not want to know or remember results. All participants confirmed being literate but gave the view that other farmers are illiterate and may not have the time to go and call other people to write for them.

Type of information they used to record was, labour for ploughing, weeding, harvesting, threshing and transport to store. However, they expressed a few benefits of record keeping: -

- Helps to know what they have spent and gained.
- Is reminder of planting date so as to plan to plant on time in subsequent seasons
- Helps to plan farm activities for example when to clear, plough and plant on time.

Farm planning

All participants do not to make plans with accompanying budgets because expenses for example labour costs keep changing hence they do not see usefulness of budgeting since what is expected is very different from the actual expenditure. And because of unpredictable labour costs they have resorted to pay for labour in kind which is not always reflected in the budget.

To easy the activity of record keeping one participant proposed more training on planning and record keeping as may be it can stimulate them to begin the practice again but as per now they are still discouraged.

1.3 Marketing

All participants sell collectively through BUFA marketing system for beans. However, they sell other varieties (yellow beans) on individual basis to traders in the project area.

Farmers highlighted the following benefits from collective marketing: -

1. Collective marketing encourages them to budget and plan what is for sale and for home consumption
2. Selling in bulk helps then to get lump sum payment that can be used for household needs and re-investment in agriculture (Animal farming and other crops).
3. In collective marketing they are comfortable with weight measurement because the measurements are genuine.
4. They are offered a uniform price without segregation among members.
5. Are assured of income because they can get to know the price before planting
6. Brings healthy competition between group members, hence members aspire to work hard after observing benefits of higher sales from other members
7. Get paid a lump sum once and can buy cows, goats and even marry a second wife

Other bean varieties not promoted by grantee are marketed on individual basis because farmers expressed having different family needs, also planting is not so synchronized such that harvesting period is diverse to encourage bulking and that BUFA does not buy such beans. One disadvantage of collective marketing cited was that the time between harvesting and collection of produce, which farmers to belong as BUFA operates a produce collection schedule.

1.4 Effect of programm on beneficiaries

The focus group participants have been beneficiaries of BUFA for one to six years and highlighted issues below concerning food security and income.

Food security

- Last season was affected by drought and children are not eating well
- The farmers expressed that they no longer feed on one variety of food. Children eat paw paws, dodo and eggplants.
- Have learnt they must keep some food in the home and not eat everything

Income situation

- The lady participants expressed that now they can afford to dress well.
- Can afford to pay school fees
- Income situation has now improved because after lump sum payment from sell of beans they can afford to buy a goat.
- Are encouraged to invest some of the money in farming instead of buying only household items

1.5 Way forward-actions to improve performance

Farmers made suggestions below on what should be done by producers and grantee to improve on performance

Farmers

- Practice storage in anticipation of better prices. However, at times they cannot because of demands at home
- To open up other projects like animal farming and retail business
- To have small production groups (collective gardening) to increase production.
- Have diversified production e.g. pineapples and nakati for sale.
- For maize they would like to add value. Processing into flour instead of selling grain

NGO

- The grantee should offer a better price because at times other buyers offer higher prices that attract members to sell to traders
- Would like grantee to reduce on the bean seed loan interest that is paid in kind, currently ratio is 1:2
- Grantee should offer a better price. Farmers expressed that price has not changed since project started.
- Provide loans and credit so as to have access to some technologies e.g. tarpaulin and pesticides and later deduct the money after selling beans.
- Diversify crop types targeted by project. For example look for market for other crops like ground nuts, yellow beans and maize.
- Train new farmers in the project area.
- Provide a tractor as they spend a lot of money on labour.

Conclusion

1. Though participants do not keep records nor practice farm planning they expressed opinions on relevance of record keeping and suggested continued training on topic to encourage the practice. Illiteracy and discouraging farm results were cited as the key deterrents to practice.

2. All participants where collective marketing is active, they appreciated the approach except among CASHFARM beneficiaries were farmers did not comprehend benefits.

3. The discussions demonstrated that beneficiaries feel very strongly about the need for a streamlined marketing system for their produce.

