

Promoting skills development and Market Access for Cassava, Maize and Millet in Karamoja, Lango and Teso Sub-regions

THE CASE OF SMALL-SCALE FARMERS
IN ABIM, LIRA AND SOROTI DISTRICTS

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Abbreviations & Acronyms

ACODE:	Advocates Coalition for Development and Environment
ADP:	Aridlands Development Programme
ADRA:	Adventist Relief Agency
AFSRT:	Agency for Sustainable Rural Transformation
AIDS:	Acquired Immune Deficiency Syndrome
ASSP:	Agriculture Sector Strategic Plan
AWOTID:	Abim Women Together in Development
BTVET:	Business, Technical, Vocational Education and Training
C&C:	Convening and Convincing
CAVA:	Cassava: Adding Value for Africa
CDD:	Community Demand-Driven
CDO:	Community Development Officer
CIDA:	Canadian International Development Agency
CIR:	Community Infrastructural Rehabilitation
CSO:	Civil Society Organisation
DDA:	Dairy Development Authority
DFID:	Department of International Development
DIT:	Directorate of Industrial Training
EPRC:	Economic Policy Research Centre
FAO:	Food and Agriculture Organisation
FY:	Financial Year
GIZ:	German International Cooperation
GoU:	Government of Uganda
HIV:	Human Immunodeficiency Virus
ICCO:	Inter-Church Cooperation
IFAD:	International Fund for Agricultural Organisation
IFDC:	International Fertiliser Development Centre
ILO:	International Labour Organisation
JICA:	Japanese International Cooperation Agency
KOICA:	Korea International Cooperation Agency
LIS:	Livelihood Investment Support
MAAIF:	Ministry of Agriculture, Animal Industries and Fisheries
MGLSD:	Ministry of Gender, Labour and Social Development

MoES:	Ministry of Education and Sports
MoLG:	Ministry of Local Government
NAADS:	National Agricultural Advisory Services
NAES:	National Agriculture Extension Strategy
NaSARRI:	National Semi-Arid Resources Research Institute
NCHE:	National Council for Higher Education
NDP:	National Development Plan
NECPA:	North Chilli Producers Association
NFTP:	Non-Formal Training Program
NGO:	Non-Governmental Organisation
OWC:	Operation Wealth Creation
PPET:	Post-Primary Education and Training
PRA:	Participatory Rural Appraisal
PWDs:	Persons with Disability
PWP:	Public Works Programme
SAO:	Share an Opportunity Uganda
TOT:	Trainer of Trainers
UCDA:	Uganda Coffee Development Authority
UGAPRIVI:	Uganda Association of Private Vocational Institutions
UGX:	Uganda Shillings
UNCDF:	United Nations Capital Development Fund
UNICEF:	United Nations International Children's Emergency Fund
USAID:	United States Agency for International Development
UVQF:	Uganda Vocational Qualifications Framework
VET:	Vocational Education and Training
VSO:	Voluntary Service Overseas
VT:	Vocational Training
VTIs:	Vocational Training Institutes
WFP:	World Food Program
YIGs:	Youth Interest Groups

Executive Summary

This study was conducted between June and July 2017 in Abim, Lira and Soroti to assess the capacity and support available to farmers with special emphasis on the cassava, maize and millet value chains. The study also explored issues of quality, market potential and value-addition opportunities for the value chains. Data was collected through interviews with farmers, local government staff, produce buyers and consumers, NGOs supporting farmers, the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) officials and farmers' networks. The study established that farming was the leading economic activity in the districts, dominated by maize, millet, cassava, groundnuts and beans which served as food as well as cash crops. These crops provided food supplies for households but also served as cash crops. The mean monthly income from the sale of agricultural produce was found to be in the region of UGX 220,000, which exceeded the income that households could obtain from alternative income-generating activities.

Almost all crop fields were found to be vulnerable to water and wind erosion. A significant number of farmers were unable to control soil erosion owing to lack of resources while some farmers lacked knowledge and skills for soil erosion control. There was overwhelming evidence that soil fertility was declining based on the reduced crop harvests that farmers registered annually. Measures to improve soil fertility were limited to the application of crop and animal manure by less than 20% of the farmers and no farmer was found to have applied artificial fertilisers.

It was established that crop rotation was practised by many farmers, mainly to supply farmers with various food requirements annually rather than improving soil fertility. However, even where land size would have allowed for fallowing, farmers hardly practised fallowing which forced many farmers to continuously plant their pieces of land. However, it was found that some farmers were not practising fallowing largely owing to ignorance about its importance. Many areas of northern Uganda and Karamoja were found to be prone to long drought seasons, which increased the risk of crop losses to drought. However, water harvesting for agricultural use was not practised by any farmer while drip irrigation was practised by only 4% of the farmers.

All farmers had experienced crop losses to pests, diseases and vermin during growth cycles. On average, 22% of the possible harvests would be lost before harvesting. Maize was found to be the most vulnerable crop, followed by cassava, millet and groundnuts. Post-harvest crop losses to weevils were also high, especially with respect to cassava and maize.

Many farmers had benefited from capacity-building programmes conducted by NGOs, the private sector and the government. It was found that the millet, cassava and maize value chains were not a focus of nearly all NGO capacity-building interventions. NGO-supported training sessions were facilitated by change agents, including extension officers and community development officers, most of whom were trained agriculturalists with bachelor's degrees and diplomas. However, most training programmes targeted farmers' groups, leaving out farmers with no membership to any group. Through capacity-building programmes, participating farmers were able to gain knowledge and acquire skills in agronomy, crop protection, tree planting, post-harvest management, marketing and value addition. However, there were many

Almost all crop fields were found to be vulnerable to water and wind erosion.

skills that some farmers had hoped to develop, including disease management, and waste management, but did not acquire because they were not part of the planned training packages. Whereas the maize and cassava value chains had many players involved in capacity-building, research and value-addition, there was no single NGO or government agency targeting the millet value chain.

Government programmes such as NUSAF, NAADS and Operation Wealth Creation (OWC) facilitated farmers through the supply of seeds, seedlings, planting stems, farm tools and equipment. Government programmes also trained participating farmers and equipped them with various skills in crop production, post-harvest management, value addition and marketing. In some areas, value-addition centres had been established.

More than 93% of the farmers sold their farm produce to generate income. However, farmers were found to be facing challenges in marketing their farm produce owing to high transportation costs, price fluctuations, limited markets, lack of produce storage facilities and, sometimes, poor quality of produce. Traders and consumers were found to be able to distinguish produce quality grades depending on visual aspects and physical attributes.

The government, through MAAIF, has put in place several agricultural policies to support extensive production, marketing of crops and value addition. However, the implementation of policies was found to be weak and the impact of the policies was largely unfelt in the study areas. Government interventions, including NUSAF, NAADS and OWC, were found to be in place although support to farmers was reported to be limited in terms of who benefits and the value chains supported, but also the support they extend to farmers.

Given the varied soil types, land use practices, landforms and the severity of wind erosion and water runoff, developing capacity will need to be closely tailored to specific locations. Alleviating soil erosion will help in reducing nutrient losses as well as protecting budding crops from water and wind damage. To build up farmers' technology in preserving soil fertility, this study recommends public and private investment in specialised training in water harvesting, manure use, agro-forestry, fertiliser application and irrigation.

To mitigate crop losses, a deliberate component on pests and disease control and management is recommended for the training packages delivered to small-scale farmers.

To mitigate crop losses, a deliberate component on pests and disease control and management is recommended for the training packages delivered to small-scale farmers. Considering the government's emphasis on value addition, public and private provision is necessary in advancing

the capacity for comprehensive research on agricultural issues that have direct relevance to farming practices, suitable varieties, post-harvest management, value addition and marketing strategies. Whereas cassava and maize were found to enjoy government support in knowledge generation, the paucity of research on millet undermines the economic potential of the millet value chain in improving the economic prospects of millet-growing communities.

A more effective approach to capacity development which employs more of discussions, field visits, the use of local languages and audiovisual materials during training is recommended to address the recognised main imbalances between the literate and the largely illiterate small-holders. Strengthening the links between public and private capacity-building interventions will broaden support for farmers as well as avoid the duplication of farmer support activities. A culture of sharing of experiences among the different actors that support farmers is equally essential in improving the coordination of farmer-support activities.

1.

Background



[BACKGROUND]

Between 2016 and 2020, the Civic Engagement Alliance (CEA) will strengthen identified civil society organisations (CSOs) through a programme focused on promoting civil society engagement in dialogue with policy-makers to lobby for an effective policy environment within the identified thematic areas aforementioned. The CEA Uganda Country Programme is developed in line with the Ugandan social and political context, the past and current consortium members' programme track record and within the overall Convening and Convincing (C&C) programmatic framework. From the four programmatic pathways, CEA will focus on the three pathways: i) Political space for CSOs; ii) Realising inclusive and sustainable food systems; and iii) Small producers' empowerment and access to markets. The programme will seek to reclaim space for civil society. In order to reclaim space for CSOs, organisations will contribute to constructive dialogue concerning pro-poor food security and inclusive markets and implementation. By strengthening CSOs to engage in these thematic policy dialogues, ICCO Cooperation will contribute to the CSOs' enabling environment and to ensuring that operational space is assured for independent development actors.

1.1 Nature of the CEA Programme in Uganda

The programme is intended to support the improvement of access to markets for small-scale farmers, especially for women, youth and disabled farmers. These farmers produce various products, such as cassava, maize and millet but many farmers act as producers solely from a subsistence point of view.

The just-concluded study on Pathway 3 of the CEA by ICCO mentions that most farmers are not able to access training opportunities owing to:

- i. Lack of information on the benefits of the training;
- ii. Perceived segregation that the local leaders had the final decision on who would be the beneficiary of the training and that most of the training offered under OWC was found to be very limited and not to the standards the farmers wanted; and
- iii. The current skills development and capacity-building programmes by both

the government and NGOs fell short of meeting the learning needs and expectations of the largely illiterate and semi-literate farmers.

The lobby assumptions are based on lack of information, lack of access and lack of effective training methods for illiterate and semi-literate farmers.

In addition to this, the skills training offered was perceived to favour the educated lot of farmers, leaving those who have minimal education to the periphery. Thus, the category of farmers who are termed as "illiterate" are not able to participate in any skills training. The training is also deemed not to be inclusive of any adult education aspect. Most of the training on the ground is from non-governmental (private) skills providers whose current training is heavily focused on soil and crop management, harvesting and storage, seed management, financial services, marketing produce and animal husbandry. Soil and crop management took the bulk of the training courses available to farmers while the majority lack the essential skills needed to make them successful as

value chain players. The lack of interest by the farmers in the skills training opportunities was sparked by lack of information on the contents of the training courses available and failure of the training to address the immediate needs of the farmers, which rendered the training inflexible to farmers' needs.

1.2 Purpose of the Research

The purpose of this research study is to deepen understanding of the nature and role of skills development to enable small-scale farmers in Uganda to engage in effective and evidence-based dialogue with value chain stakeholders to improve their access to skills services and markets. Specific considerations will be for three value chains – cassava, maize and millet. The results will inform the dialogue agenda on moving forward with skills development under the auspices of the CEA programme.

1.3 Objectives of the Study

Specifically, this study addressed the following objectives:

- a. To assess the nature of skills possessed by farmers, skills gaps, skills demanded for the maize, millet and cassava value chains, the training opportunities available, the quality and suitability of the training provided by both public and private sector players, and general access to skilling opportunities
- b. To identify the learning needs and expectations of the largely illiterate and semi-literate farmers.
- c. To assess, identify and select stakeholders who have an interest in improving their capacity to engage in dialogue for skills development.
- d. To analyse policies related to access to skills and training development and the identification of gaps and opportunities in the (implementation of) these policies for an inclusive value chain.
- e. To assess the level of access to skills training that seeks to generate evidence

on best practices and entry points for dialogue.

- f. To identify the strengths and weaknesses of the current skills development systems as well as the causes of these strengths and weaknesses and how they have failed to meet the needs of small-scale, often illiterate, farmers.
- g. To assess the appropriateness of the institutional and systems design for skills delivery, including the manner in which it facilitates access to skills and knowledge and promotes quality, relevance, mobility and adaptability.
- h. To assess the nature and style of the training and knowledge transfer methods in communities and the suitability of such (knowledge transfer) methods to learning needs and expectations of different farmer categories especially the illiterate and semi-literate
- i. To evaluate and assess the suitability of farmer trainers and change agents for transfer knowledge to adult, illiterate and disabled farmers.

In light of this research, the study explored the following specific questions:

The status of skills:

- a. What are the skills relevant among the farmer groups that enable their effective involvement in the selected value chains? What are the requirements to be an effective value chain player?
- b. What are the labour market characteristics and conditions of young men and women, including persons with disability (PWDs) involved in the selected value chains? What are they doing? Where and how are they engaged? What are their skills? What hinders their participation in the selected value chains? Are they able to earn a decent living with what they are doing?
- c. What are the gaps in the skill areas? What is the current level of skills available in the market within the context of the value chains, including lack of access to training information?

[BACKGROUND]

- d. What is the extent to which farmers can benefit from agricultural extension services? What kind of skills support is provided through agricultural extension services?

Policy analysis:

- a. What is the government's overall approach, policy and strategy towards vocational skills training? What is the current structure of self-employment, including wages and quality of work?
- b. What are the specific market requirements regarding production, quality, quantity, sustainability, traceability, registration and logistics? Do the farmers have the necessary skills to comply with market requirements?

Access to skills development:

- a. Who are the main actors involved in the delivery of skills development?
- b. What are the existing skills delivery models and how successful and sustainable are they within the local context? Have these models inspired any practices that can be scaled up?
- c. Is there a business case to be made for skills development?
- d. What opportunities exist for dialogue and dissent in the case of skills development in the form of networks or platforms?

1.4 Study Methodology

The study was conducted in the three districts of Abim, Lira and Soroti and data was collected during the period 12-24 June 2017. With the assistance of farmer-support organisations in the study areas, a total of 75 farmers, 25 from each district, were identified and interviewed using a questionnaire. Of the total respondents, 42% were youth, 37% were women, 10% were persons with disabilities, 3% were youth and disabled while 8% were female youth. Of the disabled respondents, 67% were blind while 33% had physical disabilities. At least 60% of the farmers interviewed were involved in cassava, maize and millet value chains while 40% were not

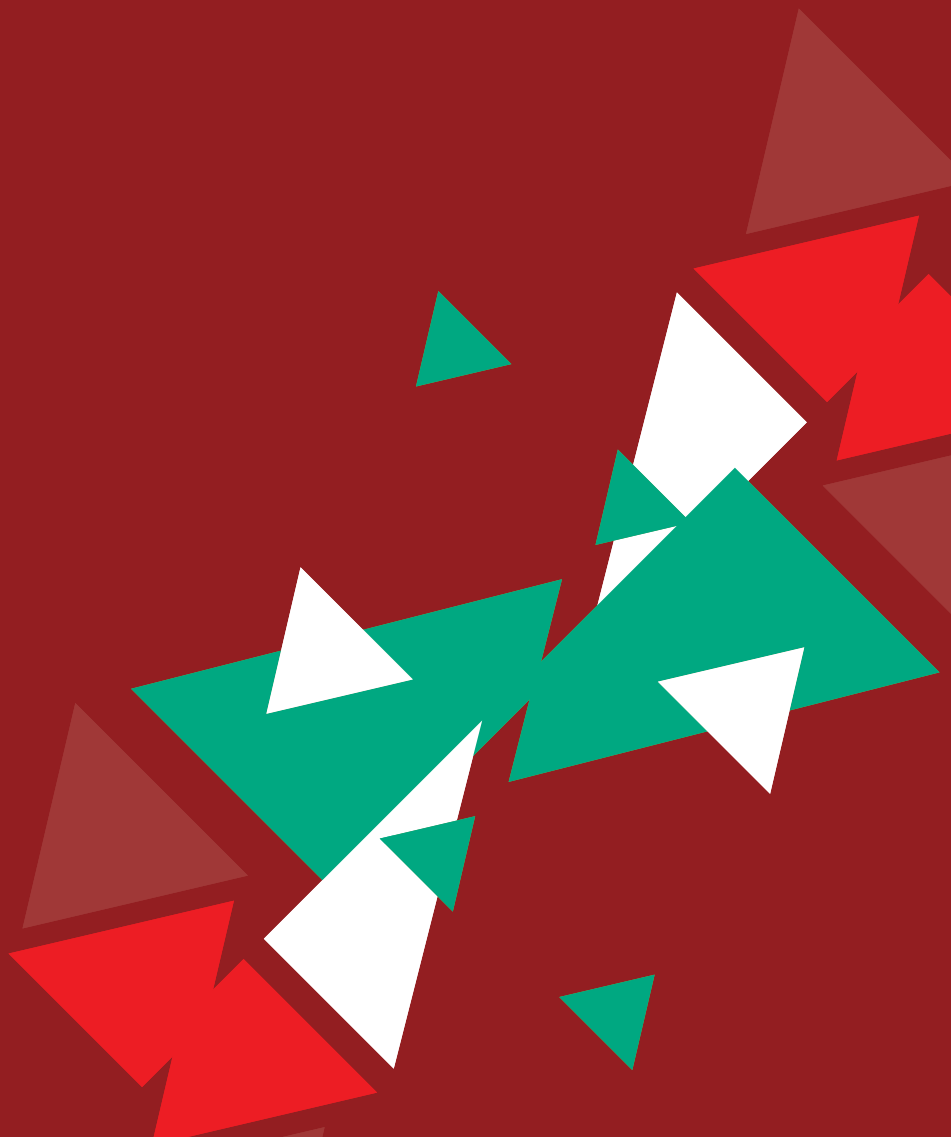
involved in the production of the three crops. All the farmers targeted were mainly women, youth and the disabled.

Staff of different organisations and government agencies involved in farmers support, advocacy and lobbying were interviewed to ascertain the nature of the technical and logistical support extended to farmers. A total of 26 respondents, including NGO staff, staff from the National Agricultural Advisory Services (NAADS), OWC and MAAIF headquarters in Entebbe were reached. The study also involved Uganda National Farmers Federation (UNFFE), a national network involved in farmer advocacy and support.

To assess the market and quality requirements of cassava, maize and millet, consumers (12) and traders in the commodities (15) were interviewed. These respondents provided valuable information on commodity prices, pricing factors and demand. They also provided guidance on quality improvements. Government policy and programme documents were reviewed to gain an understanding of government support to the agricultural sector, and specifically the cassava, maize and millet value chains. Policy reviews enabled the study to appreciate the initiatives undertaken by the government but also the challenges facing the implementation of various government programmes. The analysis of policy reviews was corroborated with findings from the field collected through interviews with different stakeholders.

2.

Study Findings



2.1 Household Income Sources

Over 76 % of the responding farmers exclusively practised farming, both crop and animal husbandry, 17% were involved in farming as well as trading, 4% provided social services and 2% provided hired labour.

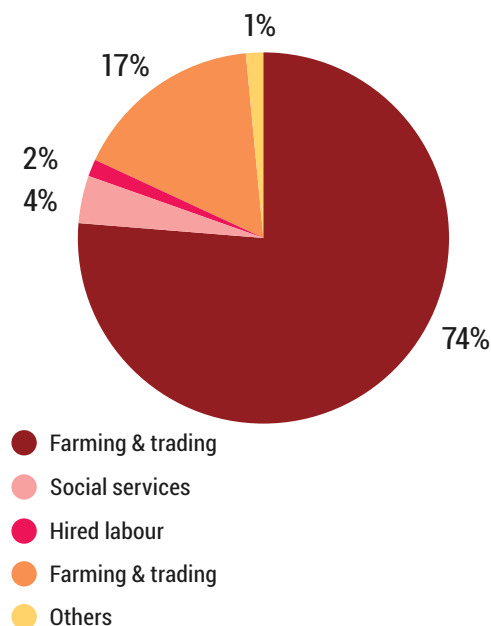


Figure 1: Income sources in the study areas

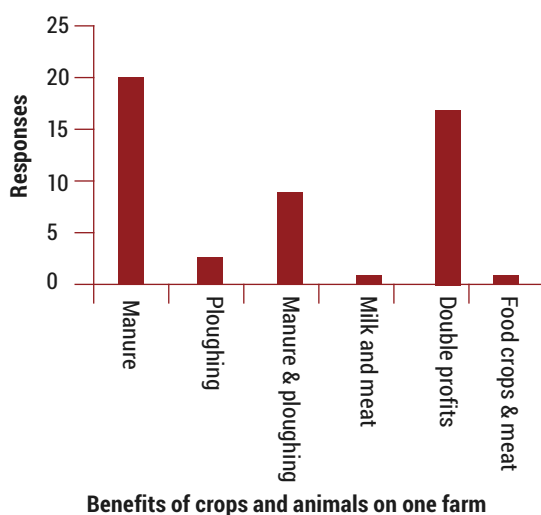


Figure 2: Benefits of agro-forestry among farmers

Over 78% of the farmers combined both animals and plants on farms while 22% were ignorant of the benefits. The benefits of having both animals and plants included the provision of milk and food for local people. Animals provided manure in the form of cow dung while crops provided fodder for animals, hence forming a mutually beneficial relationship.

Over 42% of the farmers applied both vegetation and animal manure on their farms while only 6% had ever applied fertilisers. Low levels of fertiliser use implied that most farmers depended on natural processes of nutrient replenishment, which could reduce soil fertility.

2.2 Soil Protection

2.2.1 Erosion Control

Over 61% of the respondents observed that wind often carries away topsoil from their gardens while 71% had witnessed water erosion on their farm. However, soil erosion control measures were minimally practised in the study areas, with only 25% of the farmers having attempted to control soil erosion through a number of measures.