Appendix 6. List of respondents interviewed by district

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
OTTO JOAN	TEAMAGA	ADYEDA	AKALO	APAC
OLUM SELEVEIO	AMONE PETIO	AGULURIDE	LORO	APAC
OKIROR S	ALOK B	ADYEDA	LORO	APAC
PAUSI C.	ALOK B	ADYEDA	LORO	APAC
OKELLO CRANIMER	ALIMO B'	AGULURIDE	LORO	APAC
ALEX KALE	OWALO	ADYEDA	AKALO	APAC
OPWONYA FRANCIS	OWALO	ADYEDA	AKALO	APAC
APINE ANNA	ALIMO B'	AGULURIDE	LORO	APAC
SOPHIA ODUK	ALIMO B'	AGULURIDE	LORO	APAC
ODONG J	ALIMO B'	AGULURIDE	LORO	APAC
ODIDU. M	ACWECMIO	ADYEDA	LORO	APAC
OGWAL K.	AWEEINGWEC	ADYEDA	LORO	APAC
OKECH SERAFINO	OWALO-IPING	ADYEDA	AKALO	APAC
OLEMA J.A	ALIMO B	AGULURUDE	LORO	APAC
ODONGO M.	ALIMO B	AGULURUDE	LORO	APAC
OTM ALEX	ALIMO B	AGULURUDE	LORO	APAC
AJUE ALDO	AWENGWEC	ADYEDA	LORO	APAC
ACUMA ALFRED	AWENGWEC	ADYEDA	LORO	APAC
OGWANG ALFRED	AWENGWEC	ADYEDA	LORO	APAC
AKUL J.A	OWALO	ADYEDA	AKALO	APAC
GEOFFREY OKELLO	TEA MAGA	ADYEDA	AKALO	APAC
ALEX ALELE	TEA MAGA	ADYEDA	AKALO	APAC
JUSPINE OKWIR	ALIMO B'	AGULURIDE	LORO	APAC
WILBETO APIL	ONGOR	AGULURIDE	LORO	APAC
PETRO MILDA	ALIMO B'	MAROLEBI	LORO	APAC
ONGU C.	TE-AMAGA	ADYEDA	AKALO	APAC
GEORGE OTUR	ALIMO B'	AGULURIDE	LORO	APAC
AKELLO SCOVIA	OWALO-IPING	ADYEDA	AKALO	APAC
ENON M	OWALO IPING	ADYEDA	AKALO	APAC
OGWNG H.	OKUTU	ADYEDA	AKALO	APAC
ECHENGA D.	OWAL IMALO	ADYEDA	AKALO	APAC
ONAPA W. J	OWLOIPING	ADYEDA	LORO	APAC
OMARA JAMES	ALIMO B'	AGULURIDE	LORO	APAC
OREC B.	OBELA	ADYEDA	AKALO	APAC
OCULI J.	OWALO IPING	ADYEDA	AKALO	APAC
OBUKU A.	IGEL	AKALO	ADYEDA	APAC
OKIO TONNY	ALIMO B'	AGULURIDE	LORO	APAC
OLOT J	ALIMO B'	AGULURIDE	LORO	APAC
SELESTINO OGWANG	AWEI NGWEC	ADYEDA	LORO	APAC
OKELLO JURABEL	AWEI NGWEC	ADYEDA	LORO	APAC
OKOO PATRICK	AWENGWEC	ADYEDA	LORO	APAC
OKELLO R.	AWEINGGWEC	ADYEDA	LORO	APAC
NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
ADOL B.	ALIMO B	AGULURUDE	LORO	APAC
EBWOL A.	ALIMO B	AGULURUDE	LORO	APAC
ODONGO G.	ALIMO B	AGULURUDE	LORO	APAC
ONGOM WILBER	OWALO AMALU	ADYEDA	AKALO	APAC