Erosion control measures

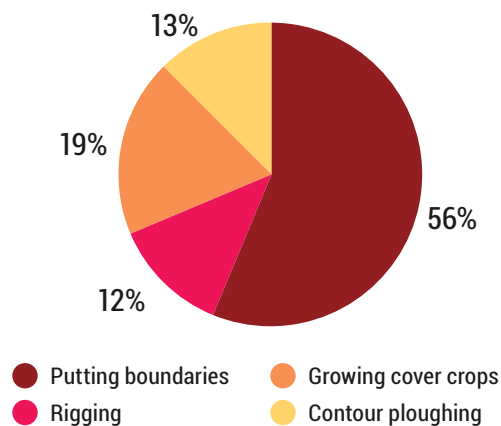


Figure 3: Measures employed to control soil erosion

Although soil erosion was rampant, over 31% of the farmers acknowledged using fire to clear gardens, a practice that could accelerate soil erosion occurrence. This indicated that some farmers are not aware of the factors which aggravate soil erosion and even those who may be informed are reluctant to implement erosion control measures.

2.2.2 Water Conservation and Irrigation

Although some of the study areas, such as Abim district, are more prone to severe droughts, only 4% of the respondents had applied irrigation on their farms, mainly using drip irrigation. The majority of the farmers (96%) depended on precipitated water for their crop water needs. A number of the farmers were not aware of water conservation measures, especially water harvesting.

2.2.3 Soil Fertility Conservation

The majority of the farmers (60%) practised no fallowing and continuously cultivated their pieces of land while 40% allowed fallowing. Most cultivated plots had been in use for over 10 years with no fallow and this partly explains why over 40% of the farmers had realised declining farm outputs from their gardens.

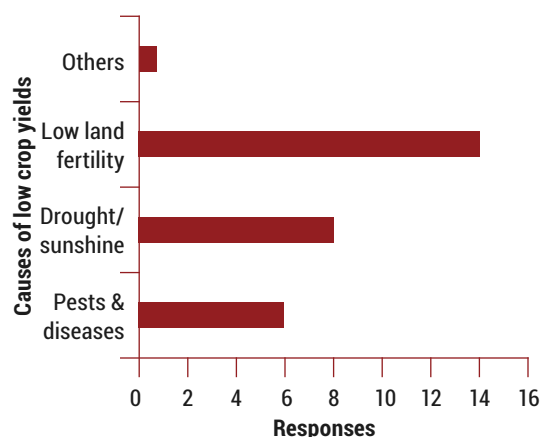


Figure 4: Causes of low crop yields in the study areas according to farmers

Over 90% of the farmers practised crop rotation while 10% did not. However, even among those who practised rotation, the alternation of crops followed no systematic pattern since cereals were followed by cereals in many cases, limiting nutrient replenishments.

2.3 Crop Production

Cassava, maize and millet occupied many of the crop fields, accounting for close to 90% of cultivated land. Many farmers preferred these crops because they are staple foods and have ready markets. They were also said to be performing fairly in soils with low nutrient levels.

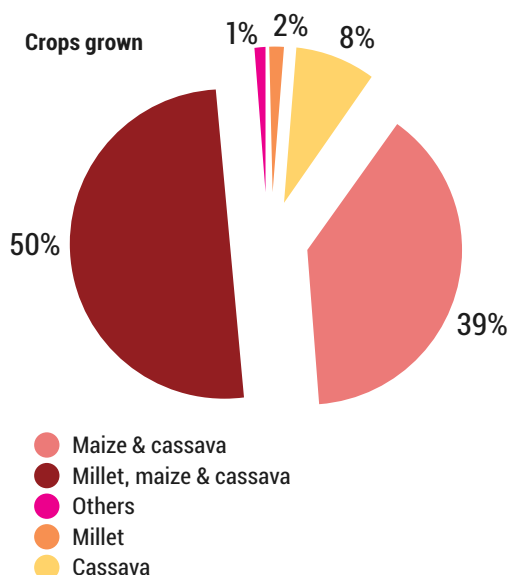


Figure 5: Allocation of different crops on available land

Cassava appeared to be the most yielding crop, followed by maize. Millet, beans and sorghum were also yielding fairly. This was an indicator of why farmers mostly preferred cassava, maize and millet. However, all farmers had registered declining farm yields, attributed to soil fertility decline and unstable rainfall patterns. This implied that sustainability of the food supply was not guaranteed unless soil fertility and soil moisture levels are maintained.

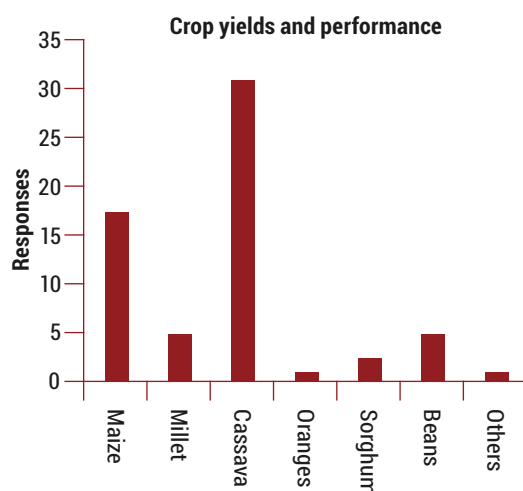


Figure 6: Performance and yield of different crops grown

2.3.1 Farm Incomes

Over 82% of respondents revealed that the farm income they earn from crop production could not meet their household financial needs while only 18% were meeting all their costs from earned income. Farmers whose incomes could not meet their immediate costs attributed it to many responsibilities (53%) and larger families (24%). Those households that were able to live within their farm incomes attributed it to having smaller families and multiple income sources.

2.3.2 Farm Labour Characteristics

Agricultural activities right from production to harvesting were mainly manual with no farmer practicing mechanisation. Less than 12% of the farmers employed oxen for ploughing. The remaining activities, including sowing, planting, weeding, harvesting, threshing of millet, peeling of cassava and removal of maize grains from the cob were manually done by mainly the women, their children and, in some cases, youth. In rare instances were men reported as being involved in production cycles, especially during land clearance.

The majority of the labour force was involved in growing maize, millet and cassava while

also selling their produce directly in the markets. The growing aspects included land clearing, which was mainly done by males, especially youth and household heads. Land clearance was in most cases a preserve of men, save for a few instances where women used fire to clear grasslands before tilling. Tilling of the land was dominated by women (70%) though the youth, especially their children, were in some cases involved.

Planting or sowing was dominated by women and the youth. Some of the disabled were not able to participate in planting owing to limitations faced although able-bodied farmers were able to participate in planting activities. However, there were cases of disability, which limited participation in land clearance, planting and sowing, especially where the disabled could not walk or had lost their eyesight.

Although most men were less involved in the provision of farm labour, there were cases where family heads employed labour to do the manual work on family-owned farms. The hired labour included all age groups and both genders because whoever wanted to be employed was given an opportunity. This revealed that, although older men are reluctant to work in their family gardens, they are more willing to provide hired labour. Farmers who hired farm labour were more reluctant to hire the disabled because they perceive the disabled to be slow or, in some cases, unable to participate in some gardening activities.

Participation in farming activities was not in any way related to knowledge and skills possessed in farming. Almost all the people who provided farm labour had no formal training in agriculture, although some had attended community training sessions offered by NGOs and government extension agents. Hired farm workers were assessed on their ability to follow community farming practices or take instructions from the farm owner. It was found that most of the farmers had acquired skills in farming through participation in family gardening activities.

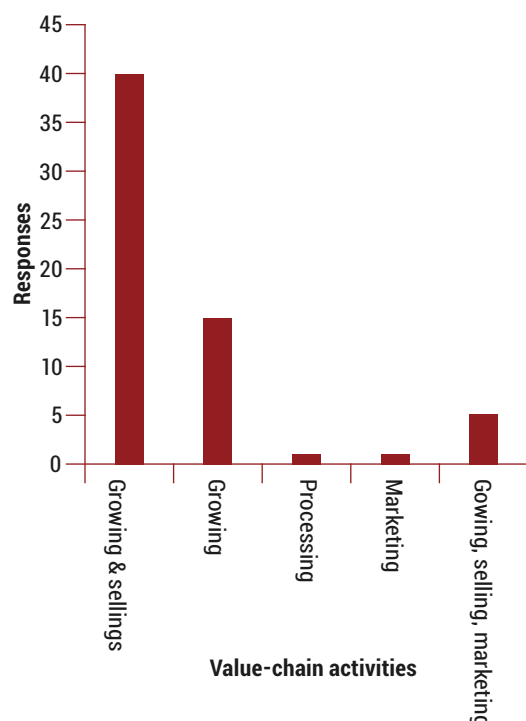


Figure 7: Skills acquired by farmers through training

Weeding of crops was done by most family members, especially women, their children and the youth. The disabled also participated in both weeding and harvesting, except those who lacked eyesight or suffered physical impairment that limited walking or other manual abilities. After harvesting, the youth, especially boys, played a leading role in transporting the harvested materials to the homesteads, either on their heads or using bicycles. Only in rare cases were vehicles or motorcycles used to carry produce from the farm to the stores. However, women with smaller gardens were more comfortable carrying their harvests on their heads to the store, especially for immediately consumed products like fresh cassava and maize. Millet was also carried by women on their heads to the drying grounds or stores.

There was almost equal participation of women, youth and the disabled in the drying of farm produce and preparations for marketing. The disabled played a leading role in the drying of maize and removing the maize seeds from the cob, to make them ready for storage or marketing.

The processing of farm produce was dominated by old men who owned the processing machinery and hired labour to do the work. However, the youth were often hired to operate machinery. Both mobile and fixed food processing equipment was observed. In two observed cases, women operated milling machines but were supported by the male youth or elderly men.

Women, youth and the disabled participated in the marketing or selling of their farm produce. However, the disabled were facing limitations and often sold their produce to mobile traders who visit households in search of produce. However, the youth often carried their farm produce to the stores or markets. Households often carried the produce on the heads to the markets but where quantities were large, motorcycles and pick-up trucks were employed to take produce to the markets.

2.3.3 Crop Losses

Over 91% of the respondents suffered crop losses due to a number of factors and different crops were affected differently.

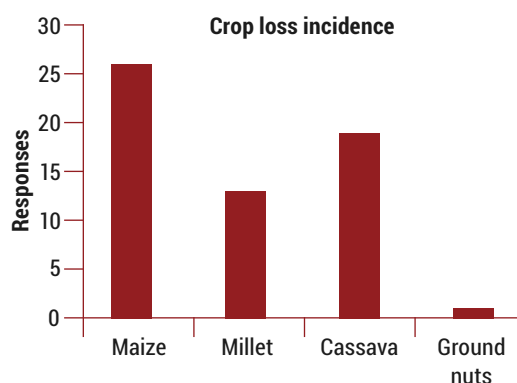


Figure 8: Severity of crop losses among different farmers

Maize appeared to be the most affected by weevils, pests and vermin, followed by cassava. Millet was the least affected of the three value chains. Groundnuts were also said to be prone to attacks by pests and diseases. The crops were affected at different stages of growth.

[STUDY FINDINGS]

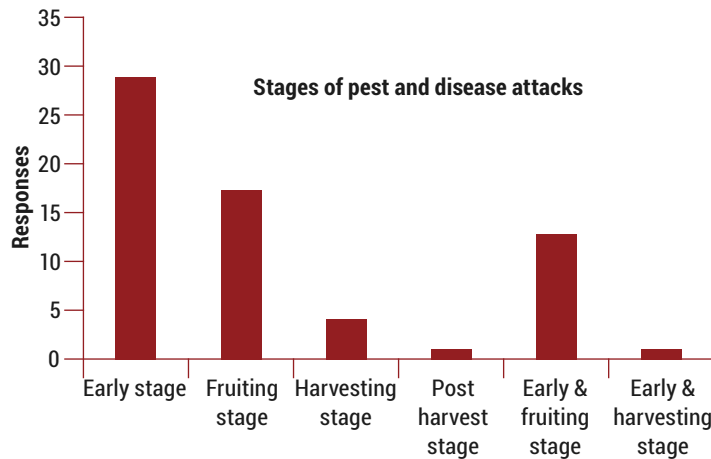


Figure 9: Vulnerable stages of crops to pest and disease attack

Younger plants were more affected by pests and diseases while post-harvest losses were registered by fewer farmers. The fruiting stage of most plants was also said to be prone to pest and disease attacks, leading to crop losses.

2.3.4 Control of Pests and Diseases

Measures taken by different farmers to address pest and disease crop attacks were varied, depending on the scale of crop production, income levels and levels of education. The majority of farmers controlled pests using agro-chemicals, especially during crop growth and storage. Pests were also said to be more rampant during the dry seasons and some farmers resorted to planting early in the rainy season so that by the time the dry season set in, the crops would be beyond the vulnerable stage.

Pesticides were reported to be expensive and out of reach for many poor farmers. Conflicts over land boundaries among different households and farming communities also limited the application of concerted efforts in controlling the spread of diseases or the control of vermin. Other reasons limiting crop protection included rising poverty levels, which were reported to limit farmers' ability to fence off their gardens and limit vermin attacks, especially by big animals.

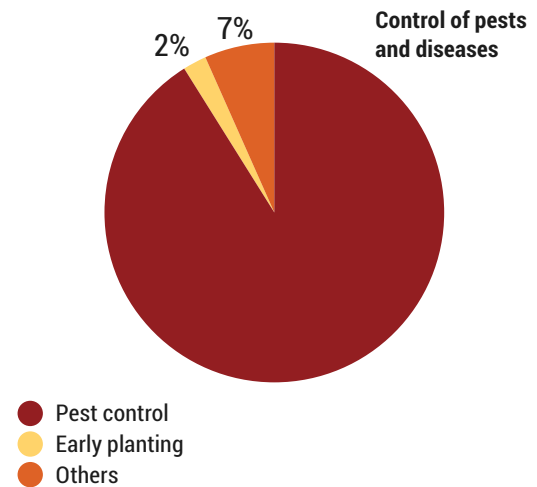


Figure 10: Crop protection options

Over 63% of the farmers revealed that crop losses to vermin, especially birds, wild and domestic animals were claiming around 22% of total harvests. However, in spite of the initiatives taken by different farmers to prevent crop losses, crop losses remained high due to limited access to agro-chemicals, conflicts among different farmers and limited knowledge of crop protection strategies.

Factors limiting crop protection

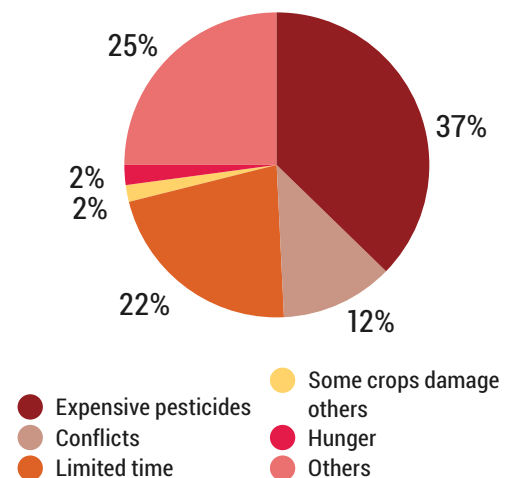


Figure 11: Factors which limit crop protection measures

2.4 Access to Agricultural Knowledge

Almost half of the labour market interventions implemented over the last decade targeted smallholder farmers. Most of these interventions focus on enhancing household incomes, commercialising smallholder agriculture and enhancing production capacity (Government of Uganda [GoU], 2014).

Most interventions tend to equip beneficiaries with skills and start-up kits for new income-generating activities. Fewer interventions aim to support the profitability and sustainability of existing enterprises, which rarely grow to employ non-family members and are often closed when more attractive opportunities emerge. A number of recent projects have provided more-targeted support to reduce unemployment and under-employment among the youth:

- a. Special programmes with a regional focus: A number of programmes have taken an integrated approach to enhance the livelihoods of households in relatively poor areas of the country, supporting income-generating activities, the provision of skills for self-employment, the accumulation of productive assets and community-based public works programmes. These programmes are managed by the Office of the Prime Minister (OPM), often with significant donor support. Examples include the Northern Uganda Social Action Fund (NUSAF) and the Karamoja Livelihoods Programme (KALIP). The Youth Opportunities Programme (YOP) under NUSAF transferred cash to groups of youths to either pay for technical or vocational training at a local institute, or tools and materials to practise a craft.
- b. Trade and market infrastructure: To support the commercialisation of the agricultural sector, government is improving the condition of market places

in urban centres across the country under the Markets and Agriculture Trade Improvement Project.

- c. A Microfinance Support Centre.
- d. Youth Livelihood Programme (YLP): This is the government's most recent project to provide youth with marketable vocational skills, financial support (interest-free loans for the implementation of approved youth projects) and relevant knowledge and information to increase self-employment opportunities and income levels (GoU, 2014).

2.4.1 Capacity-Building Institutions

A number of organisations were involved in capacity-building programmes for farmers in Abim, Lira and Soroti districts. Over 90% of farmers' trainers reached by the study were NGOs while 10% were faith-based organisations. To participate in training, farmers were mobilised in different ways. The majority of farmers (57%) were selected in their groups rather than as individuals, 36% were selected in community meetings while 7% were selected by their community leaders. The trainers equipped farmers with skills in crop husbandry, animal husbandry, tree growing and horticulture.

USAID (2014) also found that within agriculture, training among donor-sponsored programmes still tended to focus on production more than value addition and on commodities that required little capital, land and time, such as horticulture, piggery, poultry and beekeeping. USAID's assessment also found that building financial literacy and creating opportunities for young people to save were seen as critical components that helped young people generate enough capital to start small enterprises, relieving very difficult credit and capital constraints.

[STUDY FINDINGS]

Farmer training programs

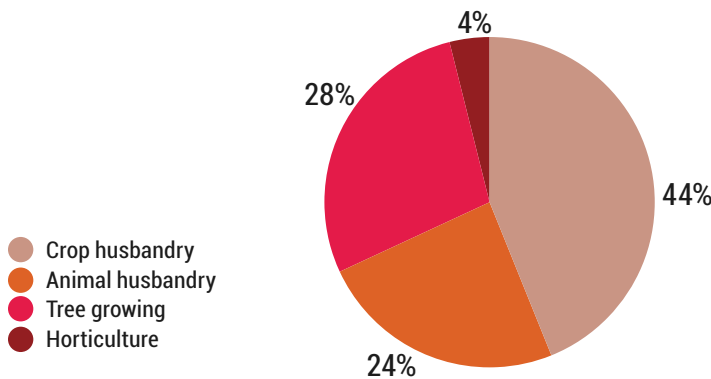


Figure 12: Modules taught to farmers during capacity-building programmes

Most of the training sessions were conducted by extension officers and community development officers. However, in many other cases, project officers, change agents and trainers of trainers (TOT) were employed. Of the trainers, 83% were trained agriculturalists while 17% had no specialised knowledge in agriculture. Of the trainer specialists in agriculture, 89% were crop science experts while 11% were animal science specialists.

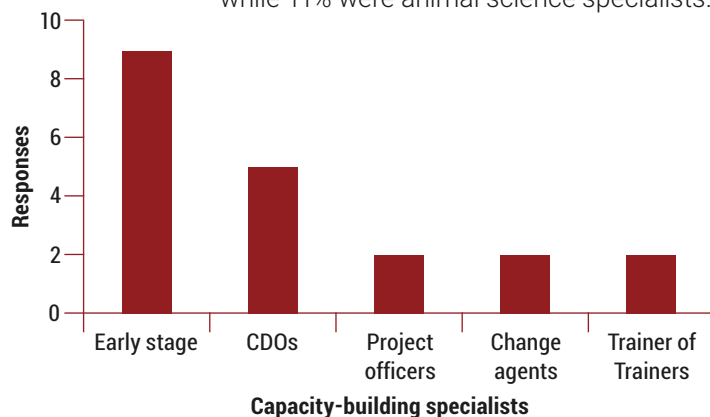


Figure 13: Personnel involved in farmer extension programmes

The academic qualifications of trainers were found to be varied among different organisations. Most trainers possessed a bachelor's degree or a diploma. However, experienced farmers were employed as trainers irrespective of the education level attained owing to their practical experience in farming.

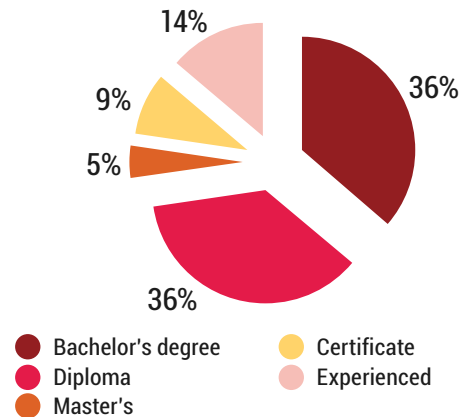


Figure 14: Qualifications of farmer trainers

Many of the trainers (90%) were targeting specific crops while only 10% were supporting all farmers involved in the various value chains.

The majority of the organisations appeared to support maize, cassava, groundnuts and beans value chains and a considerable number targeted soya beans, chilli, mangoes and oranges. There was no organisation that specifically targeted millet growers. However, millet farmers received support from non-specialised trainers who supported all farmers irrespective of the crops they grow. Most trainers provided knowledge in harvesting, land preparation, fertility maintenance, drying of food crops, post-harvest management and value addition. Most community members reported that they benefited from the training. This was in contrast to USAID (2014), which found that young women were typically not a focus of agricultural or vocational programming in either recruitment or design. Programmes with a youth focus tended to have a better balance between the sexes while women's participation rates ranged widely in agricultural programming. Constraints, especially those affecting young women's ability to participate in and benefit from programming – childcare, reproductive health, mobility, land access, and decision-making over agriculture and earnings – were largely not addressed in agricultural or vocational programming, with the frequent exception of providing space and care for children.

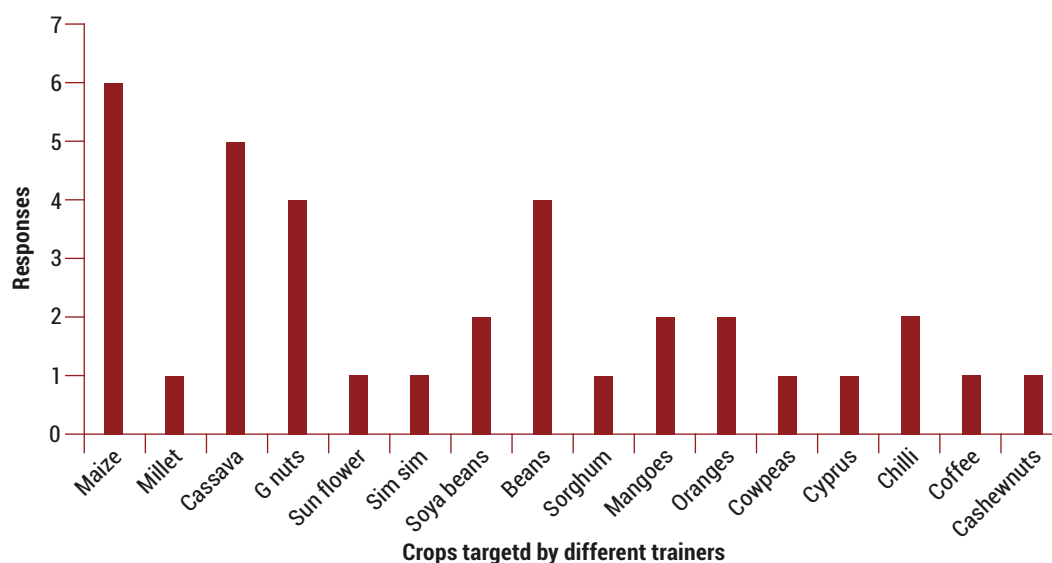


Figure 15: Value chains supported under different capacity-building programmes

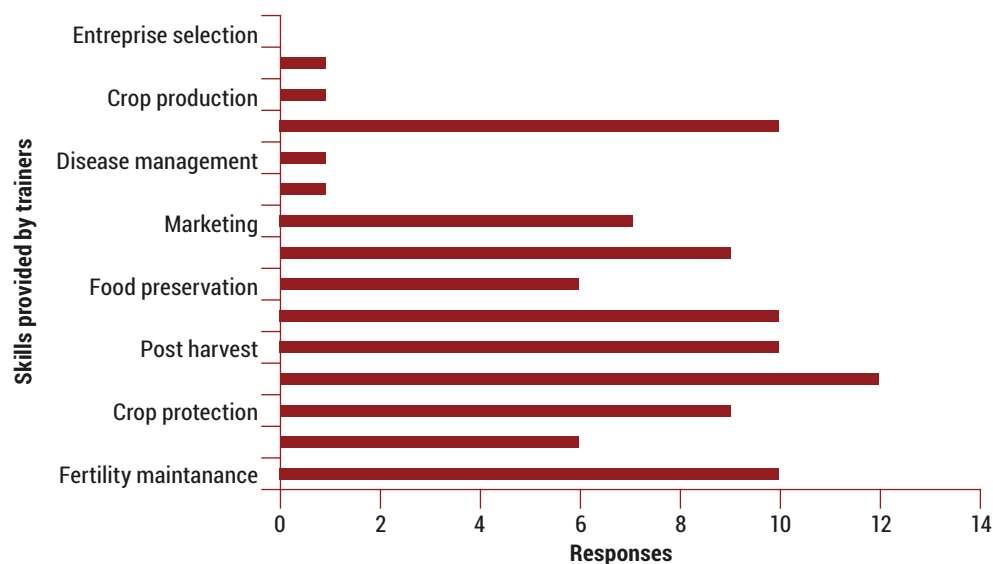


Figure 16: Skills imparted in farmer capacity-building programmes

There appeared to be a significant number of trainers providing farmers with skills in crop protection, marketing, food preservation and water harvesting. However, there was limited training in disease management, waste management and planting, which could adversely impact on the production capacities of farmers.

The teaching methods employed by capacity-building institutions were found to be varied, dominated by field visits, discussions, lectures and role play. Drama was also applied in some cases.

[STUDY FINDINGS]

Farmer teaching methods

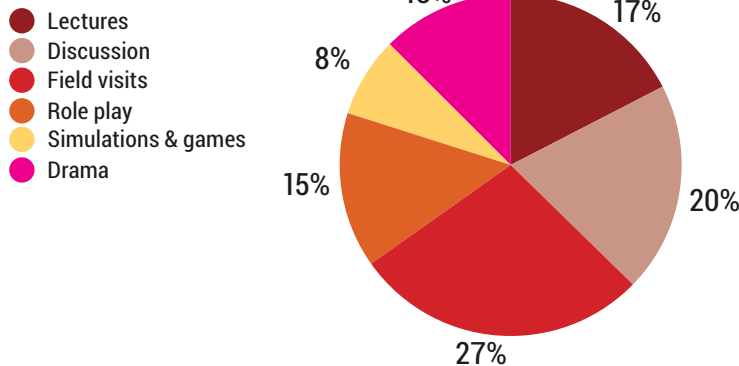


Figure 17: Training methods applied in farmer extension programmes

However, trainers reported that the most effective methods offarmer training were field visits which exposed farmers to practical work and discussions, which helped farmers share knowledge and experiences. Lectures were rated as the worst teaching method for most farmers.

The teaching materials used by trainers were mainly posters (36%), handouts (32%) and booklets (32%). Most of the training sessions were conducted under trees although, in rare cases, training was conducted on local school premises.

During training sessions, farmers were provided with booklets, posters and handouts, but in 15% of the training, no learning aids or materials assisted the farmers. Discussions and field visits were believed to be the most effective teaching methods because they enabled farmers to share experience and observe agricultural practices in progress. Lectures in classrooms were revealed to be the least effective in ensuring the learning process, especially among the illiterate farmers. Lectures were considered to be boring and full of complex terminology that peasant farmers could not comprehend. Although 77% of the farmers had observed their neighbours going to attend farming training courses, more than 61% of the farmers missed attending the training sessions because they were not informed about the training while 14% were busy with other activities.

Farmer training durations

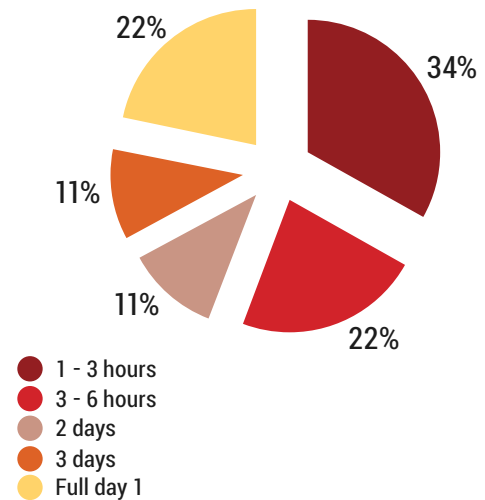


Figure 18: Duration of training sessions

Most farmer training sessions lasted between 1-3 hours while sessions lasting 3-6 hours were cited by 22% of the trainers. In some rare cases (11%), training sessions lasted between 2-3 days. The teaching resources used during farmer extension programmes included flip charts, LCD projectors and, in some cases, audiovisual aids.

Farmer training materials

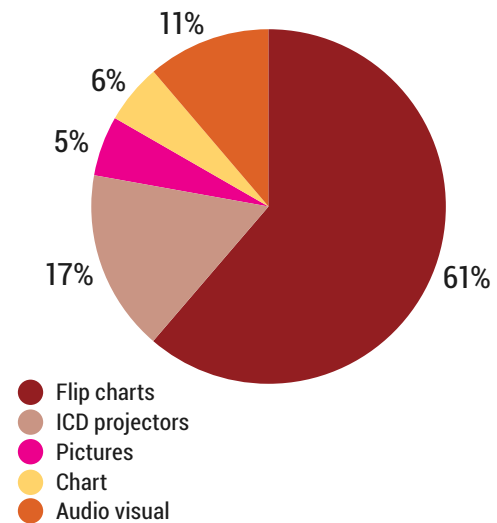


Figure 19: Teaching aids used in farmer capacity-building sessions

Whereas vocational education and training (VET) programmes for marginalised youth are credited with helping to provide practical and hands-on skills, improving employment and livelihood prospects for young people, and instilling a sense of confidence in marginalised youth (see, e.g., Currie et al., 2001; McGregor and Mills, 2012; UNESCO, 2012b; UYDEL, 2006; Weyer, 2009), they have also been found to have a number of weaknesses, especially in low-income countries like Uganda. The weaknesses include: inadequate funding and facilities; lack of holistic and multi-disciplinary delivery approaches; lack of link with and relevance to the labour market; not being flexible and innovative enough; and lack of guidance and counselling (see, e.g., Blaak et al., 2013; Jjuuko, 2012; Kibwika et al., 2010; Openjuru, 2010). Some of these weaknesses arise because the current VET is mainly supply-driven and tends to aim at producing “ready-made workers” for the market, without caring much to find out about the market.

Sustain for Life (2014) argues that there is no standard vocational training programme that can be applied across contexts, nor are there specific vocations that offer “magic bullet” solutions. Rather, the programme design that can provide practical empowerment to achieve sustainable livelihoods depends greatly on the economic context and particular needs of marginalised groups. The findings of Tukundane et al. (2015) also show that in formal VET programmes, the teaching is largely teacher-centred, mainly utilising the lecture method, with little time for practical exercises. Accordingly, the teacher-centred method of teaching with limited time for practical lessons does not allow students to master a trade or job-specific skills.

The other major issue in VET programmes is that of inadequately trained and experienced teachers. Whereas most of the teachers are graduates of technical and vocational institutes and polytechnics, many lack practical/ industrial experience and pedagogical training. Lack of public finance for physical infrastructure and equipment is one of the

major constraints on appropriate formal VET development (Tukundane et al., 2015).

VET in Uganda continues to face a range of constraints: it suffers from a cultural bias; it lacks direction and is so far limited in capacity; it is traditional in approach; and, above all, it is ineffective in impact. For historical reasons, vocational training is not well appreciated in Uganda. The white-collar syndrome is still pervasive in many strata of the population, even though the informal sector employs by far the largest number of new labour market entrants. One of the consequences of this is that the youth follow training not, in the first place, to acquire skills that address needs, but rather to get a certificate in order to get a job. The training in both public and private vocational training institutes (VTIs) is largely theoretical, with practice deferred to the period of attachments for industrial training. The training facilities are by and large inadequate, and there is a lack of qualified instructors. The curriculum, testing and certification are highly centralised. Entrepreneurship development is usually not included in the training. The cost of the training is high, especially in those vocational training centres (VTCs) that offer boarding facilities (Woltjer, 2006).

Vocational training (VT) programmes in Uganda are often criticised for their lack of responsiveness to dynamic markets conditions, leading to excessive competition in saturated labour arenas. Many existing VT programmes, including the national scheme, charge tuition fees and impose rigid admissions criteria that exclude marginalised individuals from participating. There is, therefore, a niche in VT provision that can be filled by NGOs offering accessible and relevant training of marketable skills and capabilities, thereby helping marginalised individuals secure paths to self-sufficiency (Sustain for Life, 2014).

A common critique of vocational training is its failure to link training to the job markets, thus creating a mismatch between the human capital needs of the private sector and training provision (Adams, 2008; NCHE,

2010; Nuwagaba, 2012). In order to reach an optimal fit between programme content and local market requirements, market assessment should be conducted in the design phase with the involvement of community leaders and potential programme participants (Blaak et al., 2013; Namiyingo and Mauto, 2011).

2.4.2 Training Costs

Over 86% of the capacity-building institutions charged fees for training farmers while 14% offered cost-free farmer training sessions. The fees charged by different organisations and individuals are shown in the table below.

Table 1: Fees charged for different training sessions for farmer groups

Organisation	Areas of operation (districts)	Training packages offered	Costs of training (groups) UGX
North Chilli Producers Association (NECPA)	Lira, Kitgum, Oyam, Agago, Kole, Pader, etc.	Planting procedures Land preparation	250,000 100,000
CARITAS Lira	Oyam, Apac, Dokolo, Kole, Alebtong, Otuke, Lira	Farming as a business Post-harvest handling Conservation farming Marketing Crop protection	600,000 200,000 300,000 600,000 200,000
Agency for Sustainable Rural Transformation (AFSRT)	Lira, Apac	Crop production management Value addition Waste management Marketing	500,000 150,000 300,000 400,000
SORUDA	Soroti	Crop farming Credit and savings	7,000 7,000
ToT by World Vision		Crop and animal husbandry Environmental protection Tree planting	50,000 * 80,000* 50,000*
PEP under PAG (ToT)	Soroti	Crop protection from pests and diseases Grafting Nursery bed construction	20,000-30,000 per facilitator 20,000-30,000 per facilitator 20,000-30,000 per facilitator
World Vision TOT (2)	Soroti	Water Conservation Value addition	1,500,000 1,500,000
Aridlands Development Programme	Abim, Kotido, Kaabong	Sorghum Production Beekeeping	50,000 50,000
DYOFU		General crop and tree management	15,000

Abim Women Together in Development (AWOTID)	Abim	HIV/ AIDS sensitisation	100,000
		Health, water and sanitation	150,000
		Tree planting	50,000
Share an Opportunity Uganda	Abim	Identification of good seeds	2,500,000
		Agronomy	1,800,000
		Post-harvest handling	4,500,00
		Entrepreneurship	3,000,000
		Learning visits	15,000,000

*Costs apply on a daily basis

Close to 88% of the farmers who attended the capacity-building programmes gained farming skills, 3% acquired marketing skills, while 9% were able to learn value addition, crop protection and fertility maintenance.

Most of the farmers (82%) had benefited from capacity-building programmes offered by NGOs while some had benefited from individual efforts and government programmes.

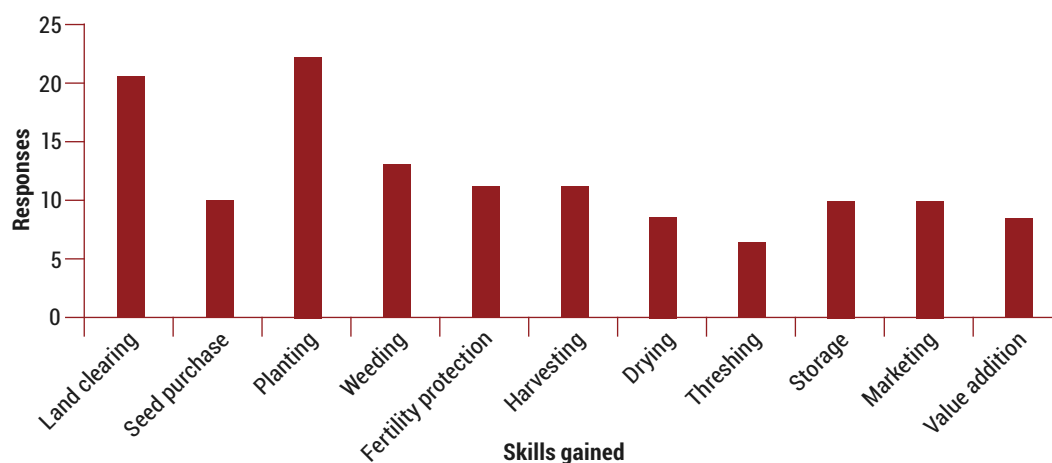


Figure 20: Knowledge and skills gained by farmers during capacity-building programmes

Farmers gained knowledge in good agronomic practices covering crops such as beans, oranges groundnuts, simsim, chilies, millet, maize and cassava.

Similarly, in its assessment, USAID (2014) found that in agriculture, typically, training centres were established to bring youth, farmers or their leaders together for intensive training for a few days at a time. Attendees then took back what they had learnt to practise themselves or became models or trainers of trainers (ToTs).

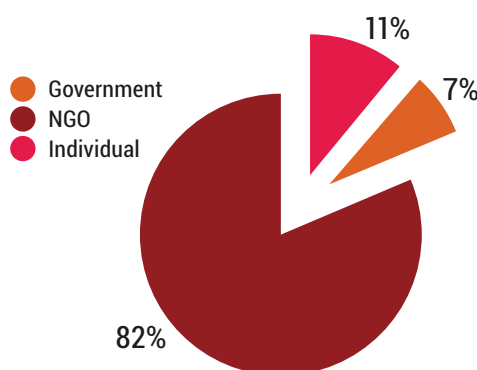


Figure 21: Affiliation of farmer capacity-building personnel

Columbia University (2008) and Sustain for Life (2014) both identified key actors in the vocational training sector in Uganda as including:

- a. Government ministries engaged in curriculum development, registration of VT centres, testing and certification of graduates, instructor training, providing financial assistance, aiding in the selection of programme participants and in education policy reform.
- b. International and local NGOs running VTIs, sponsoring participants and offering other support/complimentary training programmes.
- c. Individuals and religious organisations running private VTIs and participating in networks.
- d. UGAPRIVI, a national network of privately run VTIs.
- e. VTI providers, staff and instructors who design curriculums, train and mentor students, give feedback, sponsor participants, provide equipment and materials and provide complementary courses.
- f. Youth participants who select vocational skills, attend training, provide feedback to trainers and staff, become peer educators or mentors.
- g. District local government (DLG) officials engaged in the coordination of VT programmes.
- h. Private sector, which supports curriculum development, offers mentorship, provides apprenticeships and offers work placement.
- i. Donors who provide funds, offer technical assistance and substantially influence the structure of VT programming.

Non-governmental partners, private individuals, donors and businesses continue to play an important supporting role for government engagement in VT. GTZ and JICA are key partners in the standardisation and development of market linkages as well as instructor training. USAID, ECHO, the United States Department of Labour, alongside many other private and bilateral donors, supply

the bulk of funding for VT. The reliance of VT programmes on such support creates a tenuous situation for youth, as external funding is subject to the changing mandates and timelines of donors (Columbia University, 2008).

It was established that most of the farmers (88%) were able to understand the content delivered by the trainers while 12% could not identify with the focus of the training. Many factors determined whether learners were able to comprehend the content of the training, and these included the language of training, the availability of hands-on (practical) training, adequate explanations and other factors, such as level of education, age and the past experiences of farmers. More than 50% of the farmers who did not understand the content attributed it to lack of sufficient explanations and difficult terminology used during training.

Learning enablers

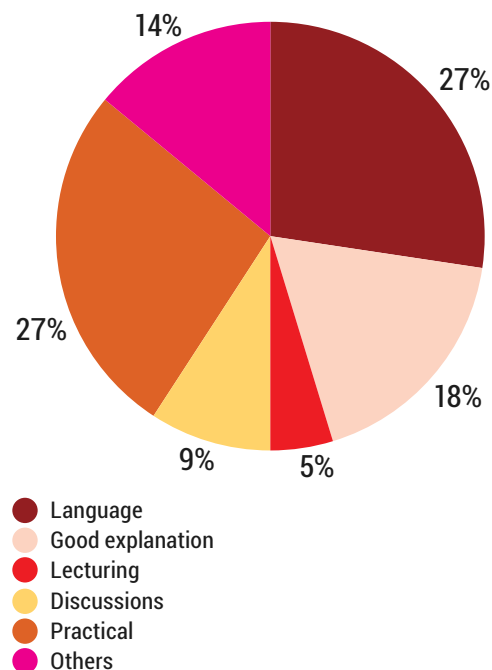


Figure 22: Factors which enable the farmer learning process

USAID (2009) has identified several VT models for PWDs, including specialised/ segregated, inclusive and employment trial/ on-the-job training. As PWDs are not homogeneous, each model may have a role to play in VT and should be selected according to clear objectives and an understanding of the local context (Sustain for Life, 2014).

writing and communication skills (Obella, 2014). Many deaf individuals rely heavily on SMS via phone networks and television as forms of communication and sources of information (SignHealth, 2009). Moreover, particular software, such as Job Access with Speech, can be utilised to ensure that training content is read aloud for the visually impaired (Perry, 2003).

Table 2: Training models for PWDs

Specialised/Segregated	Inclusive	Employment Trial/On-the-job
• PWDs trained separately • May be more able to provide for special needs • Recommended for those with "moderate and severe disabilities" • Lacks integration with society • Might not match real-world jobs	• PWDs trained alongside non-PWDs • Aims to breakdown barriers for equal opportunities • Uses flexible teaching • Market-based approach • Builds local community networks	• Mostly government-funded • Takes place at the workplace • Trials a PWD in a particular job in fixed-term contract • Or offers on-the-job learning • Less emphasis on training, more on "doing"

Adapted from USAID (2009)

A combination of models may also be used, which is particularly important for ensuring an integrated skills approach. Given that it is important for PWDs to overcome socio-economic barriers and negative perceptions, providing comprehensive class-based training of business and life skills can be significant (Nkurikiyimana, 2014). Combining this with work-based experience is important not only for skills acquisition, but also to help break down barriers between PWDs and non-PWDs, thus changing attitudes towards disability (Albu, 2005).

As accessibility is an important determinant of programme attendance, the training centre should be located near the households of participants (Cho et al., 2013). Additionally, the centre should provide accessible water and sanitation facilities (Erhard et al., 2013). In order for materials to be accessible by blind or visually impaired individuals, texts may be translated into Braille, large print or audio formats.

The use of ICT in the delivery of vocational training can facilitate different dimensions of access as well as improve participants'

Building trust and rapport is crucial when training PWDs, and may require patience and time (TrickleUp, 2013). Communication with the PWDs' families is important in this regard and should be done with the involvement of participants (TrickleUp, 2013). Efforts to strengthen the voice of participants through life skills training may also support the PWDs in demanding fair treatment and equal pay in the workplace.