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
ODONG JACKSON	AWEI NGWEC	ADYEDA	LORO	APAC
ARAPU SAMUEL	ALOK B'	AGULURIDE	LORO	APAC
OYUR J.	ALIMO B	AGULURUDE	LORO	APAC
KONSI APENA	AWENGWEC	ADYEDA	LORO	APAC
OKAO A.	OWALO IPING	ADYEDA	AKALO	APAC
JACKSON ORINGA	OWALO	ADYEDA	AKALO	APAC
OLOT B.	OWALO IPING	ADYEDA	AKALO	APAC
OKUJA VICTOR	AKAIDEBE	ADYEDA	AKALO	APAC
ALELE ALEX	TEAMAGA	ADYEDA	AKALO	APAC
OKELLO J B	TEAMAGA	ADYEDA	AKALO	APAC
OCHEN GEOFFREY	OWALO AMALU	ADYEDA	AKALO	APAC
OPWONYA FRANCIS	OWALO	ADYEDA	AKALO	APAC
OKELLO SARAFINO	OWALO	ADYEDA	AKALO	APAC
OCHEN D.	OWALO IPING	ADYEDA	AKALO	APAC
ELOR F.	OWLO IMALO	AKALO	ADYEDA	APAC
JUVENTINO ACHAR	AWENGWEC	ADYEDA	LORO	APAC
SOPHIA ABAL	AWEI NGWEC	ADYEDA	LORO	APAC
OROO J	AWEEINGWEC	ADYEDA	LORO	APAC
ELEM M.	ALOK-B	ADYEDA	LORO	APAC
AKELLO P	ALOK B	ADYEDA	LORO	APAC
OGALI N	ALIMO B'	AGULURIDE	LORO	APAC
IBWOL A.	ALIMO B	AGULURUDE	LORO	APAC
OGWANGA N	ONGOR	AGULURUDE	LORO	APAC
OKELLO NELSON	AWENGWEC	ADYEDA	LORO	APAC
OKELLO JASPER	AWE NGWEC	ADYEDA	LORO	APAC
ALELE TOM	OWALO	ADYEDA	AKALO	APAC
LWASA B.	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
BANGOZA L.	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
KARWEMERA JOHN	KYAKAGINANA	BUHONDA	KISIITA	KIBAALE
KOMWERO P,	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
SALIMANA M.	MWITANZIGYE	BUHONDA	KISIITA	KIBAALE
BASIMAKI A.	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
MATAYO ZINTURATIIRE	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
TUSIGWIRE W.	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
KOOJO S.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
TWINOMUJUNI J.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
JACKSON JACK	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
KAJAMBELE K.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
KAKURAMA J.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
BANJWARE B.	KYABUSINGYE	MWITANZIGYE	KISIITA	KIBAALE
KASOLE T.	KYABUSINGYE	MWITANZIGYE	KISIITA	KIBAALE
SEZIRAHIGA INNOCENT	KYABUSINGYE	MWITANZIGYE	KISIITA	KIBAALE
NAMARA HONESIFORUS	KYABUSINGYE	MWITANZIGYE	KISIITA	KIBAALE
MUGISHA DAVID	NYAMIRAMU	BUHONDA	KISIITA	KIBAALE
LOBO J	KYAKANJUNANI	BUHONDA	KISIITA	KIBAALE
MBABALI MUHEREZA	BUHONDA	BUHONDA	KISIITA	KIBAALE
BUSINGYE KAUKA	BUHONDA	BUHONDA	KISIITA	KIBAALE