The programme should support graduates in their efforts to obtain financial credit, given the existing barriers that they encounter in accessing such services (Nganwa et al., 2003). Though PWDs face significant socio-economic disadvantages in Uganda, particularly in the labour market, they can achieve self-sufficiency through effective VT provision (Albu, 2005). VT programmes should not only focus on training, however, but also work actively with the local community through awareness-raising activities to tackle prejudice and discrimination against the disabled (TrickleUp, 2013). Sustain for Life (2014) proposed a guide to effective vocational training for different categories of participants as follows:

Table 3: Proposed guide for effective vocational training

Target	Programme design	Programme implementation	Monitoring and Evaluation (M&E)
PWDs	• Provide accessible facilities and training materials • Ensure trainers have expertise in special teaching materials • Communicate with families to build trust and rapport	• Consider a hybrid model of class-based and workplace training with different combinations of "segregated" and "inclusive" approaches • Offer life skills and business skills courses • Consider involving ICT for innovative training practices	• Support graduates in accessing credit • Engage in awareness-raising to address stigma and facilitate integration into labour market
Youth	• Assess nearby urban centres to identify pertinent vocational skills • Address opportunity costs by providing food rations, facilitating transport, adopting a learning-while-earning approach and ensuring flexible schedules • Identify participants through social workers, parents, leaders, peers and self-referrals	• Emphasise HIV/AIDS prevention and education on risk behaviours (for participants and artisans) • Offer psychosocial support and life skills counselling on healthy livelihood practices • Provide rehabilitation and basic healthcare for those exiting from exploitative or unhealthy livelihoods • Utilise peer educators to counteract risks of peer pressure	• Conduct regular visits to work-based training to assess safety and satisfaction • Engage in community awareness-building of the consequences of child prostitution • Consider high mobility of urban youth when conducting follow-up with graduates
Skills training in general	• Conduct market assessment to link training content to market needs • Address binding constraints on participation ◦ Access ◦ Opportunity costs ◦ Stigma • Involve participants in selecting courses and identifying artisans • Adopt a self-sustaining business model to ensure that the programme is sustainable and free	• Adopt an integrated skills training approach; complementary skills to consider include: • Business Skills • Life Skills and Counselling • HIV/AIDS Education • Agricultural Skills • Conduct all training and activities at a one-stop training centre • Combining class- and work-based instruction • Harness peer-to-peer education for sensitive topics	• Monitor participants regularly, especially at the workplace training, to prevent dropout • Support labour market integration of graduates through start-up kits, loans or grants and follow-up counselling • Identify potential peer educators through follow-up of graduates

Source: Albu (2005)

2.4.3 Farmer Benefits From Training

The farmers who attended training sessions reported improvements in planting practices, crop spacing and crop rotation and some gained a number of skills in animal and crop husbandry.

Improvements from training

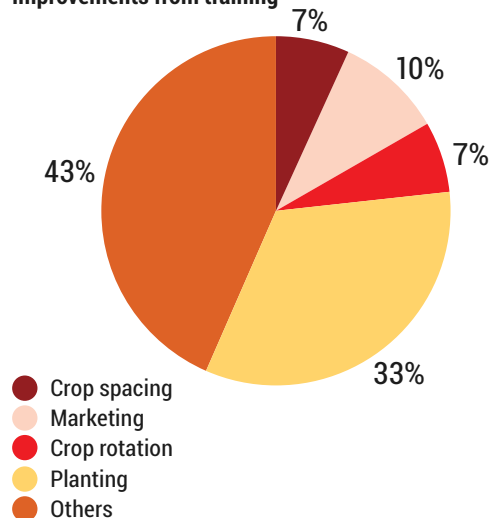


Figure 23: Benefits to farmers who attend training programmes

However, not all farmers realised their expectations from the training courses they attended. More than 87% of the farmers interviewed revealed that many of the ideas they hoped to acquire from the training sessions were not realised, especially marketing skills, agricultural produce quality maintenance and soil fertility maintenance.

Skills that farmers missed from trainings

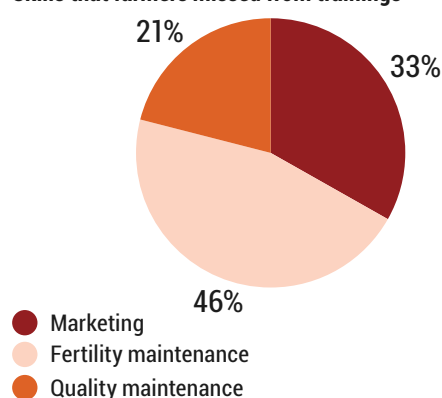


Figure 24: Skills that some farmers missed during training programmes

It should be noted that the mainstream skills development in Uganda is through the formal education system. Technical and vocational education in Uganda begins with post-primary education and training (PPET) and includes tertiary institutions awarding certificates and diplomas. These are meant to be an alternative for school-leavers who do not proceed on the main academic pathway through secondary to university. Currently, these institutions are categorised as Business, Technical, Vocational Education and Training (BTVET) (GoU, 2011). The BTVET system is based on certificate and diploma programmes, with a few short course or informal training programmes available to youth. Informal programmes were most likely to be funded by donors and donor programmes were most likely to be shorter than non-certificate courses offered by institutions. These short programmes, however, revolve around very narrow and targeted topics, mostly in terms of best practices, and are conducted on demonstration plots. Schools rarely make their course content public and it is unclear what standards underlie many BTVET competencies (USAID, 2014).

Through the lens of agricultural modernization, and especially the emerging concept of “value chains”, USAID (2014), in its assessment, found anecdotal demonstration of good and promising skills development programmes – some governmental, some private – yet very little collective evidence of an effective system for preparing young people for work. Tukundane (2014) also found a need to improve the pedagogical and didactical practices in VET for marginalised youth. The teacher-centred and transfer-of-learning approaches currently used in VET do not adequately prepare young people for the labour market and livelihood opportunities. More learning-by-doing, collaborative learning and industrial training should be integrated into the current pedagogy to enrich the learners’ experiences so that they can measure up to the tasks they are given later in the labour market (Tukundane, 2014).

In its assessment, USAID (2014) found that, taken together, the “skills side” of the equation is still relatively weak with respect to youth involvement in agriculture. Indeed, the assessment established strong agreement that to have successful agriculture-oriented livelihoods and enterprises, young people need to have at least threshold levels in several skills, including literacy and numeracy and credit and financial services, among others. While USAID (2014) found various institutions that offer certificates or diplomas and short programmes, it also found that they revolve around very narrow and targeted topics – mostly in terms of best practices.

Many BTVET institutions run below capacity. Important groups of citizens do not benefit fairly from BTVET provision. In particular, low-income groups tend not to participate because of high fees and high opportunity costs caused by long training durations. Young people who dropped out of school before completing primary school, constituting almost half of the youth, were not addressed at all until 2010 when the Non-Formal Training Programme (NFTP) was initiated. Females account for only about one-fourth of public BTVET enrolments, and are concentrated in traditional female occupations. PWDs, who constitute around 16% of the population according to the most recent National Household Survey, are virtually excluded from training opportunities in the public system. Adults have few avenues to upgrade or learn new skills. Persons living in Karamoja and the northern region have considerably fewer opportunities to acquire skills through training programmes (GoU, 2011).

In this respect, Adam (2012) concluded that the BTVET system is not sufficiently responsive to the needs of the labour market. The quality of many of the existing training programmes is not appropriate to meet the standards required in the formal and informal

sectors of the economy. Furthermore, the system is not accessible to important groups, including primary school dropouts, job seekers and employed people who wish to upgrade their qualifications.

2.4.4 The Business Case for Skills Development

Farmers who participated in different training programmes acquired skills that enabled them to improve their agricultural practices and produce marketing. Through capacity-building programmes, farmers are better positioned to thrive on agriculture, which has enhanced livelihoods through improved food security and farm incomes. Based on the findings, the positive correlation between the skills imparted and the improvements reported among farmers strengthen the case for building the capacity of farmers. Nonetheless, correlating gains from the training with financial costs calls for the documentation of the skills acquired, tracking the application of the knowledge and skills gained and the monetisation of improvements in agricultural farm outputs.

As the study points out, private actors, especially business entities and NGOs, as opposed to public institutions, are more actively involved in capacity-building for small-scale farmers. The private entities operate as businesses and work to maximise the return on their investment. As a result, the costs they charge in exchange for the services offered prevent many poor households from attending capacity-building programmes. Given the significance of agriculture as the source of livelihood for many households, the government retains a vital and irreplaceable role in shaping and supporting the capacity-building programmes for farmers in the context of national priorities for economic transformation. Investing in empowering small-scale farmers in Uganda is in the interest of the economy and has legitimate claims on public financing.

2.5 NGO Support to Farmers

Over 89% of the respondents acknowledged having NGOs operating within their areas of residence while 11% had no NGOs

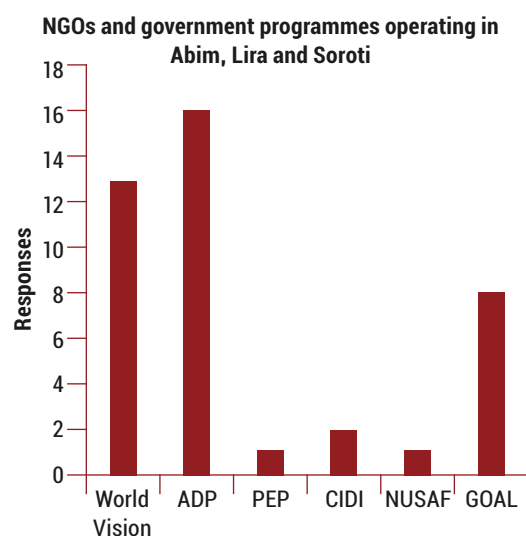


Figure 25: Farmer-support NGOs in Abim, Lira and Soroti

operating. Over 99% of the respondents had not witnessed any government interference in NGO operations within their areas and believed that NGOs were operating freely to their full capacity.

ADP, World Vision and GOAL appeared to be the dominant NGOs supporting farmers in the study areas, while others, such as PEP, CIDI and government programmes like NUSAF, were reported to be also actively involved in supporting farmers.

USAID (2014) also identified the following select donors and programmes which are supporting farmers in northern Uganda:

Table 4: NGOs working in northern Uganda, Karamoja and Teso sub-regions

Donor/ Programme	Programme Type	Partners	Districts/Regions
DFID	Vocational, agricultural, business/finance training	AgDevCo, UNICEF, VSO, Enterprise Uganda, VTIs	In the north
Dutch Embassy	Agricultural, business/finance training	IFDC, Wageningen University, Rabobank, DFCU, ICCO, research institutions, smaller seed dealers	Northern Uganda
EU	Leadership/governance, vocational training	Swiss Contact – Germany, ADRA Denmark, War Child Holland, Concern Worldwide, AVSI, World Vision, Plan International - UK	Karamoja sub-region, Amolatar, Apac, Lira, Oyam
GIZ	Vocational, agricultural, business/finance training	GoU, private companies (in utilities), banks (Bank of Uganda, Centenary Bank)	Karamoja
JICA	Agricultural training	MAAIF (NAADS), Universities, African Development Bank (irrigation), Namulonge (rice research and extension)	North

KOICA	Agricultural training	GoU, especially Ministry of Agriculture	Agro-processing – covers all regions of Uganda, but especially Soroti, Iganga, Bugiri, Kibaale, Hoima and Masindi
MasterCard Foundation	Vocational, agricultural, business/finance training	BRAC, CRS, Habitat for Humanity, International Child Development Initiatives, Microfinance Transparency, Opportunity International, Opportunity International Canada, Save the Children, SEEP Network, Swisscontact, Technoserve, UNCDF Youth Start, University of Minnesota, Water.org	Countrywide
World Bank	Vocational and agricultural training	GoU, (DFID mentioned for NUSAF)	National through GoU but Agricultural College in Bukalasa will be the agricultural training hub
aBi Trust	Vocational, agricultural, business/finance training	Many bilateral funders, YSA, ACODE, Centenary Bank, PSFU, banks, businesses, producer organisations, trade groups	Lira, Oyam
SNV	Vocational and agricultural training	Some agricultural funding from IFAD, UNICEF	West Nile region
Mercy Corps	Leadership (conflict mitigation), vocational, agricultural, business/finance training	USAID, USDA (working on MasterCard, CIDA), Restless Development, financial sector, agribusinesses (especially inputs), farmer groups, VTIs	Concentration in the north – Acholi, Karamoja
Save the Children	Vocational and agricultural training	Schools, VSLAs, local community, VTIs	North-eastern, northern
ICCO – AgriSkills4U Project	Agricultural and business/financial training	BTVETs, private sector companies, DIT (evaluation), connecting with other Dutch-funded activities (seeds, value-chain, IFDC catalyst farmers)	Lango, Acholi
Youth Entrepreneurship Facility	Vocational and business/financial training	MGLSD, ILO (funder)	Focused on urban areas of 11 districts of Lira, Oyam, Soroti as well as Arua, Gulu, Jinja, Kampala, Kitgum, Nebbi and Zombo
Forum for African Women Educationalists	Vocational training	MGLSD, Forum for Education NGOs in Uganda, MoES (on Gender Task Force), UNICEF, Plan Uganda	Country wide
Kilimo Trust	Agricultural and business/financial training	Private sector businesses, BMGF, CTA	Countrywide

2.5.1 NGO-Supported Activities

Most NGOs appeared to be supporting agricultural activities, although some farmers cited education and health as other NGO-supported interventions. Over 57% of the respondents revealed that many NGOs were specifically targeting farmers, while 43% said that the NGOs they knew were generally supporting all people in need.

Activities supported by NGOs

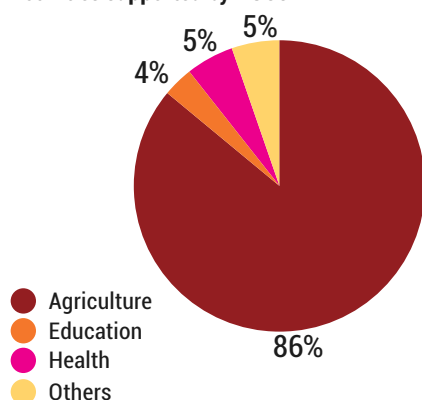


Figure 26: Activities supported by NGOs

The benefits to farmers from NGOs included skilling, the provision of agricultural inputs and making marketing information available. Many NGOs targeted farmers but also a significant number supported every member of the community. Only 57% of the respondents knew NGOs that specifically target farmers while 43% knew NGOs that deal with every community member.

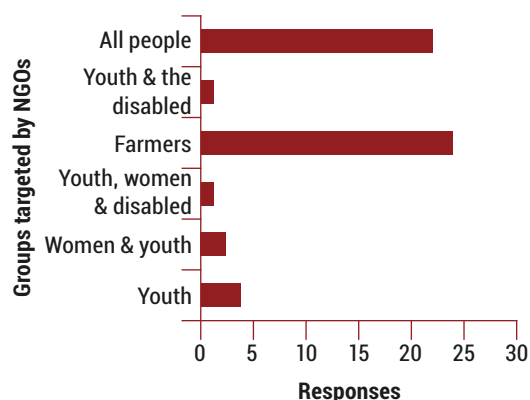


Figure 27: Categories of people supported by NGOs

Although NGOs were said to be facilitating a number of farmers in the study areas, a number of key farmers' needs and requirements were reported to be missing from the available farmer-support interventions.

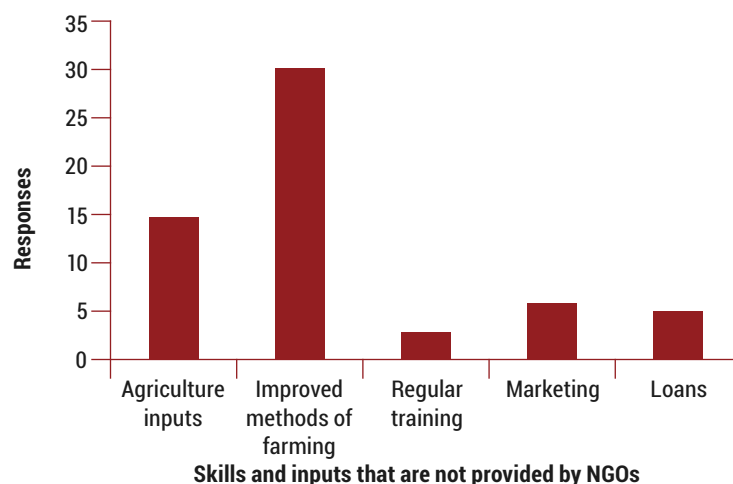


Figure 28: Technical and logistical support that NGOs extend to farmers

2.6 Government Interventions

Through interviews with political leaders and technical staff in the different districts, it was established that there were farmer-support programmes that were conceived and implemented. The district planning committees were reported to be responsible for development of farmer-support programmes. Technical support to farmers was provided by agricultural officers, extension staff, community development officers (CDOs) and veterinary officers. Some of the agricultural programmes in the districts were developed by district authorities with no involvement of farmers, although in some cases, the farmers reported having been consulted on their priorities. The programmes locally developed addressed issues related to tree planting, crop production, produce marketing, post-harvest dynamics, animal production, beekeeping and aquaculture.

The farmers who participated in different agricultural programmes conceived at district level were selected based on existing groups and stakeholder participation, while sometimes selection was reported to have

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been conducted randomly. In some cases, announcements were made on radio stations and places of worship, calling on locals to participate in pending activities. It was established that there were specific programmes targeting the youth and PWDs.

Over 44% of the farmer respondents reported that they had not seen any government programme in their area supporting farmers, while 56% knew of government programmes such as NUSAF, NAADS and OWC which helped farmers improve their production capacity.

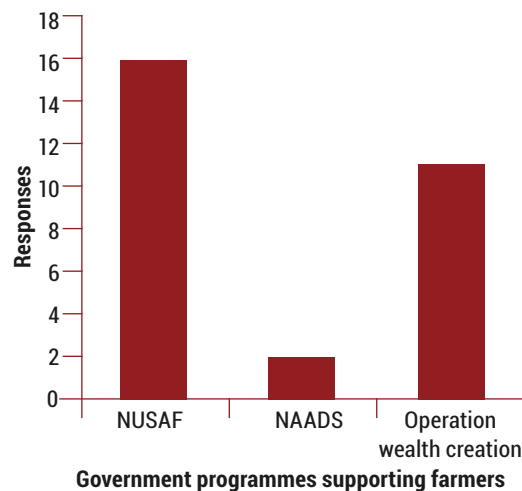


Figure 29: Government programmes supporting farmers

From the study responses, NUSAF stood out as the most dominant government programme which benefits many farmers, closely followed by OWC.

2.6.1 Northern Uganda Social Action Fund (NUSAF)

NUSAF II is a Government of Uganda project established as a transitory tool and funding mechanism to assist the north to catch up with the rest of the country in matters of development (NUSAF, 2008). The World Bank injected US\$100million (UGX 240billion) into the second phase of NUSAF II as part of the Peace Recovery and Development Plan (PRDP). The money, which is part of the US\$325 million social development initiative

towards Uganda's economy, comes after the first phase of the NUSAFI project that was dogged by corruption, among other things (GoU, 2008).

NUSAFII had two major components, namely: (a) Livelihood investment support (LIS), whose objective was to improve access to income-earning opportunities among the target households. It also had two sub-components which included (i) household income support and (ii) a public works programme (PWP). LIS supports income-generating activities and the development of livelihood skills for youth, while PWP supports labour-intensive community investments such as opening up of access roads. (b) Community Infrastructural Rehabilitation (CIR), which had the objective of improving access to better basic socio-economic services in the target areas. Under this, the communities were able to build classrooms, teachers' houses, health centres, health workers' houses and boreholes, among others (GoU, 2010).

The NUSAF II implementation mechanism was through group formation. The criterion was that communities expressed interest in being funded. NUSAFII facilitators or CDOs then visited the communities where an Extended Participatory Rural Appraisal (EPRA) was used in supporting the communities to generate project ideas. This process took not less than seven days before communities narrowed down to a crucial need that would then constitute a project. Through the wealth-ranking method, the community identified the poor households that would benefit. Each of these poor households identified then selected one representative to be a member of the community interest group of 10-15 members, where at least 50% of the members of the Community Interest Groups (CIGs) had to be women. This system worked well in identifying the real community needs and provided appropriate solutions to the needs. The beneficiaries were carefully selected in accordance with the conflict/post-conflict situation and in response to the human capital challenges of the region.

These challenges included building incentives and opportunities for youth, who would otherwise be attracted into rebellion (World Bank, 2009).

An impact assessment of NUSAF II conducted by the Danish Refugee Council, the World Food Programme (WFP) and Danish Demining Group in Karamoja in 2013 found that the manner of implementation of NUSAF II did not meet the needs of PWDs to some extent, particularly the deaf and the visually impaired. Consequently, the impact assessment noted, this significantly undermined the participation of PWDs in the programme. The assessment reported challenges with communicating and accessing information among the deaf and the visually impaired participants and with no evidence of reasonable accommodation.

Concerns were also raised with regard to a lack of community ownership and, therefore, sustainability of the services and products provided to them. These perceptions were supported by quantitative results that showed that larger percentages of respondents from all surveyed regions (47.7%) were not satisfied at all with government efforts in response to their economic needs (International Alert, 2013).

2.6.2 Operation Wealth Creation (OWC)

OWC is a presidential initiative aimed at improving the livelihoods of the rural farmers (ACODE, 2015) through a partnership between NAADS and the Uganda People's Defence Forces (UPDF). OWC was tasked to sensitise and mobilise farmers to engage in commercial agricultural activities. It distributes planting and breeding inputs, post-harvest and bulking equipment and processing equipment to farmers. OWC operates in 18 zones, namely: Acholi, Ankole, Bugisu, Bukedi, Bunyoro, Busoga, Kampala, Karamoja, Kigezi, Lango, Madi, Masaka, Mengo, Mubende, Rwenzori, Sebei, Teso and West Nile. It is operating in all the 112 districts and operations all the way down to

the constituency level (Ministry of Defence, 2016). The UPDF structure under OWC has three levels: national, regional and constituency. The national and zonal levels have the overall oversight function of OWC in terms of planning, execution and supervision while at the constituency level, the OWC officers work in close collaboration with the district local governments. An often heard criticism of this strategy is that the military lacks the expertise to carry out effective extension in the sector (ACODE, 2015).

According to the Government of Uganda (2015), in line with the Standing Orders of Procedure for OWC, the programme focuses on two key areas:

1. Provision of strategic interventions – planting and stocking materials; value addition; tractorisation and mechanisation; water for production focusing on small-scale irrigation; and
2. Streamlining the output marketing structures – farmer cooperatives and institutions; post-harvest handling and marketing.

The lead agency in the implementation of OWC is the Office of the President, including the UPDF officers; MAAIF and its agencies; OPM; DLGs; and Members of Parliament (MPs). In FY 2014/15, inputs were distributed through two key channels: the NAADS Secretariat to DLGs and Uganda Coffee Development Authority (UCDA) through private nursery operators (GoU, 2015).

2.6.3 National Agricultural Advisory Services (NAADS)

The NAADS programme started following an Act of Parliament passed in 2001 and has two project phases to support a 25-year vision. NAADS was designed based on five major components: 1) Advisory and information services to farmers; 2) Technology development and linkages with markets; 3) Quality assurance; 4) Private sector institutional development; and 5) Programme management and monitoring (Nahdy, 2002).

The initial seven years for the first phase covering FY2001/2002 - 2007/2008 was estimated to cost US\$108 million (ACODE, 2015). The Government of Uganda since 2001 has been implementing the NAADS programme to increase farmers' access to knowledge, information and technology. The first phase ended in June 2010. The second phase (2010/11-2014/15) commenced but the programme was restructured before completion following a cabinet directive to address the key constraints of: inadequate inputs and technologies at farm level; delayed procurements; high costs of administering the programme, and corruption (GoU, 2015). NAADS was said to have been dominant in the past but is less active on the ground now, with its roles limited to the procurement of agricultural supplies, while OWC carries out the distribution and outreach activities.

2.6.4 The Government's Direct Support to Farmers

The government programmes were reported to be mainly providing agricultural inputs and equipment like seeds, seedlings, hoes, pangas (machetes). Other farmers, however, revealed having benefited from financial support in form of grants and loans to improve on their farming practices.

Support provided by government programmes

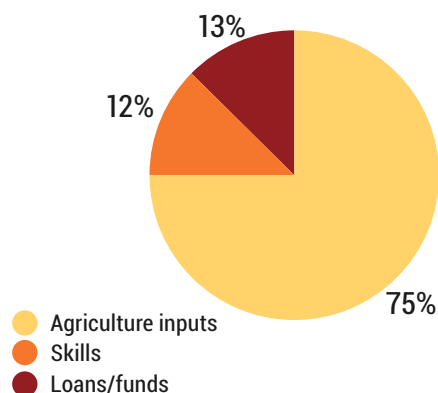


Figure 30: Technical and logistical support that the government extends to farmers

The government programmes were also reported to be equipping farmers with skills in animal and crop husbandry.

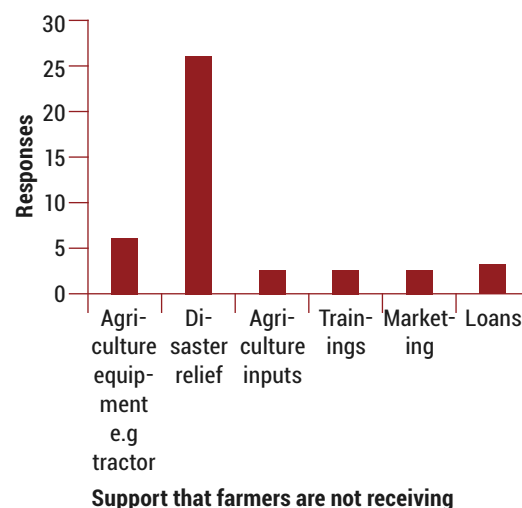


Figure 31: Support which farmers expected from government programmes but was not provided

However, farmers revealed that government programmes are falling short of their expectations because a lot of farming necessities are not provided as had been anticipated. The majority of the farmers felt that the government was not doing enough to aid farmers during periods of disaster, such as crop failure. Many farming communities had also asked for equipment like tractors but it was not forthcoming. Some farmers had applied for loans but they were not successful. Provision of marketing skills also featured as a failure of government programmes because many farmers were stuck with their produce owing to lower prices and high costs of transport. Other farmers reported that they could not access market information and depended on middlemen, who exploited their ignorance.

Buyinza et al. (2015) found that delayed release of government funds was hindering government extension service delivery. Poor facilitation of extension personnel (especially the technical advisory service providers) was also reported as a key challenge. Other reported challenges, according to Buyinza et al. (2015), faced by Uganda's agriculture extension included low agriculture technology adoption levels by the farmers and poor storage facilities for harvested produce.

Similarly, the National Agriculture Extension Strategy (2016) highlights the challenges facing extension services in Uganda. It reveals that the agricultural extension service in Uganda is fragmented and uncoordinated. The diverse players involved in the delivery of agricultural extension operate largely independently of each other and, in some cases, their operations are unknown and unrecognised.

2.7 Farmers' Associations

Over 54% of the farmers were found to belong to farmer associations and groups, whereas 46% were not associated with any farming group. Through associations and groupings, farmers accessed training and were able to receive group loans and could easily market their produce as groups, hence attracting higher prices. Farmers that did not belong to any group were more likely to miss out on credit facilities and better produce prices through bulk sales that were only possible in groups.

2.8 Opportunities for Dialogue and Dissent in Skills Development

The Uganda Association of Private Vocational Institutions (UGAPRIVI) is an umbrella organisation for private training institutions (UGAPRIVI, 2006). It includes vocational training centres, VTIs, vocational training schools, vocational secondary schools and technical schools (AfDF, 2005). UGAPRIVI was formed to improve the quality and image of private vocational institutions and to strengthen the sector as a whole. Its main aim is to foster collaboration between private vocational institutions around the country and to improve, not just the standards of the training provided, but also its relevance for the actual employment market (UGAPRIVI, 2006).

Woltjer (2006) found that within PEVOT (Promotion of Employment-oriented Vocational Training), which is coordinated by the Ministry of Education and Sports (MoES) and by German Technical Cooperation (GTZ),

UGAPRIVI, as representative of the private vocational training providers, forms a firm component and cooperates with GTZ on the implementation of the UGAPRIVI academy for teachers and instructor upgrading. The ADB works closely with other donors as a member of the Education Funding Agency Group (EFAG) within the framework of the Sector Wide Approach (SWAp) in support of the implementation of the Education Sector Strategic Plan – 2004/2015 (ESSP-II). Assistance to the sector is agreed upon and presented in the form of an annual Budget Framework Paper to guide decisions on target spending and budget ceilings per sub-sector (AfDF, 2005).

The donor agencies currently involved in projects more closely related to skills development are German Development Cooperation (GTZ) and JICA. GTZ, in co-operation with other German agencies like DED and KfW and within the framework of PEVOT, is implementing a programme of cooperation that involves: support to public and non-public BTJET institutions; support to instructor/teacher training institutions; support to the UVQF Secretariat and the setting up of an assessment infrastructure for the framework; and the establishment of an information and communication platform for the BTJET sub-sector. The German agencies are also involved in the progressive training and upgrading of instructors of private training institutions through a series of well-targeted ToT programme as part of its support to UGAPRIVI (AfDF, 2005).

In a joint effort, the National Union of Disabled People of Uganda (NUDIPU) and APT Enterprise Development implemented the Improving Business Development Services with Disabled People in Northern Uganda Project. Between 2001 and 2004, the project aimed to support PWDs in securing mainstream employment or self-employment through vocational training provision. Vocational training was provided in vocations such as electronics repair, welding and mushroom cultivation. Ultimately, most participants made improvements in economic self-suffi-

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ciency. Numerous challenges were encountered, such as matching trainers' expectations of fees with participants' ability to pay. Moreover, the programme failed to influence microfinance institutions to facilitate easier acquisition of loans for PWDs, highlighting the deep-rooted discrimination against PWDs (Sustain for Life, 2014).

2.9 Marketing of Farm Produce

Over 93% of the farmers reported to have sold some of their agricultural produce to generate income because they produced in excess of what they needed for consumption. Other farmers produced little but still sold it to raise income for other household needs. However, 7% of the farmers could not sell any of what they produced because they did not even have enough for consumption. Over 59% of the farmers reported selling their produce in markets while 41% sold to local businessmen and brokers.

Most farmers (92%) revealed that better prices were found in markets where the products are sold directly to consumers rather than with businessmen who also take the produce to markets. Other farmers revealed that local businessmen were cheats and offered lower prices. However, some 8% of the farmers reported that they were able to negotiate competitive prices with local businessmen. Many farmers were faced with the problem of high transport costs, which limited market access. High transport costs were associated with the poor road network, with the roads being impassable during rainy seasons. Other farmers reported facing long distances of travel to towns or markets where prices were higher.

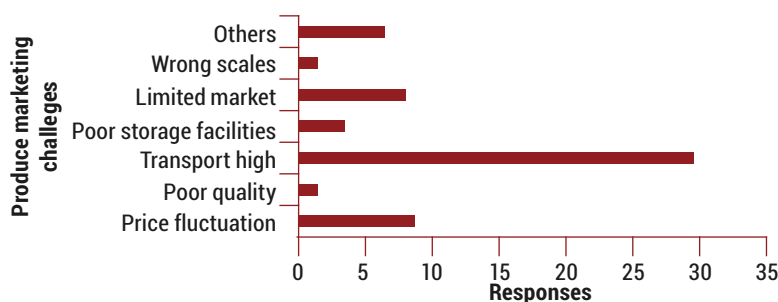


Figure 32: Challenges of marketing produce in Abim, Lira and Soroti

Farmers lacked essential logistics for production and marketing. Transport facilities were poor and, in some cases lacking, with many villages being inaccessible by vehicles. Storage facilities were reported to be poor, leading to produce quality loss, which resulted in lower market prices. Local businessmen were also said to be deliberately using malfunctioning weighing scales with the intention of cheating farmers and many farmers had fallen victim. Price fluctuations and limited markets were also cited as challenges to many farmers, mainly attributed to seasons when there is over-supply, especially of perishable produce.

2.9.1 Commodity Supply and Demand

Over 56% of local people consumed maize while 22% were dependent on millet and cassava for their household food requirements. This certainly followed the market trend observed where over 50% of the traders dealt in maize, 27% traded in cassava and 22% in millet. It would, therefore, appear that, of the three value chains which the study focused on, maize is most demanded by both traders and consumers, although cassava and millet also have a large number of consumers.

Maize was mainly sold as grain which was convenient to store and sell when prices stabilise. Other products, such as fresh and dried maize cobs as well as maize flour, attracted market demand.

Support provided by government programmes

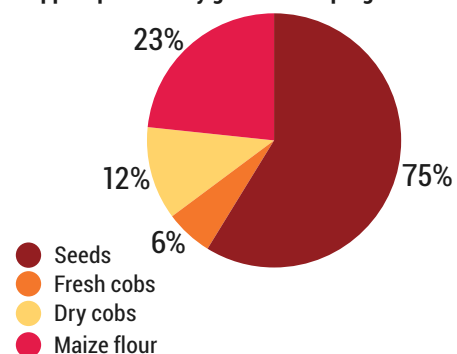


Figure 33: Maize products on demand by traders and consumers

All consumers and traders purchased millet mainly as dried millet grains ready for milling, while cassava was demanded in both its fresh and dried forms.

Demand for cassava products

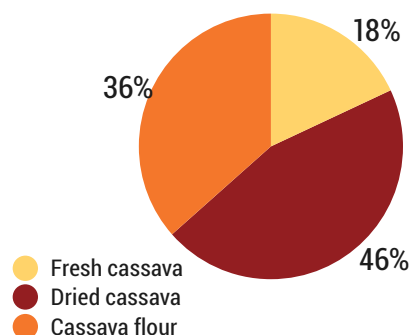


Figure 34: Cassava products demanded by traders and consumers

2.9.2 Less Demanded Food Types

Fresh cassava topped the list of foods that most consumers were reluctant to buy and this was attributed to its quick perishability. Fresh maize cobs and fresh millet fingers were also least demanded because fresh maize was said to lose taste very fast while fresh millet was found to demand a lot of time and labour to process into a consumable state.

2.9.3 Commodity Prices

It was established that a kilogram of maize seeds ranged between UGX 800 and UGX 1,800, with the mean price at UGX 1,400, while maize flour ranged between UGX 1,300 per kg and UGX 1,500. The price of dried cassava pieces was UGX 1,200 per kilogram, while a basin of dried cassava went for UGX 25,000. The cost of processed cassava flour ranged between UGX 1,500 and UGX 1,800. Dried millet seeds cost between UGX 1,200 and 1,500 while millet flour was quoted at 2,500 per kilogram. It would, therefore, appear that, in terms of prices quoted per kilogram, millet was the most expensive crop of the three value chains, followed by cassava and maize. The significant increase in the prices of processed foodstuffs implied high potential for value addition. It was also revealed that there is a programme called Production Purchase (PP) under WFP where WFP buys all the crops grown by farmers, and that under this programme, cassava is highly demanded.

2.9.4 Effect of Quality on Prices

All traders and consumers were offering higher prices for good-quality foods and offering lower prices for poor-quality foods.

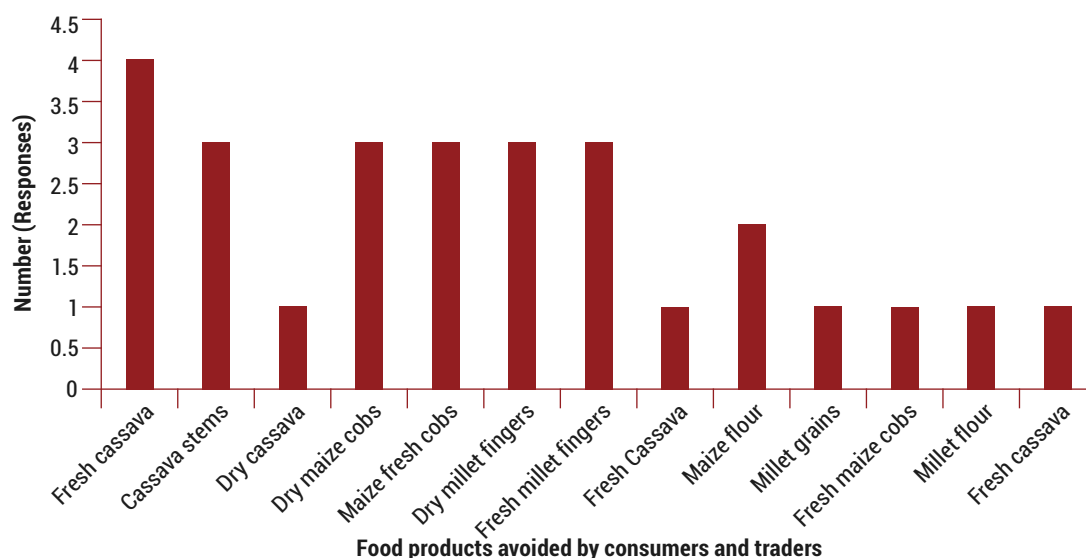


Figure 35: Food products and types less demanded in the market

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The difference in price between good-quality maize grains and bad-quality maize grains was 30% of the price while those for cassava and millet were 20% and 40% respectively. It would, therefore, appear that good-quality maize, millet and cassava products fetched higher market prices compared to the products which traders and consumers deemed to be of poor quality.

2.9.5 Indicators of Poor-Quality Produce

(a) Poor-quality millet

Poor-quality millet was said to be small-grained with black-brown patches. Millet which contained dust or stones was also regarded as poor quality by consumers.

(b) Poor-quality cassava

The attributes of poor-quality dry cassava were many, mainly determined from colour, the presence of rot and weevils. The bitter taste of fresh cassava and the small size of tubers were also regarded as poor quality indicators. The smell of fresh and dried cassava, too, was reported as a concern for traders and consumers.

Indicators of poor quality cassava

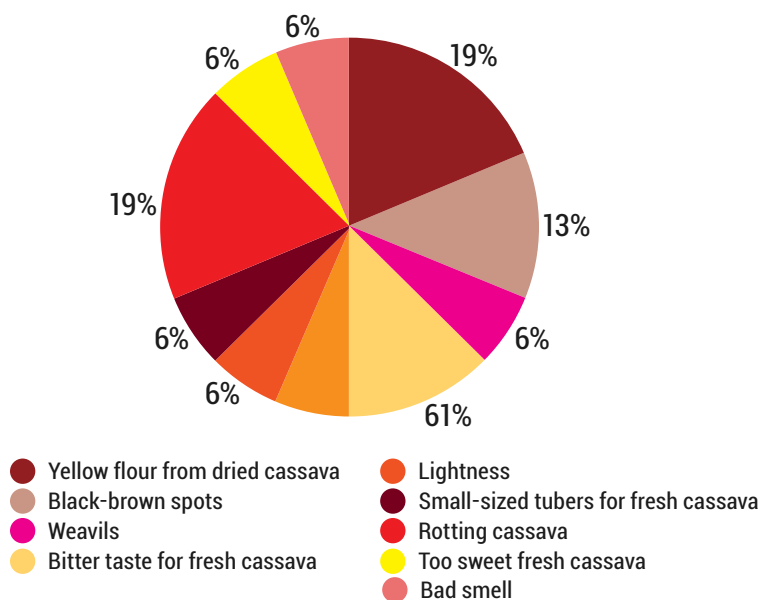


Figure 36: Attributes of poor-quality cassava

(c) Poor-quality maize

Poor-quality maize was said to have small grains, coloured patches and sometimes holes resulting from weevil and bird attacks.

(d) Indicators of poor-quality maize

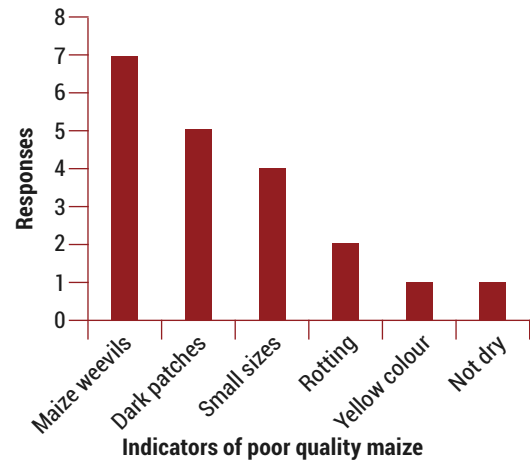


Figure 37: Attributes of poor-quality maize

2.10 Causes of Poor Food Quality

2.10.1 Causes of Maize Quality Decline

Poor-quality maize was attributed to poor farming practices, including limited or no weeding, which affected grain size. Quality loss was also cited as a common post-harvest issue due to premature harvests, limited drying and poor storage. Post-harvest quality losses were mainly due to the rotting of maize seeds and attacks by weevils.

Causes of poor quality maize

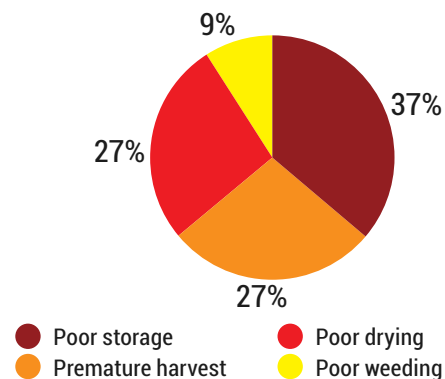


Figure 38: Factors leading to poor-quality maize

2.10.2 Millet Quality Loss

Just like maize, agronomic practices and soil quality affected millet production and quality. Early harvests meant that millet grains are harvested while still small and post-harvest losses resulted from limited drying and poor storage.

Causes of poor quality millet

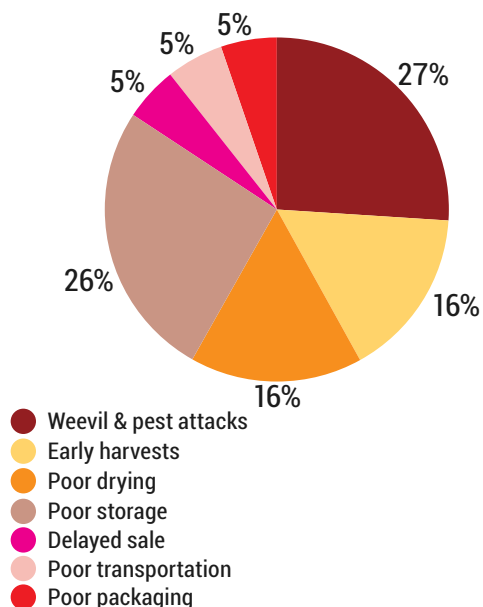


Figure 39: Factors leading to poor-quality millet

2.10.3 Causes of Poor-Quality Cassava

Traders and consumers revealed that poor-quality cassava could result from poor storage, especially where stores are damp and moist. Dried cassava was also affected by seasoning, which determined moisture content. Partially dried cassava retained some moisture, leading to rotting. Fresh cassava was affected by transportation distances since fresh cassava tubers could go bad within 12 hours.

Causes of poor quality cassava



Figure 40: Causes of poor-quality cassava

2.10.4 Farmers' Suggestions on Quality Maintenance

(a) Improving millet quality

Both farmers and traders concurred that improving millet quality would call for change from bad practices during production cycles. It would require reasonably fertile soils, good land preparation, control of weeds, pests and diseases, harvesting at maturity, and proper drying and storage.

Maintaining quality millet harvests

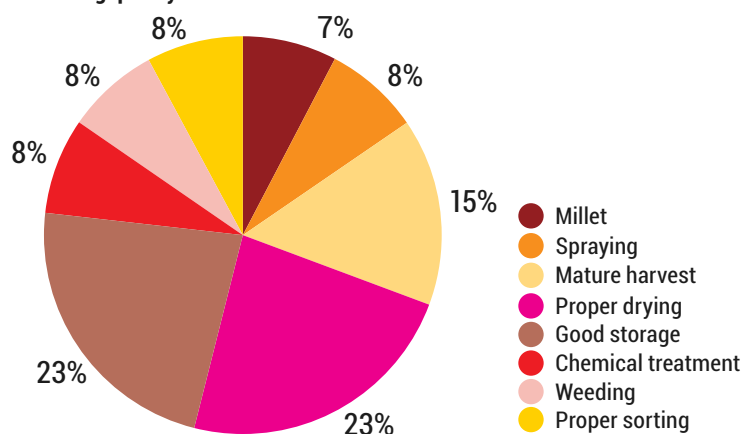


Figure 41: Factors to consider for the improvement of millet quality

(b) Maintaining maize quality

Just like millet, reducing the loss of quality of maize, too, would require fertile soils, improved farming practices, timely harvesting and seasoning. The respondents indicated that storage facilities, too, needed to be worked on, especially air saturation, humidity and storage shelves.