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
BINDEBA LABAN	BUHONDA	BUHONDA	KISIITA	KIBAALE
MUTESASIRA HARUNA	BUHONDA	BUHONDA	KISIITA	KIBAALE
SEEZI INNOCENT	RWAMADONGO	MWITANZIGYE	KISIITA	KIBAALE
HENRY TURYAHIKAYO	KYABUSINGYE	MWITANZIGYE	KISIITA	KIBAALE
BALAHUKWA FRANCIS	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
TUKAMBONE M.	NABISAVA	BUHONDA	KISIITA	KIBAALE
BANGIRANA J.	NABISAVA	BUHONDA	KISIITA	KIBAALE
JAMES MUBAZI	NABISAVA	BUHONDA	KISIITA	KIBAALE
TUMUSIIME VALENTINO	NABISAVA	BUHONDA	KISIITA	KIBAALE
BENON BULINGWA	KYAKUTEREKERA	MWITANZIGYE	KISIITA	KIBAALE
GANYONZA MICHEAL	RWAMADONGO	MWITANZIGYE	KISIITA	KIBAALE
KABAGAMBE S.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
KABAFUNZAKI B.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
SANDE SAMUEL	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
MBABAZI S.	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
MUBANGIZI POULINARI	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
OWOMUGISHA FELIX	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
BYARUHANGA J.	MASULWA	MWITANZIGYE	KISIITA	KIBAALE
KASAZA JOHN	MWITANZIGYE	MWITANZIGYE	KISIITA	KIBAALE
KOBUSINGYE PEACE	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
BERNARD BANDIBWIRUKA	NYAMIRAMA	BUHONDA	KISIITA	KIBAALE
ZIRYAHARUGO J.	PHASE I A	MUBUKU I SC	RUKOOKI	KASESE
MUTABAAZI G.	PHASE I A	MUBUKU I SC	RUKOOKI	KASESE
KAMANYIRE S.	PHASE I A	MUBUKU I SC	RUKOOKI	KASESE
BESIGYE P.	MUKOGERE	RUKOOKI	RUKOOKI	KASESE
BIRYABAHA K.	MUBUKU LC 1	RUKOOKI	RUKOOKI	KASESE
RUHWEZA DEO	PHASE 1A	MUBUKU I SC	RUKOOKI	KASESE
KAHWA A.	PHASE I A	MUBUKU I SC	RUKOOKI	KASESE
MUGISA P.	PHASE 11	MUBUKU I SC	RUKOOKI	KASESE
RUTAZIGWA R.	PHASE 1A	MUBUKU I SC	RUKOOKI	KASESE
LWAHERU S.	PHSE I A	MUBUKU I SC	RUKOOKI	KASESE
TINKASIMIRE LAWRENCE	PHASE 1 SCHEME	MUBUKU I SC	RUKOOKI	KASESE
BYABAGAMBI C.	PHASE 2	MUBUKU I SC	RUKOOKI	KASESE
MBABAZI	PHASE 1	MUBUKU I SC	RUKOOKI	KASESE
MWANZI PETER	PHASE I SCHEME	MUBUKU I SC	RUKOOKI	KASESE
TINTA J.	PHASE 5	MUBUKU I SC	RUKOOKI	KASESE
BWAMBALE E.	RUKURUKI PHASE 11	MUBUKU I SC	RUKOOKI	KASESE
KIBWANA P.	PHASE 1A	MUBUKU I SC	RUKOOKI	KASESE
NTIHABOSE ERIYA	RUKOOKI	MUBUKU I SC	RUKOOKI	KASESE
HENRY NYENDWOHA	PHASE 3-8 SCHEME	MUBUKU I SC	RUKOOKI	KASESE
KAMIHANDA FELIX	PHASE 1 SCHEME	MUBUKU I SC	RUKOOKI	KASESE
TIBENDA LOVIS	PHASE II SEBWE	MUBUKU I SC	RUKOOKI	KASESE
SEMPALA LIVING STONE	PHASE II	MUBUKU I SC	RUKOOKI	KASESE
KAHWA MODEST	PHASE I SCHEME	MUBUKU I SC	RUKOOKI	KASESE
NDAWI MARY	PHASE I SCHEME	MUBUKU I SC	RUKOOKI	KASESE
BYAMUKAMA PATRICK	MWALO	MUBUKU I SC	RUKOOKI	KASESE
MUJUNGU JOHN	RUKOKI	MUBUKU I SC	RUKOOKI	KASESE

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
MUHAWE FRANCIS	PHASE II	MUBUKU I SC	RUKOOKI	KASESE
MASABA HENRY	PHASE I	MUBUKU I SC	RUKOOKI	KASESE
MUTENDE YOSITASI	PHASE I	MUBUKU I SC	RUKOOKI	KASESE
ISINGOMA ISAIAH	PHASE 1 SCHEME	MUBUKU I SC	RUKOOKI	KASESE
TUMWESIGE JOWERIA	SEETA	KIBAALE	KIBIGA	KIBOGA
GAYIRA S.	SEETA	SEETA	KIBIGA	KIBOGA
MUSIIME MARGRET	SEETA	SEETA	KIBIGA	KIBOGA
KIWANUKA A.	KAJJERE	KAJJERE	KIBIGA	KIBOGA
ABDU SENYONGA	KAJJERE	KAJJERE	KIBIGA	KIBOGA
KINAGOMBA TWAHA	KIBOBA	KAJJERE	KIBIGA	KIBOGA
MUSOKE ALDRINE	KALAGALA	KAJJERE	KIBIGA	KIBOGA
MAGALA MOSES	KATEERA	KIZINGA	KIBIGA	KIBOGA
JJOMBWE S.	KATEERA	KIZINGA	KIBIGA	KIBOGA
KATO S.B.	NABISOGA	KIZINGA	KIBIGA	KIBOGA
KATENDE K.	NABISOGA	KIZINGA	KIBIGA	KIBOGA
ZIWA STEPHEN	KITETE	KAJJERE	KIBIGA	KIBOGA
NANYONDO TEO	KITETE	KAJJERE	KIBIGA	KIBOGA
NAMAGEMBE M.	KATOMA	KAJJERE	KIBIGA	KIBOGA
WANKYA G.	KATOMA	KAJJERE	KIBIGA	KIBOGA
BATWALE M.I	KITEREDDE	SEETA	KIBIGA	KIBOGA
BAHWEYIREMU FRANCIS	KITEREDE	SEETA	KIBIGA	KIBOGA
LASTO AGIRASHEBUZA	NYANJATEGERA	SEETA	KIBIGA	KIBOGA
SSENTONGO M.	KAJJERE	KAJJERE	KIBIGA	KIBOGA
NSAMBA H.	KAJJERE	KAJJERE	KIBIGA	KIBOGA
WASWA U.	KAJJERE	KAJJERE	KIBIGA	KIBOGA
DOMINICO KULERA	KATERA DEGEYA	KIZINGA	KIBIGA	KIBOGA
KISULE WILLY	KATERA DEGEYA	KIZINGA	KIBIGA	KIBOGA
BUWULE A.	KYENKUMBYA	KIZINGA	KIBIGA	KIBOGA
KYATULE DAVID	KITETE	KAJJERE	KIBIGA	KIBOGA
GULANYAGO SABIITI	KIZINGA	KIZINGA	KIBIGA	KIBOGA
MUHAMOOD SSERUNJOGI	KIZINGA	KIZINGA	KIBIGA	KIBOGA
ABBAS MAKANDA	KIZINGA	KIZINGA	KIBIGA	KIBOGA
SEBIRANDA M.	KATERA DEGEYA	KIZINGA	KIBIGA	KIBOGA
KABASAMBO BEATRICE	SEETA	KIBAALE	KIBIGA	KIBOGA
LUTALO S.	SEETA	KIBAALE	KIBIGA	KIBOGA
NANKINGA A.	KATERA DEGEYA	KIZINGA	KIBIGA	KIBOGA
MIGANDA JAFFARI	SEETA	KIBAALE	KIBIGA	KIBOGA
KYESIMBA GODFREY	KITETE	KAJJERE	KIBIGA	KIBOGA
MWOGERA E.	KAJJERE	KAJJERE	KIBIGA	KIBOGA
KIGOMAKIGUDDE L.	KATOMA	KAGYERE	KIBIGA	KIBOGA
NAKIBERU J.	KATOMA	KAGYERE	KIBIGA	KIBOGA
ABDUL MUTUMBA	KITETE	KAJJERE	KIBIGA	KIBOGA
SENDAWULA F.	KIZINGA	KIZINGA	KIBIGA	KIBOGA
SESENGA D.	KIZINGA	KIZINGA	KIBIGA	KIBOGA
KINENE S.	KIZINGA BULIRI	KIZINGA	KIBIGA	KIBOGA
KATAMBA Z.	KIZINGA	KIZINGA	KIBIGA	KIBOGA
KATENDE K.	KIZINGA	KIZINGA	KIBIGA	KIBOGA