Maintaining good maize quality

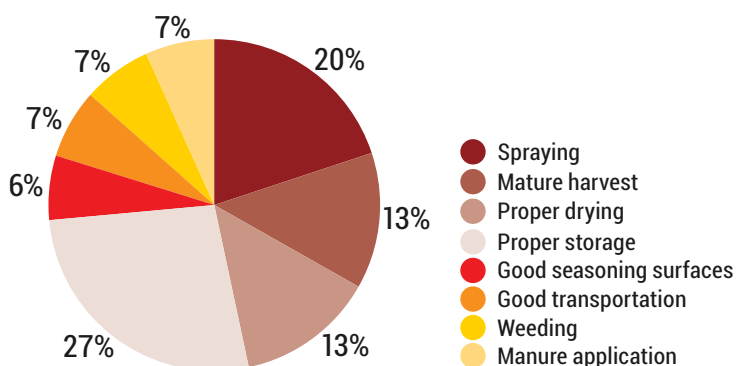


Figure 42: Factors to consider for the improvement of maize quality

[STUDY FINDINGS]

(c) Maintaining cassava quality

Fresh cassava seemed to be more affected by transportation speed and this could be improved through emphasis on selling dried cassava. Fertiliser application on farms, proper drying and harvesting in dry seasons were some of the suggestions that stakeholders thought could help improve cassava quality.

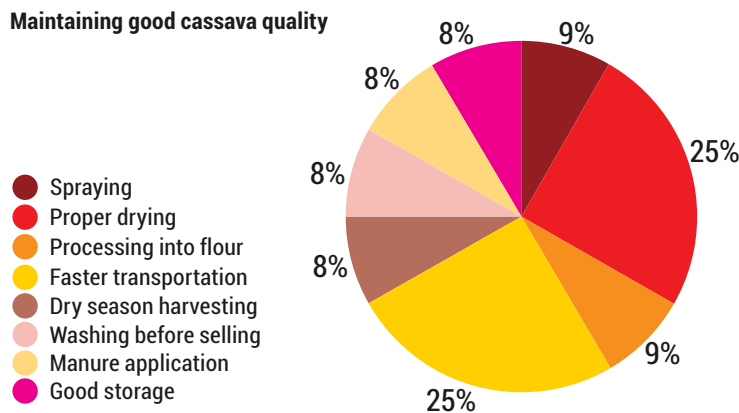


Figure 43: Factors to consider for the improvement of cassava quality

2.11 Value Addition

The majority of the farmers (86%) sold their farm produce in raw form, which attracted lower prices. Raw products also tended to have short storage time, which limited the bargaining power of farmers as they rushed to sell before the produce perished. Only 14% of the farmers had processed their farm produce and they revealed that they received better market prices and could even store their produce for a much longer period compared with raw products. Millet, maize and cassava were all converted to flour and sold at higher prices. Other farmers were selling millet, cassava and maize as ready food products in their restaurants and markets, hence fetching the highest possible prices.

2.11.1 Post-Harvest Dynamics

The majority of the farmers (81%) reported post-harvest crop losses due to pests, rodents and produce quality decline. Maize, millet, cassava, groundnuts and beans were the food crops most affected by post-harvest losses.

Crops with higher post-harvest losses

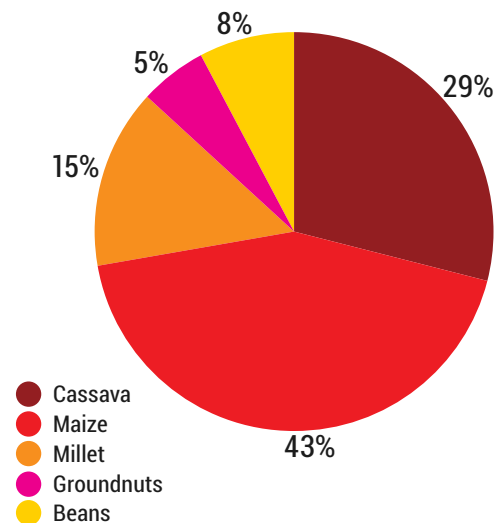


Figure 44: Crops with high post-harvest losses

However, the majority of the farmers (64%) reported having addressed post-harvest crop losses through pest control while 25% improved produce storage by ensuring that seasoning regimes were adequate and less moisture was available in dried products, which prolonged storage.

Graffham et al. (2017), Mastenbroek and Ntare (2016), the Government of Uganda (2015) and USAID (2010) identified the current practices of smallholders, market requirements for cassava, maize and millet value chains and skills required of farmers to meet the requirements thus:

Table 5: Analysis of farmer practices and market requirements for cassava, maize and millet value chains

Cassava			
	Current situation and practices	Market requirements	Skills required of farmers
Production	Use of hand tools Few inputs are applied Land clearing and harvesting using manual labour Majority of farmers use planting materials from their own farms, fellow farmers or relatives, Use of fertilisers is also rare as cassava has always been viewed as a subsistence crop	High demand for improved varieties of cassava	Use of integrated management practices including improved varieties, good-quality planting materials, good agronomic practices, integrated pest, weeds and soil fertility management Sensitisation regarding the benefits of cleaner production and friendly technologies for sound environmental management
Quality	Highly perishable roots Improved varieties are lacking	Long shelf life of dried cassava	Identification of planting material of improved varieties
Quantity	Predominantly grown as a staple crop with low harvested volumes Yields are fairly low compared to what is achievable on plots averaging 1 to 3 acres Supply varies with season	For consumption as well as raw material for medium- to large-scale processes	Ability to identify, grow and manage high-yielding varieties
Traceability	Sharing information with other farmers Village assemblers helping to check the quality of the small quantities of chips typically offered by the farmers Processing characteristics and identity of immediate actors Group affiliation and regular checks on the verification and monitoring systems by group members increases trust along the value chain	Established traceability systems along the value chain Documentation and use of labels Chain traceability, group certification, monitoring and documentation Verifiable safety and quality compliance checks	Training in documentation of the basic production and process characteristics and use of identification tags and labels

[STUDY FINDINGS]

Sustainability (value addition)	Washing, peeling, chopping, chipping and crushing of the roots. The peeling of roots is manually done to remove the bark and layers using knives and peeled roots are washed in water Sweet cassava is normally harvested piecemeal while bitter cassava varieties are harvested by uprooting the whole plant The dry product is hammer milled. Traditionally prepared flour is often coarsely milled with the colour of flour varying from cream to brown but is rarely white in colour. Sometimes contaminated with insect debris and even rodent droppings	Rasping, peeling, chipping and grinding activities must follow a strict short timeframe	Awareness of the concept of value-addition, technical skills for efficient operations and enhanced productivity of machinery, farmers' knowledge about product quality, processing, and quality control requirements, capacity-building in value addition, quality control and processing best practices through the value chain; Use of less manual techniques in processing Ability to document phases of cycle and manage timelines of different phases so as to avoid compromising quality
Registration	No documentation	Registration	Training in documentation and record-keeping
Logistics (transport, post-harvest handling, market information)	Transported as cassava pellets, dried cassava, flour and fresh cassava in sacks Bulking constitutes a form of storage Poor road network	Post-harvesting activities have to follow a strict short timeframe	Ability to document phases of cycle and manage timelines of different phases so as to avoid compromising quality at post-harvest stage Skills in mobilising a network of organised farmers' groups or clusters, including those under the leadership of women and youth, to promote bulk handling and marketing skills in disseminating information regarding grading systems and quality features Skills in promoting the participatory involvement of stakeholders, including women and youth, in the process of developing relevant human capacity development programmes Awareness and training in how to access reliable market information through the use of ICT applications across the value chain with emphasis on mobile phones

Maize			
	Current situation and practices	Market requirements	Skills required of farmers
Production	Use of hand tools, reliance on rain, traditional ways of preserving seeds Subsistence level largely as staple food with landholdings of between 0.2-0.5 ha where family labour and home-saved seeds are used Use of fertilisers, herbicides, pesticides and improved inputs lacking	Application of commercial inputs and in tending the crop	Ability to distinguish inputs on the market that are either fake or adulterated Sensitisation regarding the benefits of cleaner production and friendly technologies for sound environmental management Use of irrigation technology Ability to apply and manage use of improved inputs Skills in production or post-production labour-saving technology that is appropriate for women, in terms of size and weight, technical requirements and training needs
Quality	Low quality of grain Farmers grow a mixed variety of Longe 4 and Longe 5. Longe 4 is an open-pollinated variety of maize developed to be fast-maturing and drought-resistant. Longe 5 is also an open-pollinated variety of what is described as quality protein maize (QPM)	Properly dried, cleaned and sorted grains with acceptable moisture content	Ability to identify fast-maturing and drought-resistant maize variety Ability to implement the necessary agronomic practices for fast-maturing and drought-resistant maize varieties throughout the cycle Ability to use standards and grading mechanisms for better-quality grain for higher prices
Quantity	The yield levels are low, standing at 1.0-1.8 MT/ha (4-7 bags [100 kg] per acre)	Larger marketable surplus	Training in food security practices
Traceability	Relies on processing characteristics and identity of immediate actors	Established traceability systems along the value chain Documentation and use of labels Information flow and information retention with rapid access by other actors Chain traceability, group certification, training, monitoring and documentation Verifiable safety and quality compliance checks	Training in documentation of the basic production and process characteristics and the use of identification tags and labels

[STUDY FINDINGS]

Sustainability (value addition)	Only primary processing is done and includes: shelling, sun-drying, cleaning and grading of maize grain Customised milling on hammer mills that are locally made except for the motors and engine and often of poor design and can therefore only produce “whole grain” nutritious maize flour, often referred to as “No.2” The main product from maize is flour. Various grades of flour exist and can be sold either as branded or unbranded flour Usually sold as raw materials rather than processed products, hence transacted as raw grain	Food grade processing machinery and other basic implements assist handlers and processors to ease their operations	Awareness of the concept of value addition, technical skills for efficient operations and enhanced productivity of machinery, farmers' knowledge about product quality, processing, and quality control requirements, capacity-building in value addition, quality control and processing best practices through the value chain Negotiation skills to bargain for better prices for value-added products
Registration	No documentation	Registration	Training in documentation and record-keeping
Logistics (transport, post-harvest handling, market information)	Poor storage, power and irrigation systems Access to and the cost of power to run grain processing equipment, poor rural infrastructure, especially feeder roads, have affected grain trading, mainly during the rainy seasons Poor handling methods (at harvesting, inadequate drying, cleaning and grading methods), inappropriate storage methods, and the low storage capacity on farm Lack of post-harvest equipment Buyers are largely itinerant traders on motorcycles as feeder roads largely impassable for vehicles Lack of adequate information on markets (demand, prices, transport services)	Certified storage facilities as bulking enters an inventory system for storage facilities and laboratories Use of standardised warehouses for both grain and processed products	Capacity-building in the construction of low-cost appropriate cribs in rural areas at the farm level and standardised bulk storage facilities, knowledge among farmers, including women and youth, about the role and importance of traditional /conventional storage cribs, capacity for innovative post-harvest management and processing technologies Pre-harvest and post-harvest handling and management of grains Ability to develop practical and cost-effective methods of pre- and post-harvest handling systems as well as standardised storage to reduce grain infestation by aflatoxins Skills in mobilising a network of organised farmers' groups or clusters, including those under the leadership of women and youth, to promote bulk handling and marketing skills in disseminating information regarding grading systems and quality features Skills in promoting the participatory involvement of stakeholders, including women and youth, in the process of developing relevant human capacity development programmes Awareness and training in how to access reliable market information through the use of ICT applications across the value chain with emphasis on mobile phones

Millet			
	Current situation and practices	Market requirements	Skills required of farmers
Production	Production at subsistence level Bird damage Recycling of infected seeds	Large-scale production	Skills in production or post-production Labour-saving technology that is appropriate for women, in terms of size and weight, technical requirements and training needs Knowledge of blast disease and implementation of coping mechanisms Sensitisation regarding the benefits of cleaner production and friendly technologies for sound environmental management
Quality	Traces of wilt-infested millet	High malting quality	Ability to use standards and grading mechanisms for better-quality grain for higher prices
Quantity	About 0-3 acres of land with yields substantially lower than for other cereals	Larger marketable surplus	Training in food security practices
Traceability	Relies on processing characteristics and identity of immediate actors	Established traceability systems along the value chain Documentation and use of labels Information flow and information retention with rapid access by other actors Chain traceability, group certification, training, monitoring and documentation Verifiable safety and quality compliance checks	Training in documentation of the basic production and process characteristics and the use of identification tags and labels
Sustainability (value addition)	Preliminary processing that is performed at the farm/household level, including open-air sun-drying, threshing, winnowing and roasting Traditional grinding stones for making flour Motorised milling establishments in remote townships and trading centres	Food grade processing machinery and other basic implements assist handlers and processors in easing their operations	Awareness of the concept of value addition Technical skills for efficient operations and enhanced productivity of machinery Farmers' knowledge about product quality, processing, and quality control requirements, capacity-building in value addition, quality control and processing best practices through the value chain Negotiation skills to bargain for better prices for value-added products

[STUDY FINDINGS]

Registration	No documentation	Registration	Training in documentation and record-keeping
Logistics (transport, post-harvest handling, market information)	Lack of adequate information on markets (demand, prices, transport services) Commodity handling in gunny bags	Certified storage facilities as bulking enters an inventory system for storage facilities and laboratories Use of standardised warehouses for both grain and processed products	Capacity-building in the construction of low-cost appropriate cribs in rural areas at the farm level and standardised bulk storage facilities Knowledge among farmers, including women and youth, about the role and importance of traditional /conventional storage cribs, capacity for innovative post-harvest management and processing technologies Pre-harvest and post-harvest handling and management of grains Skills in mobilising a network of organised farmers' groups or clusters, including those that are led by women and youth, to promote bulk handling and marketing skills in disseminating information regarding grading systems and quality features Skills in promoting the participatory involvement of stakeholders, including women and youth, in the process of developing relevant human capacity development programmes Awareness and training in how to access reliable market information through the use of ICT applications across the value chain with emphasis on mobile phones

3.

Challenges Facing Women, Youth and Disabled Farmers



[CHALLENGES FACING WOMEN, YOUTH AND DISABLED FARMERS]

The majority of the farmers (82%) faced land preparation challenges mainly due to limited manpower and the absence of mechanisation. This limited extensive farming, even among farmers who owned large chunks of land.

Access to quality seeds affected close to 90% of the farmers, who relied on local suppliers for their seed purchases. In many cases, the seeds supplied were of poor quality, affecting germination, survival and yields.

Crop protection from vermin, pests and diseases was a challenge for over 83% of the farmers mainly owing to limited capital and lack of knowledge. Consequently, farmers experienced crop losses right from the sowing or planting stage, during growth, at harvest and post-harvest.

Soil fertility decline was cited by 72% of the farmers. Farmers who had continuously cultivated their land were registering periodical declines in crop harvests compared to those who practiced fallowing.

Harvesting, storage and preservation of food crops was causing significant losses to over 60% of farmers through rotting of harvested foods like cassava and maize as well as attacks by pests on maize and cassava during storage. Post-harvest crop losses were attributed to low produce prices because farmers could not store foods for a long time until prices stabilised.

Marketing farm produce was a challenge to 72% of farmers, mainly attributed to lack of markets, lack of market information and limited access to transport facilities. Many farmers also realised that venturing into transportation of their farm produce would not make economic sense because transport costs would erode their profits.

Value addition was reported as a challenge to over 77% of the farmers, who resorted to selling their produce in raw and unprocessed forms, hence attracting lower prices.

Lower levels of value addition were attributed to lack of technology and equipment, and lack of knowledge about the importance and mechanisms of value addition.

Millet was found to be the only crop that is not given due attention compared to maize and cassava. There was limited or no research on the value chain and both NGO and government farmer-support interventions had not provided specialised support to millet farmers or supplied seeds. Even seed sellers were not selling quality millet seeds, implying that farmers obtained seeds from previous harvests or bought them from local markets. Millet was also viewed by farmers more as a food crop to address food security needs than as a cash crop, which limited its acceptability among many farmers.

90%

OF FARMERS WHO
WERE AFFECTED BY
ACCESS TO QUALITY
SEEDS, WHO RELIED
ON LOCAL SUPPLIERS
FOR THEIR SEED
PURCHASES

3.1 Labour market Characteristics and Conditions of Young Men and Women

The legal minimum wage was set at US\$2.4 back in 1984. No legislation has so far been passed to implement the new minimum wage. The Minimum Wage Board was institutionalised in August 2013 and is currently reviewing minimum wages. Uganda promised to fast-track the fixing of minimum wages to be effective by financial year 2014/15. However, no funds were allocated in the national budget to cater for this process (Uganda Labour Market Profile, 2014).

Youth unemployment and underemployment are expected to increase owing to lack of employable skills. Also, the National Employment Policy for Uganda from 2011 lists youth employment as a policy priority action area. However, the implementation of the employment policy has moved slowly. A programme named “Skilling Uganda” to address unemployment attempts to streamline skills development efforts by bringing stakeholders together, e.g. trade unions, FUE, the Private Sector Foundation and Uganda Manufacturers Association (UMA) etc. (Uganda Labour Market Profile, 2014).

Interpretation of the open unemployment and employment rates as indicators of a well-functioning labour market is problematic in developing countries. When unemployment is not an option where a person can survive, work of some sort has to be found, often casual and informal work. Unemployment should, therefore, be understood in relation to the strength of social safety nets, the prevalence of informal employment and how much of informal employment is underemployment due to the paucity of formal employment possibilities (Uganda Labour Market Profile, 2014).

Uganda has the world’s youngest population, with over 78% of its population below the age of 30. Some of the major reasons for this high youth unemployment rate include the lack of employable skills as well as access

to resources like land and capital among the youth. Critics have also said that young people have a negative attitude towards certain types of work, which has also contributed to their inability to find gainful employment. Besides, existing policies also continue focusing on creating job seekers instead of job creators (Uganda Labour Market Profile, 2014).

Uganda has a small number of students in vocational training. Most programmes are pre-employment, supply-driven and target modern sector needs. Post-school vocational and skills training is ineffective. Moreover, most skills and vocational training does not follow more efficient in-employment models (Uganda Labour Market Profile, 2014).

The skills level and labour market opportunities for higher education graduates in Uganda are also questionable in the face of high and rising youth unemployment (Zeelen, 2012). However, early school leavers (ESLs) are at a greater disadvantage than their graduate counterparts in terms of finding a well-paying job and better life choices. Minnis (2006, p. 130) asserts that “no group is in greater need of personal transformation than the millions of out-of-school youth for whom there is little future without some form of training”. This is because ESLs, which is tantamount to educational exclusion, is also a fundamental contributing factor to social exclusion (Olmec, 2007; Tukundane et al., 2014).

In contrast to formal education, vocational training currently faces strong stigma among employers, youth and their households, despite its potential to provide skills for school-leavers (Blaak et al., 2013). The government’s Strategic Plan of 2011-2020 named “Skilling Uganda” thus recognises the importance of reforming VT programmes

Uganda has a small number of students in vocational training. Most programmes are pre-employment, supply-driven and target modern sector needs.

and includes targets such as expanding private sector participation and increasing access for marginalised groups (GoU, 2011). Sustain for Life (2014) highlights agriculture and the informal sector as two relevant labour market sectors.

While Article 32 of the Constitution supports affirmative action for PWDs, this legal provision has not translated into equal opportunities in education and employment (Lwanga-Ntale, 2003).

According to Tukundane et al. (2015), interactions with the different stakeholders reveal that skills development in Uganda is supply-driven and, in most cases, has little relevance to the labour market. In the context of Uganda in particular, many of the VET graduates find employment in the informal sector in either agriculture-related activities or micro- and small-scale enterprises (McGrath and King, 1995; Minnis, 2006;

Palmer, 2007). Accordingly, Tukundane et al. (2015) argue that it is of paramount importance to link and coordinate VET with this crucial sector.

In its study on vocational training in northern Uganda, Columbia University (2008) found that, in practice, programme planning is shaped and limited by a wide array of structural factors, including Uganda's national curriculum for VT, instructor availability, access to machinery and training equipment and career guidance, or the lack thereof, for youth. The result of this combination of factors has been the homogenisation of skills offered by VT programmes, which visibly and significantly impact the labour market and economy.

Although most of the VET graduates will most likely enter agriculture-related activities, Tukundane et al. (2015) found a general dislike for agricultural courses among some students because of the wider perceptions about agriculture as being a "dirty" job meant for the "uneducated", and not paying well.

The findings of Tukundane et al. (2015) revealed strong negative social perceptions and stigma about VET, whereby the majority of students and members of the community view VET as "second class education" for only academic rejects and underachievers and, therefore, a "poor cousin of mainstream education". This, they argued, has implications for access to and participation in VET. Besides, Tukundane et al. found that the cost of training in the formal programmes is relatively high, which makes some marginalised youth, especially in rural areas, fail to enrol in VET. However, Columbia University (2008) found that opportunities for effective livelihoods development through vocational training for youth can be strengthened through:

- Pre- and post-training linkages;
- Career counselling and youth engagement in decision-making;
- Improved market analysis for vocational training programmes; and
- Private sector linkages.

It is also important to note that, in Uganda, like in many other countries of sub-Saharan Africa (SSA), labour markets are changing with the onset of new technologies, especially information technology (use of mobile phones, computers). Consequently, VET must adjust to the new changes in the labour market and begin training in new skills rather than focusing on the old subjects. This will only happen if the VET programmes keep in touch with the requirements of the labour market and employers. If this is not done, there is a danger that the training programmes will impart to the young people skills that will quickly become obsolete (Tukundane et al., 2015).

The Ugandan government provides a solid legal framework for protecting the rights of PWDs, including the Constitution (1995), the PWDs Act (2006) and the National Disability Policy (2006) (SignHealth, 2009). While Article 32 of the Constitution supports affir-

mative action for PWDs, this legal provision has not translated into equal opportunities in education and employment (Lwanga-Ntale, 2003).