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
ZIRIMANYA E.	KIBIGA	KIBIGA	KIBIGA	KIBOGA
NAKAYITA F.	KIBIGA	KIBIGA	KIBIGA	KIBOGA
SSEGGUJJA L.	KALENGELA	KIBIGA	KIBIGA	KIBOGA
NAMUTEBI TEO	KIBIGA	KIBIGA	KIBIGA	KIBOGA
NABUNNYA M.	KIBIGA	KIBIGA	KIBIGA	KIBOGA
WILSON KAYONGO	KIBIGA	KIBIGA	KIBIGA	KIBOGA
LUBEGA G.	KIBIGA	KIBIGA	KIBIGA	KIBOGA
MBAALE D.	KALENGERA	KIBIGA	KIBIGA	KIBOGA
KIIZA BONA	KIBIGA	KIBIGA	KIBIGA	KIBOGA
NANDOHA J.	BUMULA	BUMULIKA	BUBUTU	MBALE
WASOLO D.	BUMULA	BUMULIKA	BUBUTU	MBALE
NAMBAFO R.	BUMULA	BUMULIKA	BUBUTU	MBALE
MAKASI B.	MUNAMBA	BUMULIKA	BUBUTU	MBALE
MALIKO SIBEKE	BULAKO	BUMULIKA	BUBUTU	MBALE
MALEMA JOHN	BULAKO	BUMULIKA	BUBUTU	MBALE
WANOKHOKA JOHN	BULAKO	BUMULIKA	BUBUTU	MBALE
MASIFA KAMAKU JOSEPH	BUWEESA	BUMULIKA	BUBUTU	MBALE
NALYANYA AUGUSTINE	BUMATAALA	BUMULIKA	BUBUTU	MBALE
MUSAMALI M.	BUMULA	BUMULIKA	BUBUTU	MBALE
SITUMA FABIANO	BUWEESA	BUMULIKA	BUBUTU	MBALE
WEYAWO A.	BUWESA	BUMULIKA	BUBUTU	MBALE
TEREZA KAKAHI	BULAKO	BUMULIKA	BUBUTU	MBALE
NASIWA J.	BUTSELITSI	BUMULIKA	BUBUTU	MBALE
LUKENDO AGATHA	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE
MASAABA SAM	BUMULIKA	BUMUYONGA	BUBUTU	MBALE
WALYAWOLA J	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE
SITATI FRED	BUKIBETI	BUMUYONGA	BUBUTU	MBALE
WANYONYI SAMUEL	BUMAAFU	BUMUYONGA	BUBUTU	MBALE
MAKASI P.	BUSHEMBA	BUMULIKA	BUBUTU	MBALE
WATAAKA M.	BUMULA	BUMULIKA	BUBUTU	MBALE
M,AKASI A.	BUMULA	BUMULIKA	BUBUTU	MBALE
MICHAEL WAGUSI	BUMATALA	BUMULIKA	BUBUTU	MBALE
MARY NDELEMA	BUMULULU	BUMULIKA	BUBUTU	MBALE
DAYANI WANAMI	BUMULULU	BUMULIKA	BUBUTU	MBALE
TESHO M.	BMAAFU	BUMUYONGA	BUBUTU	MBALE
KATENYA E.	BUWETSALO	BUMUYONGA	BUBUTU	MBALE
NASIMALI CHARLES	BUWETSALO	BUMUYONGA	BUBUTU	MBALE
LUBISHA GEORGE	BUWETSALO	BUMUYONGA	BUBUTU	MBALE
KUNDU BOSCO	BUWETSALO	BUMUYONGA	BUBUTU	MBALE
KHAUKA RICHARD	BUMAAFU	BUMUYONGA	BUBUTU	MBALE
BWAYO N.J.	BUWAMBWASOYI	BUMUYONGA	BUBUTU	MBALE
LAWRENCE MUKAPI	BUWAMBWASOYI	BUMUYONGA	BUBUTU	MBALE
NALWANYA P.	BUTSELITSI	BUMUYONGA	BUBUTU	MBALE
FUNGO FRANCIS	BUTSEKELEYI	BUMUYONGA	BUBUTU	MBALE
CHRISTINE SIWUNDU	BUTSEKELEYI	BUMUYONGA	BUBUTU	MBALE
KANGO PETER	BUTSEKELEYI	BUMUYONGA	BUBUTU	MBALE
PATRICK MAKAYI	BUTSEKELEYI	BUMUYONGA	BUBUTU	MBALE
SITUMA D.	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
MAKONA J.	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE
WANKWABUBI P.	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE
MATASI A.	BUMAAFU	BUMUYONGA	BUBUTU	MBALE
ALFRED WANJALA	BUMAAFU	BUMUYONGA	BUBUTU	MBALE
WAMBULWA F.	BUMAAFU	BUMUYONGA	BUBUTU	MBALE
MASIKA N. J.	BUMAAFU	BUMUYONGA	BUBUTU	MBALE
WASOLO J.P	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE
WALIMBWA G.	BUTSEKELEYI	BUMUYONGA	BUBUTU	MBALE
MABONGA G.	BUWAMBWASOYI	BUMUYONGA	BUBUTU	MBALE
NABENDE P.	BUMULA	BUMULIKA	BUBUTU	MBALE
MOSES MANENO	BUMULULU	BUMULIKA	BUBUTU	MBALE
WASIKE P.E	BUTSEKELEYI	BUMULIKA	BUBUTU	MBALE
LWANDANYI M.	BUKUTO	BUMULIKA	BUBUTU	MBALE
SIUNWA M.	BUKUUTO	BUMULIKA	BUBUTU	MBALE
WATIMA PETER	BUTSELETSI	BUMULIKA	BUBUTU	MBALE
MUKAMBA DAVID	BUMUYONGA	BUMUYONGA	BUBUTU	MBALE
NAMUKOA P.	BUMULULU	BUMULIKA	BUBUTU	MBALE
WALYAWULA M.	BUMULULU	BUMULIKA	BUBUTU	MBALE
PHILIP WANASI	BUWEESA	BUMULIKA	BUBUTU	MBALE
WAMBULWA J.	BUKIBETI	BUMUYONGA	BUBUTU	MBALE
MUGOBEREZI G.	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
GWAIRA D.	KANANSAIKE	NAMAWA	NAWAIKOKE	KAMULI
KIRUNDA L.	KANANSAIKE	NAMAWA	NAWAIKOKE	KAMULI
MUWANIKA J.	KANANSAIKE	NAMAWA	NAWAIKOKE	KAMULI
GWEBATALA S.	KANANSAIKE	NAMAWA	NAWAIKOKE	KAMULI
MUGAYA J.	BEDA	NAMAWA	NAWAIKOKE	KAMULI
NANJUBU AGGREY	KANANSYAIKE	NAMAWA	NAWAIKOKE	KAMULI
DUUMA EDWARD	KANANSYAIKE	NAMAWA	NAWAIKOKE	KAMULI
NANJUBU JOWALI	KANANSYAIKE	NAMAWA	NAWAIKOKE	KAMULI
RACHEAL KAFUKO	KANANSYAIKE	NAMAWA	NAWAIKOKE	KAMULI
NYINKI MUHAMMED	KANANSYAIKE	NAMAWA	NAWAIKOKE	KAMULI
MUDOOLI J.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
KAMWASA R.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
IKANZA R.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
NKOLA H.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
NDIGWOOZA F.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
TIBAGOTYA L.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
KABUTANIA M.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
KAMWASA S.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
BALABYE D.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
KYKULAGA E.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
KAKUKU Y.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
WANSUNGUZI N.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
BALIDHA EMMANUEL	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
KAPULYAKA GRACE	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
DIOGO SIMON	BUBBULI	NSAMULE	NAWAIKOKE	KAMULI
CHRISTOPHER KAKDUKQ	BUBBULI	NSAMULE	NAWAIKOKE	KAMULI
KUNYA LIVINGSTONE	BUBBULI	NSAMULE	NAWAIKOKE	KAMULI

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
MUTASA FRANCO	BUBBULI	NSAMULE	NAWAIKOKE	KAMULI
WAAKO GEOFFREY	BUBBULI	NSAMULE	NAWAIKOKE	KAMULI
TEZIKY M.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
GUMULA M.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
MUDOOLI M.	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
ERIA KUNNYA	BUPENI	NSAMULE	NAWAIKOKE	KAMULI
IRUBA	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
KYEPA M.	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
ISIIKO N.	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
BUMUNONE H.	BEDA	NAMAWA	NAWAIKOKE	KAMULI
LWABANJA I.	BEDA	NAMAWA	NAWAIKOKE	KAMULI
WALUBO C.	BEDA	NAMAWA	NAWAIKOKE	KAMULI
MUGOBEREZI E.	BEDA	NAMAWA	NAWAIKOKE	KAMULI
NABUGERE M.	BEDA	NAMAWA	NAWAIKOKE	KAMULI
NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
MUDUUSU A.	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
BAIGALA M.	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
TIBANJAGALA C.	KITTAMBOGO	NAMAWA	NAWAIKOKE	KAMULI
OPIO B.	ADYAGOPIRI	AMOCHA	LIRA	LIRA
TOM OKULLO	OKECH OYERE	OLAKA	LIRA	LIRA
OKELLO RICHARD	OKECH OYERE	BARA APWOO	LIRA	LIRA
GEORGE OWIO	ADYANG OPIRO	AMOCHA	LIRA	LIRA
AKELLO S.	KURIWOO	ANYNGAPUK	ADEKOKWOK	LIRA
AMON OBUKU	OKII OYERE	ANYOMOREM	ADEKOKWOK	LIRA
AWILO O.	AKUPI WOO	ANYANG OPUC	ADEKOKWOK	LIRA
OLEKE NICHOLAS	OKII OYERE	ANYOMOREM	ADEKOKWOK	LIRA
ADILO S.	OKI OYERE	ANYOMOREM	ADEKOKWOK	LIRA
MOSES AWOR	ADELOKOK	OMITO	ADEKOKWOK	LIRA
AGNES MUNU	ADYANG OPIRO	AMOCHA	LIRA	LIRA
OTIM B.	OKECH	AMUKA	LIRA	LIRA
OKELLO S.	OKI OYERE	ANYOMOREM	ADEKOKWOK	LIRA
OKELLO FRANCIS	OLENGO BIR	AMOCHA	LIRA	LIRA
ANGOE RICHARD	ADELOKOK	OMITO	ADEKOKWOK	LIRA
ADUPA F.	BUNG	OMITO	ADEKOKWOK	LIRA
OBONG C.P	ADEL OKOK	OMITO	ADEKOKWOK	LIRA
OKELLO R.	OWITI	AMUCHA	LIRA	LIRA
ABURA J.	AWIRA	AMUCHA	LIRA	LIRA
OKWIR J.	OKEC OYETRE	BARAP WOO	LIRA	LIRA
OGWENG RICHARD	ADYAGA OPIRO	AMOCHA	LIRA	LIRA
EKUT PETER	ADYAGA OPIRO	AMOCHA	LIRA	LIRA
OMARA GEOFFREY	OKECHEOYELLE	OLAKA	LIRA	LIRA
OTITI J.	ADYAGOPIRO	AMOCHA	LIRA	LIRA
OGWALA A.	OKEKYE OYERE	BARAPWO	LIRA	LIRA
APITA R	OTONGO	ANYOMOREM	ADEKOKWOK	LIRA
EGIT T.	AGENGA	ANYOMOREM	ADEKOKWOK	LIRA
ABWO A.	OKII- OYERE	ANYOMOREM	ADEKOKWOK	LIRA
OGWANG G.	OTONGO	ANYOMOREM	ADEKOKWOK	LIRA
KEREN OKWENY	AGENGA	ANYOMOREM	ADEKOKWOK	LIRA