The Ugandan government runs several VT programmes targeting PWDs that provide training in carpentry, leatherworks, knitting and weaving (SignHealth, 2009). These programmes, however, generally teach only a core vocational skill with little training in complementary courses, such as business skills (SignHealth, 2009). Moreover, low educational levels among some enrolled PWDs make it difficult for them to absorb information (SignHealth, 2009). The quality of the VT itself is often poor and the graduates of these programmes may lack essential skills in their vocation to compete effectively in the labour market (SignHealth, 2009).

Uganda's unemployment rate is 9.4% but this does not reflect the actual balance between labour market supply and demand. An additional 8.9% of the labour force are time-related underemployed and a further 6.1% possess a higher educational attainment than required for their current job. The labour force has increased at an average annual rate of 4.8% over the last three years, sufficient to double the size of the labour force in just 15 years. This has not been matched by the creation of new jobs, leading to the growing importance of the informal sector, which has absorbed four in five new entrants into the labour market (GoU, 2014).

The government acknowledges the employment challenge and has initiated a number of interventions to address it. Prominent examples include technical and vocational training, the development of serviced industrial parks, efforts to promote agricultural commercialisation and agro-processing, and facilitating young entrepreneurs through a venture capital fund. There is need for an overarching strategy and coordination framework to guide efforts by the government and other stakeholders to avoid disjointed planning and implementation of this response.

Evidence of the effectiveness of individual government interventions and the understanding of the underlying economic challenges remains inadequate. Limited progress in the structural change of the labour market, a prerequisite for socio-economic transformation, as articulated in the National Development Plan (NDP) and Vision 2040, suggests that the government's current strategy does not adequately address the binding constraints on job creation. The majority of the labour force is employed in low-productivity agricultural activities and the share of workers employed in formal manufacturing has stagnated (GoU, 2014).

Gainful employment emerged as one of the central objectives of Uganda's development strategy with the launch of the first NDP in 2010, the first of six five-year plans under the Vision 2040 framework. This represents an attempt to rebalance the policy agenda to consider longer-term issues related to the productive capacity and employment potential of economic sectors. Job creation is recognised as the key driver of socio-economic transformation, "equally critical for both wealth creation and poverty reduction." With a strong emphasis on physical infrastructure investments, the first NDP reflects the government's intention to address binding supply-side bottlenecks that are constraining the rate of growth and employment creation.

There has been a significant shift in the government's approach and in its recognition that the public sector must play a more active role in ensuring that the expanding labour force has access to productive employment opportunities. Rather than the private sector-led model pursued in the 1990s and early 2000s, the NDP advocates a 'quasi-market approach' by which government has to go beyond providing an enabling environment to "evolve a meaningful working relationship

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[CHALLENGES FACING WOMEN, YOUTH AND DISABLED FARMERS]

between the public and private sectors as a means to forge ahead in an increasingly competitive global marketplace.” However, despite the recent emphasis on infrastructure provision, the implementation effectiveness of other strategic interventions to catalyse structural transformation and employment generation requires enhancement. The government has tried to strengthen dialogue between the private and public sectors through the Presidential Investors Roundtable and the National Competitiveness Forum, for instance, but there needs to be an institutionalised process to coordinate government action to address industry-level constraints.

The National Employment Policy launched in 2011 is an ambitious attempt to create a comprehensive and integrated framework for employment creation. The policy outlined six key policy objectives that span multiple government sectors:

- a. To promote macro-economic policies and investment strategies for employment creation.
- b. To increase the productivity, competitiveness and employability of the labour force, especially the youth and other most vulnerable members of the labour force.
- c. To promote in-employment skills development, training and apprenticeships and/or internships, especially for the youth.
- d. To promote purposeful and functional vocational and technical skills training.
- e. To ensure the availability of reliable and timely labour market information, especially for those sectors of the labour market employing the poor and vulnerable women.
- f. To promote and protect the rights and interests of workers in accordance with existing labour laws and fundamental labour standards.

Although the National Employment Policy was an important step in terms of understanding the employment challenges facing Uganda, the first three years of implementation have fallen short of focusing the govern-

ment’s broader development strategy on employment issues. The policy was formulated by the Ministry of Labour, Gender and Social Development (MLGSD), with technical support from the International Labour Organisation (ILO) but with limited participation from government ministries, departments and agencies (MDAs) that need to play a leading role in the policy’s implementation. The National Employment Council envisaged by the NEP has not been established and a government-wide approach to integrate policies and interventions for employment creation across sectors is not fully functional (GoU, 2014).

Uganda’s impressive macro-economic performance over the last 20 years has had a relatively limited impact on the structure of the labour market. Over the last decade, the number of wage employees in registered firms increased from 544,723 to around 849,461 or at an average annual rate of 5.1%. While job creation has been more rapid than in most other African countries, the share of the labour force in formal wage employment remains low. Economic growth has in large part been driven by high-value services such as telecommunications, finance and real estate, activities that rely on a relatively small number of skilled workers. The majority of new jobs have been created in less productive sectors such as petty trade and subsistence agriculture.

The share of the labour force engaged in low-productivity agricultural activities is high and has recently increased. In 2012/13, 72% of the labour force were primarily working in agriculture, forestry or fishing, up from 69% in 2009/1011. This increase in agricultural employment partly reflects higher food prices, which have increased the relative attractiveness of subsistence activities. Over the last three years, agricultural output grew at just 1.2% per year, despite a 6.0% annual increase in agricultural employment, suggesting a significant decline in productivity. This reflects a broader pattern that has seen employment expand in lower-productivity sectors while contracting in many

higher-value activities. Structural change in the labour market has not yet contributed significantly to economic growth.

Demographic change is contributing to growing mismatches between labour supply and labour demand. Over half of the labour force is under the age of 30, and with over half of the population still under the age of 15, the number of labour market entrants is increasing rapidly. Over the last three years, the labour force grew at an average rate of 4.8% per year. This is significantly faster than the growth of wage jobs over the same period, making the youth's transition into working life increasingly difficult. At the same time, the labour force is increasingly urbanised. The urbanisation rate increased from 15% in 2009/10 to 23% in 2012/13, mainly driven by the expansion of upcountry towns. Individuals are moving from rural to urban areas in increasing numbers but the majority are absorbed into low productivity forms of employment in the informal sector; 62% of the urban labour force work for themselves or their families (GoU, 2014).

Unemployment is relatively low but increasing, particularly among those with higher education. Although the majority of Ugandans lack wage employment, few are classified as unemployed. The youth are slightly more likely to be unemployed compared to older workers. There are more significant differences across educational levels, with the better-educated significantly more likely to be unemployed, particularly women. Those in employment are also increasingly unable to utilise higher levels of human capital. In 2009/10, 73% of university graduates were employed in graduate-level occupations¹⁵, but this fell to 53% in 2012/13 (GoU, 2014).

Underemployment is common, particularly in the agricultural sector. In 2012/13, 8.9% of the labour force were classified as time-related underemployed; this means they were working fewer than 40 hours a week and reported that they would like to work more.

But in total, 67% of the labour force were working less than 40 hours a week, with this as high as 83% among those primarily engaged in subsistence agriculture. Many do not want to work more hours because the rewards from their current activities are low and their other opportunities are limited. Those engaged in non-agricultural household enterprises usually work significantly longer hours. Although 72% of the labour force are primarily engaged in agriculture, only 54% of the total hours worked are in agricultural activities. The dramatic growth of off-farm employment over the last 20 years has helped to reduce underemployment and supplement and stabilise household incomes, even if productivity and hourly earnings are often low (GoU, 2014).

Uganda's labour force participation is among the highest in the world. Eighty-four per cent of the working-age population, as well as many children and the elderly, are economically active. Participation in the labour market is only slightly lower among women than men. Most of those who choose not to work are youth, who are remaining in the education system for longer. However, only a minority of the youth attend school exclusively as most are also economically active (GoU, 2014).

Educational attainment by the labour force is improving slowly but remains low. The youth have completed significantly more years of education on average, and the gender gap in educational attainment has narrowed substantially. While this illustrates the progress since the introduction of universal primary education (UPE) in the late 1990s, more than 60% of the labour force have not completed primary school, mainly a reflection of high dropout rates. Delayed entry into the education system and high grade repetition mean that the majority of children reach working age before they complete

Unemployment is relatively low but increasing, particularly among those with higher education.

[CHALLENGES FACING WOMEN, YOUTH AND DISABLED FARMERS]

primary school, and are consequently much less likely to continue to higher levels of education. Only around 5% of the labour force have completed upper secondary school (GoU, 2014).

Regular wage jobs are the most desirable form of employment, particularly those outside the agricultural sector.

Technical and vocational skills are relatively prevalent but are usually acquired informally. With the last national manpower survey conducted in 1987, information on the skills profile of Uganda's labour force is scarce. The 2009/10 household survey addressed some of these data gaps.

Overall, a quarter of the labour force reported having a technical skill or trade. This was higher in urban areas (35%) than in rural areas (23%). The types of technical skill differed by gender; among men the most common trades were related to construction (42%), agriculture, land management or fisheries (14%), and automotive repair (12%); the most common among women were handicrafts (41%) and tailoring (15%). These trades are usually acquired informally, either from a friend or family member (in 53% of cases) or through on-the-job training (16%); only 5% of the labour force have completed a vocational training course (GoU, 2014).

The most common types of employment are own-account work and unpaid-family work. Classifying the employment status of the labour force can be misleading as a large share of workers engage in multiple economic activities. Eighty per cent of the labour force work primarily for themselves or their families, mainly in the agricultural sector, but 15% of the labour force work in non-agricultural household enterprises as their main activity and many others engage in this type of work as a secondary job. Overall, 24% of the economically active population reported working at two or more different jobs in the previous seven days and secondary jobs are more likely to be in

non-agricultural activities such as retail trade and informal manufacturing. Only 11% of the labour force is primarily engaged in non-agricultural wage employment, down from 15% in 2009/10 (GoU, 2014).

Although most individuals mainly work in agriculture, most households have diversified income streams. In rural areas agriculture remains the most important source of income, on average accounting for slightly over half of household income, but non-agricultural household enterprises and wage employment have emerged as important supplementary income sources, accounting for 15% and 14% of average household income respectively. Seventy-six per cent of households earn income from agricultural production, but it is the most important source of income for only 42% of households, and only 26% of households rely on agriculture exclusively – over 70% earn income from either wage employment or non-agricultural enterprises. This represents a major, welfare-enhancing structural change over the last 20 years, but diversification has been uneven across different areas of the country, with some areas remaining much more reliant on agriculture (GoU, 2014).

Regular wage jobs are the most desirable form of employment, particularly those outside the agricultural sector. Around 2.5 million working adults are living below the national poverty line. Almost 90% of the working poor are primarily engaged in agricultural activities, where incomes tend to be low but also irregular and unpredictable. Formal-sector salaried jobs are almost universally desired, in large part owing to the stability and peace of mind they provide. Agricultural wage jobs in contrast are usually on a short-term casual basis, and are often the last resort for the landless. Twenty-seven

Around 2.5 million working adults are living below the national poverty line.

per cent of wage agricultural workers are below the poverty line – 10 percentage points above the national average (GoU, 2014).

Wage employment has expanded significantly but many new wage jobs are casual and temporary. Although jobs in registered firms are concentrated in more urbanised and affluent areas of the country – 60% are located in Greater Kampala, Jinja, Mbale and Mbarara – the last decade has seen significant job growth across many areas of the country, particularly along major transport corridors. Over more recent years, the number of regular wage jobs has stagnated, and declined in the non-agricultural sector. Overall, growth in wage employment has been driven by a sharp increase in the number of agricultural labourers. This points to constraints on the demand-side of the labour market that affect the ability of firms to generate and sustain good-quality jobs (GoU, 2014).

Given Uganda's demographic structure, an expansion in the number of youth entering the labour market is inevitable. Currently, an estimated 700,000 individuals enter the labour market each year. The number of youth remaining in the education system for longer is temporarily limiting the growth of labour market entrants, but these students will eventually join the labour force and longer-term improvements in the schooling system will reduce the average time to graduation (by lowering grade repetition). These factors will lead to a much more rapid increase in the number of labour market entrants from the mid-2020s (GoU, 2014).

The path that the large youth population take into the labour force will have a large and long-lasting influence on Uganda's development trajectory. A shortage of opportunities for new entrants to the labour force is likely to have detrimental effects on these individuals' confidence and aspirations, particularly those who have invested both time and money in completing further education, only to become cut off from society (GoU, 2014).

According to a 2014 evaluation of the government's strategy to tackle unemployment, the skills that labour force participants possess are not well-matched with the opportunities currently available in the labour market. There are two distinct skill mismatches present in the Ugandan labour market:

- a) Poorly educated and low-skilled workers who are economically active (mostly in agriculture or self-employment) but usually unproductive and/or work few hours. This mainly represents a supply constraint. Many Ugandan workers do not possess the skills to make a significant contribution to economic growth. Sixty-four per cent of the labour force have not completed primary education; but improved educational attainment alone will not be sufficient. More important than formal education are informal skills and knowledge, which are acquired mostly through learning by doing.
- b) Educated workers who are not fully using their skills or knowledge increasingly, are unemployed. This mainly represents a demand constraint. Many educated workers fail to be absorbed into the Ugandan labour market, are employed in a job ill-suited to their skills profile, or emigrate to find appropriate employment. Those with higher education do better when employed but are more likely to be unemployed or to under utilise their skills. This presents the challenge of increasing the demand for educated workers among established firms and increasing the number of growth-oriented start-ups, so that human capital investments are not wasted and skills are put to productive use in the economy.

The path that the large youth population take into the labour force will have a large and long-lasting influence on Uganda's development trajectory.

[CHALLENGES FACING WOMEN, YOUTH AND DISABLED FARMERS]

Low productivity and underemployment afflict the majority of the labour force; unemployment is a smaller but growing problem. There are currently 12 working adults living below the poverty line for every individual without work seeking a job. This situation is likely to persist for some time as the educational composition of the labour force will change only gradually. The proportion of labour market entrants to have at least completed secondary school is expected to increase significantly but this will not be sufficient to fundamentally change the structure of the labour force. By 2040, the share of the labour force not to have completed secondary education is projected to only fall to 78%. Starting from the current low base, the labour force with secondary and tertiary education is expected to grow at least 7% each year. If job growth does not meet this high benchmark, there is a substantial risk of increased unemployment and underemployment of skilled workers. Even more rapid job growth is required to allow less-educated workers to enter the formal workforce as well. This will require appropriate demand-side interventions to address the binding constraints on firm creation and growth (GoU, 2014).

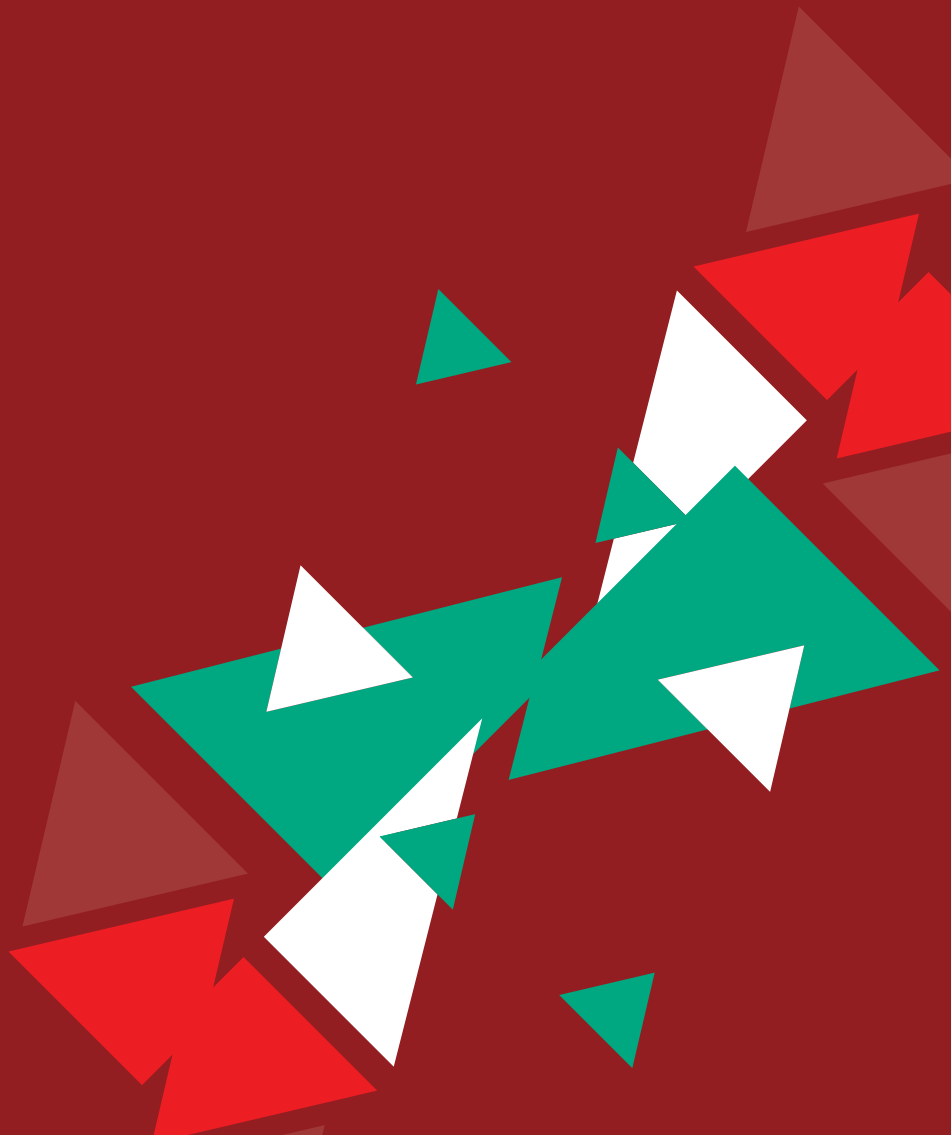
Almost all government activities can indirectly affect the labour market but a number of interventions explicitly aim to improve employment outcomes by supporting productive economic activities, equipping the

labour force with practical skills or protecting vulnerable households. To help map the government's approach and the allocation of public resources vis-à-vis employment issues, these labour market interventions can be classified into five main categories:

- a) Support for smallholder agriculture. Projects and programmes such as NAADS that aim to reduce underemployment and increase the productivity and commercialisation (and therefore earnings) of smallholder farmers.
- b) Interventions to enhance household livelihoods. Projects taking a more integrated approach to improve household incomes, including efforts to improve the prevalence, profitability and sustainability of off-farm income-generating activities.
- c) Private sector development. Interventions to improve Uganda's business environment and increase the competitiveness of formal enterprises so that new firms enter and incumbent firms expand their employment.
- d) Skills development. Direct public provision or support for private providers of business, technical and vocational training.
- e) Social protection. Public works programmes, personal care services and the promotion of equity and decent working conditions, particularly for vulnerable households. (GoU, 2014)

4.

The Policy Environment



4.1 Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)

MAAIF handles policy aspects of agriculture and regulation. The ministry ensures that extension services are provided to farmers in a coordinated manner by all the stakeholders and district agricultural offices for successful service delivery. Within MAAIF is NAADS, which is involved in the procurement of agricultural inputs and supplies for farmers while OWC ensures the distribution of inputs and supplies to farmers and does the monitoring of the inputs and service delivery.

There is no particular policy for a specific crop but there are policies that are provided for all crops under the National Agriculture Policy. It was established that the Agriculture Sector Strategic Plan (ASSP) prioritises maize and cassava crops. MAAIF also hosts the Agriculture Cluster Development Project (ACDP) running in 45 districts with the goal of promoting maize and cassava. However, it was found that the Karamoja sub-region is not part of this project.

Whereas maize and cassava are accorded significant attention under ASSP, millet did not feature among the priority value chains. For maize and cassava, there are already initiatives in place, right from providing planting materials to value addition. Efforts, therefore, should be put on millet because it is important for food security. Policy reviews also revealed that millet has also not benefited from extensive research like cassava and maize and NaSARRI should be supported to conduct research on the value chain.

Partnerships reported between MAAIF and the Food and Agriculture Organisation (FAO) showed commendable work being done in the Lango and Karamoja sub-regions in promoting the cassava value chain. These initiatives have resulted in many communities growing cassava.

The Agriculture Sector Strategic Plan (ASSP) is the medium five-year plan which outlines the basic activities of the sector within the

framework of the National Development Plan. Through the ASSP, cassava and maize are prioritised in terms of production, value-addition and marketing. Through interviews with staff of MAAIF, it was established that the ministry believes that the maize value chain has received adequate support from the private sector and requires less government support. However, cassava and millet are supported through input distribution.

4.2 National Agricultural Policy (2011)

The objectives of this policy include:

- a) Ensuring household and national food and nutrition security for all Ugandans.
- b) Increasing the incomes of farming households from crops, livestock, fisheries and all other agriculture-related activities
- c) Promoting specialisation in strategic, profitable and viable enterprises and value addition through agro-zoning.
- d) Promoting domestic, regional and international trade in agricultural products.
- e) Ensuring sustainable use and management of agricultural resources.
- f) Developing human resources for agricultural development.

This policy provides guidance to all actors in the agricultural sector to make investments that will increase agricultural incomes, reduce poverty, improve household food and nutrition security, create employment and stimulate overall economic growth. Among other activities, the policy seeks to achieve the following:

- a) Promote agricultural enterprises that enable households to earn daily, periodical and long-term incomes to support food purchases.
- b) Promote and facilitate the construction of appropriate agro-processing and storage infrastructure at appropriate levels.
- c) Develop and improve food handling, marketing and distribution systems and

linkages to local and export markets.