NAME	VILLAGE	PARISH	SUB-COUNTY	DISTRICT
OBUA M.	OMITO	ADELOKOK	ADEKOKWOK	LIRA
AMONG S.	OMITO	ADELOKOK	ADEKOKWOK	LIRA
ODONG MARTIN	OMITO	ADELOKWOK	ADEKOKWOK	LIRA
OWULA SAM	OMITO	ADELOKWOK	ADEKOKWOK	LIRA
EDONGA BONEY	BUNG	ADELOKOK	ADEKOKWOK	LIRA
OMWENG PETER	BUNG	OMORO	ADEKOKWOK	LIRA
MARY ANGOL	OKII OYERE	ANYOMOREM	ADEKOKWOK	LIRA
OGWANG THOMAS	OKII OYERE	ANYOMOREM	ADEKOKWOK	LIRA
OKULLU C.P.	OKI OYERE	ANYOMOREM	ADEKOKWOK	LIRA
WILBERT OTENG	KURIWOO	ANYANGAPUC	ADEKOKWOK	LIRA
ATOKE R.	KURIWOO	ANYNGAPUK	ADEKOKWOK	LIRA
OKELLO F.	ADEL OKOK	OMITO	ADEKOKWOK	LIRA
OKELLO MOSES	ADYAGA OPIRO	AMOCHA	LIRA	LIRA
AMOLO A.	KURIWOO	ANYNGAPUK	ADEKOKWOK	LIRA
OYO ALFRED	OKII OYERE	ANYOMOREM	ADEKOKWOK	LIRA
DOI FRED	OKECH OYERE	ANYOM OREM	ADEKWOK	LIRA
OWINY TIT	OKI OYERE	ANYOMOREM	ADEKOKWOK	LIRA
OGWANG P.	OKI OYERE	ANYOMOREM	ADEKOKWOK	LIRA
LUCCY APUNYU	OKI OYERE	ANYOM OREM	ADEKWOK	LIRA
AWANY D.	OKI OYERE	ANYOMOREM	ADEKOKWOK	LIRA
OMING VINCENT	ADELOKOK	OMITO	ADEKOKWOK	LIRA
OTIM S.	ADEL OKOK	OMITO	ADEKOKWOK	LIRA
OULA T.	ADEL OKOK	OMITO	ADEKOKWOK	LIRA
ANYI A.	ADEL OKOK	OMITO	ADEKOKWOK	LIRA
OJEDE OBA	NGETA GINNERY	ANYANGAPUC	ADEKOKWOK	LIRA
LYDIA AKELLO	OKII OYERE	ANYANGAPUC	ADEKOKWOK	LIRA
OYAR AGUSTINE	NGETA GINNERY	ANYANGAPUC	ADEKOKWOK	LIRA
OWENG A.	NGETA GINNERRY	ANYANG OPUC	ADEKOKWOK	LIRA
OKWIR J.	ADEL OKOK	OMITO	ADEKOKWOK	LIRA

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