- d) Support the establishment of a strategic food reserve system at all levels.
- e) Support the development of a well-coordinated system for collecting and disseminating information on food and nutrition security to households and communities.
- f) Encourage and support local governments to enact and enforce by-laws and ordinances regarding household food security.
- g) Promote the production of food security enterprises and the consumption of nutritious food.
- h) Promote the production and consumption of diversified nutritious foods, including indigenous foods, at household and community levels.
- i) Strengthen the capacity of farmers and farmer groups and support them to scale up farm-level production and productivity.
- j) Promote appropriate technologies and practices for minimising post-harvest losses along the entire commodity value chain.
- k) Generate, demonstrate and disseminate appropriate, safe and cost-effective agricultural technologies and research services.
- l) Promote strategic partnerships between research and technology development and advisory services at all levels.
- m) Increase the availability of and accessibility to productivity-enhancing technologies, practices, advisory and technical services by all categories of farmers.
- n) Promote agricultural mechanisation through the application of appropriate machinery and the expansion of animal traction.
- o) Promote the development and dissemination of efficient, cost-effective and appropriate technologies for the processing and preservation of agricultural commodities.
- p) Develop and expand nationwide a sustainable market information system that is accessible to all the stakeholders.
- q) Ensure the development, maintenance and improvement of physical agricultural market infrastructure at strategic locations (crop and livestock markets, abattoirs, fish landing sites etc.).
- r) Develop the capacity to harvest and utilise rain water for agricultural production.
- s) Support the existing and increase the number of agricultural training institutions at all levels of education.
- t) Encourage sustainable funding for the institutions.

The National Agricultural Policy (2011) clearly identified the major challenges facing the agricultural sector in Uganda as low production and productivity, limited post-harvest handling and value addition. Other constraints were cited as lack of access to sustainable input and output markets, a weak policy and regulatory environment, insufficient agricultural manpower and skills and a disease burden in the agricultural sector. However, the policy itself was not adequately implemented and many of the provisions in the policy cannot be traced on the ground.

4.3 The National Agriculture Policy (2013)

The policy set out many objectives, among which to ensure household and national food and nutrition security for all Ugandans. The policy observes that increasing household food and nutrition security is dependent on expanded production, increased incomes to support the purchases of food and other elements necessary for improved nutrition, enhanced storage capacity and improved access to key markets and market information. Through the policy, the government set out to achieve the following:

- a) Promote agricultural enterprises that enable households to earn daily, periodical and long-term incomes to support food purchases.
- b) Promote and facilitate the construction of appropriate agro-processing and storage infrastructure at appropriate

- levels to improve post-harvest management, add value and enhance marketing.
- c) Develop and improve food handling, marketing and distribution systems and linkages to domestic, regional and international markets.
 - d) Support the establishment of a national strategic food reserve system.
 - e) Support the development of a well-coordinated system for collecting, collating and disseminating information on agricultural production, food and nutrition security across households, communities and agricultural zones.
 - f) Encourage and support local governments to enact and enforce by-laws and ordinances that promote household food security through appropriate food production or storage practices.
 - g) Promote the production of nutritious foods, including indigenous foods (enterprise mix) to meet household needs and for sale.
 - h) Promote the consumption of diversified nutritious foods, including indigenous foods at household and community levels.
 - i) Promote appropriate technologies and practices for minimising post-harvest losses along the entire commodity value chain.

This study's analysis shows that the National Agricultural Policy (2013), if implemented in tandem with the National Agricultural Policy (2011), would address most of the challenges faced by farmers in Abim, Lira and Soroti. However, field data indicates that policy implementation remains weak, characterised by poor funding to the agricultural sector, the existence of a number of government agencies involved in the agricultural sector which are poorly facilitated and less coordinated. There is also lack of a monitoring and evaluation strategy for the different policies.

4.4 The National Nutrition Policy (2003)

The overall objective of the policy is to promote the nutritional status of all the people of Uganda through multi-sectoral and coordinated interventions that focus on food security, improved nutrition and increased incomes.

The National Nutrition Policy (2003) promotes cassava, maize and millet for increased food security. Programmes including Cassava for Value Addition in Africa (CAVA) and Africa Innovations have helped mobilise farmers, especially in parts of eastern Uganda in Kumi, Soroti and Katakwi districts.

Under the Food Supply and Accessibility focus area, the policy aims to promote and diversify the production of food commodities to meet the nutritional needs of households. The specific objectives include the following:

- a) To ensure that water, soil and other agricultural resources are well managed so as to improve and maintain the productivity of the land.
- b) To encourage and support operational and applied research to improve food production, and to disseminate the research results to the end users.
- c) To promote technologies that are appropriate to the farming systems in different agro-ecological zones.
- d) To strengthen advisory services for the benefit of all categories of farmers.
- e) To help the private sector improve food storage, processing, marketing and distribution systems for local and export markets.
- f) To monitor the trends of food supply and demand in the country.
- g) To encourage income-generating activities that improve the purchasing power of families.
- h) To ensure the availability of and accessibility to user-friendly credit facilities and other inputs that are essential for the modernisation and commercialisation of agriculture.

- i) To control pests and diseases in crops, animals and fish.
- j) To promote the availability of recommended high-yielding seeds, and improved livestock breeds and planting materials.
- k) To ensure food security at all times for those who have no access to food owing to circumstances beyond their control.
- l) To ensure food security in times of disaster.

Under the Food Processing and Preservation focus area, the policy seeks to guarantee safe, high-quality and nutritious foods with a long shelf-life for local, regional and international markets. The specific objectives under the policy include the following:

- a) To minimise post-harvest food losses.
- b) To increase the shelf-life of food.
- c) To establish, support and expand appropriate food industries in areas where food is produced.
- d) To reduce the reliance on imported food products in the country.
- e) To promote and add value to primary agricultural produce for both local and export markets.
- f) To promote efficient and cost-effective technologies for the processing and preservation of foods and their by-products.
- g) To promote the processing of weaning foods using locally-available foods.
- h) To improve and promote indigenous knowledge of food processing and preservation.
- i) To promote food fortification with appropriate micronutrients.

4.5 The National Agricultural Extension Policy (2016)

This policy provides options for interventions for the short, medium and long term as well as the immediate actions that the government will undertake to address the sector challenges, including low production,

productivity and household incomes. These are articulated in the eight policy areas which are:

- a) A pluralistic agricultural extension delivery system.
- b) Human resources management and capacity development.
- c) Farmer organisations and empowerment.
- d) Technology development, packaging and dissemination.
- e) Agribusiness development services and market linkages.
- f) Agricultural knowledge management and information system.
- g) Regulation and quality assurance of extension services.
- h) Targeting youth, gender and other vulnerable groups.

The extension policy is very clear on strategies for the improvement of extension services in the country. However, the strategy falls short of streamlining the extension services and bringing together the key players to harmonise their plans and activities. The issue of limited funding to the agricultural sector continues to thwart any planned interventions, with no extension staff being recruited and facilitated.

4.6 Challenges Related to the Policy Environment

Liberalisation involved dismantling the then existing extension services system. It also involved dismantling the Coffee Marketing Board (CMB), the Lint Marketing Board (LMB) and the rules governing the production, marketing and distribution of agricultural output. On the other hand, a number of autonomous agencies were set up to implement pro-market reforms within the liberalised environment. For instance, the Uganda Coffee Development Authority (UCDA) was established to monitor the coffee market as well as to ensure coffee quality. Other institutions that were created included the National Agricultural Research Organisation (NARO)

[THE POLICY ENVIRONMENT]

in 1992; the Cotton Development Organisation (CDO) in 1994; and the Dairy Development Authority (DDA) in 1998. A unique feature of the new sector agencies was that nearly all the agencies were created by Acts of Parliament. This meant that they were independent accounting units that received budget allocations directly from the national budget. As such, they reported to the Auditor General and Parliament and not the MAAIF.

This impeded the ability of MAAIF to coordinate their activities since the centres of accountability were in the Ministry of Local Government. Some of these agencies (such as UCDA and CDO) were given statutory powers to levy fees on produce for the development of the sector. Liberalisation also involved removing state controls. It allowed

prices to be determined by the market. The Government of Uganda anticipated that, by allowing market forces to determine output prices, the farmers would get a higher share of the farm-gate price compared to the days of the cooperative movement when the government fixed the prices of agricultural produce. Liberalisation helped maximise incentives for agricultural

production. The expectation was that agriculture would become attractive to investors. In the input market, liberalisation meant allowing increased competition in the supply of inputs. Here, too, it was anticipated that competition would drive down the prices of inputs, thereby making the inputs affordable to farmers.

With the creation of autonomous sector agencies, the role of MAAIF was agricultural policy formulation, support supervision, sector planning, regulation, standard setting, quality assurance, sector monitoring and guidance (GoU, 2010). This new role constrained MAAIF from providing vital services directly to farmers. However, some of these services were undertaken by MAAIF's subsidiary agencies which did not cover all crops. Other institutions, such as NAADS, responded to the changing environment by taking up additional functions beyond the extension services, such as credit provision (World Bank, 2010). There were weak linkages between the sector agencies. For instance, NARO is mandated with agricultural research but it is too poorly resourced to deal with the challenges faced in the agricultural sector. The existence of many government agencies has not helped much as they struggle to justify their existence and importance amidst scarce funding due to a limited envelope.

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5.

Other Government Farmer-Support and Skilling Initiatives



5.1 Skilling Uganda

According to the Strategic Plan (2012), Skilling Uganda denotes a paradigm shift for skills development in Uganda. The BTJET system will be transformed from an educational sub-sector into a comprehensive system of skills development for employment, enhanced productivity and growth. The main purpose will be to create employable skills and competencies relevant to the labour market instead of educational certificates. It will embrace all Ugandans in need of skills, not only primary and secondary school-leavers.

Technical-vocational training is vitally important for the production of critical skills in Uganda. Skills development for participants in the labour force is important in Uganda for several reasons. Technological change, higher value added and the increased competition flowing from trade liberalisation accelerate the demand for higher skills and productivity among workers. It is equally important to invest in the skills of economically vulnerable people. Skills development is essential for individual prosperity. Skills enable the individual to increase productivity and incomes. This is especially important for the people who must eke out a living in the informal sector of the economy. Uganda clearly will not be able to generate enough wage jobs for those entering the labour market. The vast majority of new entrants to the labour market will have no alternative but to work in the informal sector.

Knowledge and technical skills are essential for workers in the informal sector to increase their productivity and incomes, and to raise them out of poverty (GoU, 2012).

Technical-vocational training is vitally important for the production of critical skills in Uganda.

5.2 Youth Livelihoods Programme (YLP)

The YLP is a Government of Uganda flagship five-year development programme (2013/14-2017/18) targeting the poor and unemployed youth aged between 18 and 30 years. It covers all the 112 districts of Uganda, including Kampala, the capital, with a projected total budget of UGX 265 billion. The YLP was approved by Cabinet and passed by Parliament in 2013 and it was officially launched by the President in January 2014. The YLP is a deliberate government strategy to enable the youth to create their own employment and also employ others through the provision of affordable start-up credit (GoU, 2016).

Although youth unemployment is low in absolute terms, it is systematically higher than the national average rate for all adults. It is important to note that the majority of the unemployed youth are female (22.4%) compared to males (14%). Therefore, one mechanism to improve economic outcomes in Uganda is to scale up the availability of employment opportunities for this growing youth population (GoU, 2016).

Alongside the rising unemployment challenge, is the problem of limited access to credit, with the situation still being worse for the youth. Findings from the 2013 FINSCOPE III survey indicate that, while about 5.7 % of the adult population in Uganda had accessed credit from formal bank institutions, only about 4.1 % for the youth aged 18-30 years had got a similar chance (FINSCOPE III, EPRC, 2013). The youth are not considered as creditworthy by financial institutions as they often lack collateral, a verifiable credit history or steady employment (Ahaibwe and Kasirye, 2015). Therefore, the revolving funds provided by the YLP is both timely and appropriate for Ugandan youths to help decrease youth unemployment and enable more youth to gain income-generating potential (GoU, 2016).

The YLP is managed by the Ministry of Gender, Labour and Social Development (MGLSD) and implemented through district and lower local governments. It is a community demand-driven (CDD) programme that is implemented with guidance from the central government and the local governments. The funds are provided to local Youth Interest Groups (YIGs) in the form of one-year interest-free revolving start-up credit to acquire vocational skills and/or establish own businesses. Through local community engagements, outreach to youth is achieved and payback of loans enhances the sustainability of the programme (Gou, 2013).

According to the programme's master document (2013), the YLP is anchored in three components:

(a) Skills Development

The skills development component supports the development of relevant livelihoods skills training for youth that create opportunities for self-employment. This component provides hands-on training to the youth in marketable trades and basic start-up tool kits to those who successfully complete the training.

(b) Livelihoods Support

The livelihoods support component is intended to finance productive assets for income-generating activities initiated by the youth. All the beneficiaries receive basic training in entrepreneurship and life skills and appropriate follow-up support by the relevant subject matter specialists. According to the YLP guidelines, this component is expected to take 70% of the entire programme budget.

(c) Institutional Support

The institutional support component is intended to improve the technical, administrative and managerial capacity of the key implementers of the programme and promote good governance at all levels of programme implementation.

According to the YLP master document (2013), the principle target beneficiaries of the programme are the unemployed youth aged between 18 and 30 years. Specifically,

the YLP Programme targets the following categories of youth:

- a) Dropouts from school and training institutions.
- b) Youth living in slums, city streets, high-risk and impoverished communities.
- c) Youth who have not had the opportunity to attend formal education.
- d) Single-parent youth.
- e) Youth with disability.
- f) Youth living with HIV/AIDS.
- g) Youth who have completed secondary school.
- h) Graduates of tertiary institutions (including university).

Special consideration, it is stressed, is accorded to female youth, who should constitute at least 30% of the participants to be selected under the YLP. In addition, according to the programme's design, deliberate and specific efforts will be made to offer targeted support to special interest groups, youth with disabilities and university graduates (GoU, 2013).

A process evaluation found that the YLP was largely rolled out as planned in the programme documents, with vulnerable youths being mobilised throughout the country and enthusiastically expressing interest to take part in the programme. With only three years of implementation, the programme has reached over 83,000 youths across the 112 districts of Uganda. Although the expected number of beneficiaries is below the programme's third-year target of 148,824 youths, this under-performance is not surprising because the programme has only received 40% of the resources it should have received by this date. This means that the YLP has reached 56% of its target beneficiaries with only 40% of the resources, which is commendable (GoU, 2016).

According to the YLP master document (2013), the principle target beneficiaries of the programme are the unemployed youth aged between 18 and 30 years.

With the majority of farmers (55%) having not gone beyond primary education, they do not have an opportunity to train in agricultural institutions because these require one to have an ordinary level certificate of education.

According to the Government of Uganda (2016), the use of a bottom-up development approach, with the youth being encouraged to engage fully in the formulation of their own groups, choosing their own enterprises and managing them, is beneficial. The freedom for the youth to decide their group mates has the potential to ensure group cohesiveness. Project selection by the youth themselves increases their feeling/sense of ownership of the enterprises and, hence, the sustainability of the programme in the long run.

In addition, the mainstreamed nature of implementation through the existing structures of government, i.e. local governments, is a good signal that the programme can be sustained. Local governments enjoy proximity to the potential beneficiaries and are better suited to deliver training services, monitoring and evaluation of the projects, among others. However, the current capacity of local governments to manage the implementation process is limited owing to gross understaffing and underfunding of the critical departments (GoU, 2016).

However, according to the Government of Uganda (2016), the programme's evaluation also observed that some aspects of the YLP were underperforming as only 36% of the expected recoveries had been made by March 2016. Being a revolving fund, the success and sustainability of the programme is largely dependent on repayment of the start-up credit given to youth groups. Stakeholders attributed the slow progress of the YLP to several factors, including the following:

- a) The project is constrained by inadequate operational funds. This has caused many challenges in relation to the preparation of the youths before receiving the

start-up credit, the provision of technical support to the funded youth groups as well as monitoring and evaluation of programme activities.

- b) Some youths have been misguided by unscrupulous politicians in some districts to misinterpret the programme as a political gift for supporting the ruling government. This was partially reinforced by the timing of the launch of the YLP that coincided with the build-up to the 2016 presidential elections. Consequently, some groups channelled the programme resources into unproductive activities as they did not expect to pay it back. However, government officials in charge of the programme are taking corrective measures to recover the funds as well as sensitise stakeholders to the aims and objectives of the programme.

The overall conclusion is that the YLP is a bold initiative on part of the Government of Uganda to invest in young people without prior business experience. It has enabled many youth to undertake vocational skills for self-employment and start income-generating enterprises. There is general agreement that if the implementers of the programme are facilitated to implement the operational activities as planned, the YLP has the potential for success (GoU, 2016).

5.3 Vocational Training

Generally in Uganda, access to vocation training requires one to have attained some education level, in most cases at least ordinary level of education. Some private vocational institutions accept primary-level graduates, especially in training areas such as carpentry and construction. With the majority of farmers (55%) having not gone beyond primary education, they do not have an opportunity to train in agricultural institutions because these require one to have an ordinary level certificate of education. Even those who join vocational training institutions will be required to pay fees and meet

the costs of accommodation and feeding because almost all vocational institutions charge fees. The costs associated with the training deter many from joining.

In 2011, Cabinet approved the Business, Technical, Vocational Education and Training (BTJET) Strategic Plan (2012/3-2021/2) Skilling Uganda and authorised the Ministry of Education Science, Technology and Sports (MoESTS) to implement it. The plan denotes a paradigm shift for skills development in Uganda and addresses inadequacies based on a comprehensive analysis of the sub-sector in terms of relevance, equity, quality, organisational effectiveness and internal efficiency. The plan seeks to transform the BTJET system from an educational sub-sector into a comprehensive system of skills development for employment, productivity and growth (GoU, 2012).

According to the Uganda Skills Development Project guidelines (2012), the Skilling Uganda Strategy aims to transform the TVET system from an educational sub-sector into a comprehensive system of skills development for employment, enhanced productivity and growth. It emphasises a paradigm shift for skills development, which essentially aims at realigning the policy and institutional framework as well as investment in skills development to transform the current supply-driven system to a robust, sustainable, dynamic, demand-driven skills development system that would respond to the skills needs of the growing Ugandan economy. Implementation of the skilling strategy requires some critical reforms as well as a major investment programme. These reforms are two-pronged. First, they should ensure that the TVET system is oriented towards labour market needs in order to increase productivity and economic growth. Second, they should guarantee to the TVET institutions greater autonomy to take actions on their own, reinforced with greater accountability from the institutions and pool together different management and regulation functions for skills development into an integrated organisation, the

Skills Development Authority (SDA). The main reason to establish an independent training authority is to involve stakeholders, especially employers, in directing and evaluating the training system.

The Ugandan system of skills provision – BTJET – faces major challenges in improving linkages with the world of work, raising standards and expanding coverage. The ten-year plan for BTJET sets out the main reforms needed for upgrading the skills of the Ugandan labour force. The strategy builds on considerable progress in the reform of the BTJET system achieved during the last decade, which included the adoption of the BTJET Act in 2008 and the establishment of the Uganda Vocational Qualifications Framework (UVQF). The BTJET Strategic Plan also draws on the Draft BTJET Policy that was formulated in 2003, which outlined the framework of an integrated, competency-based BTJET system. It aims at wide and equitable access, quality and relevance of training, financial sustainability and institutional efficiency. It calls for the integration of different provider systems, including formal, non-formal, enterprise-based training, and diversified skills delivery. The strategic plan hinges on the BTJET Act of 2008 and incorporates the BTJET activities of existing actors, specifically the BTJET Department and the Directorate of Industrial Training (DIT) under the MoESTS (GoU, 2012).

5.4 Drawbacks of BTJET/Skilling Uganda

The BTJET system still does not produce the appropriately skilled workforce that Uganda needs to increase incomes and employment and to compete in the East African and international markets. Fewer than 40% of large and medium firms consider courses offered by BTJET institutions to be relevant to their requirements. A demand-responsive skills system requires greater engagement of employers in the BTJET system, a more flexible structure of training supply and better information about labour market demands.

[OTHER GOVERNMENT FARMER-SUPPORT AND SKILLING INITIATIVES]

Some progress has been achieved recently with the introduction of the UVQF. The UVQF is a major tool to ensure that training contents are aligned with the skill demands in the labour market and that training is re-focused to practical competencies. However, the UVQF requires more vigorous implementation (GoU, 2012).

According to the 2012/13-2021/22 BTJET Strategic Plan, the major issues of relevance for skills provision include:

- a) BTJET programmes for agri-business development and informal sector employment are strikingly insufficient in enrolment, content and training methodologies. Agriculture and the informal sector are the most important sub-sectors of the Ugandan labour market now and for the foreseeable future. Agricultural employment absorbs some 70% of the Ugandan workforce. The non-farm informal sector, which comprises mainly micro-enterprises, own account workers and unpaid family workers, accounts for 18% of total employment, and almost 60% of the non-agricultural employment.
- b) BTJET programmes cover a narrow range of occupations and do not address the skills needs in modern productive sectors. Skills deficits occur in the hospitality industry, ICT sector, business management and financial sector, mining and engineering, oil and gas, and for environmental technologies, among others.
- c) Employers assert that BTJET graduates often lack practical competencies. Technicians especially need more practical training.
- d) The soft skills necessary for modern work are underemphasised in training programmes. These include communication, computer literacy, customer care, problem-solving, work attitudes and ethics.

The BTJET sub-sector faces a number of challenges, including significant technological lags, with many institutions using out-of-

date equipment not relevant for today's market; staffing gaps; negative attitudes among staff and students; rigid courses with inadequate emphasis on practical training; and poor monitoring of service providers. There has been noticeable improvement in these areas over recent years, however. Stakeholders attribute this to increased funding for training materials and infrastructure; the introduction of the new BTJET curriculum, which emphasises competence-based training; increased involvement of employers and the private sector, although this is still limited; and new bodies such as the Uganda Business and Technical Examinations Board (UBTEB) and the Uganda Allied Health Examinations Board (UAHEB), which provide specialised and standardised assessments. The impact of increased funding for public BTJET institutions has been seen in continuous improvements in the stock of workshops and training materials, although progress has been slower than planned and some institutions still have limited equipment for practical work (GoU, 2014).

Staffing challenges in the BTJET sub-sector remain significant. Many BTJET institutions have fewer than 60% of staffing positions filled. To address staff shortages, it is common to recruit part-time instructors who are paid on an hourly basis. This is significantly cheaper than recruiting permanent instructors, but a lack of staff motivation and out-of-date skills remain key challenges to quality service delivery (GoU, 2014).

5.4.1 Quality of Graduates

Several public and private BTJET institutions have been upgraded in recent years with government and international funding. Some are well-managed and resourced, and thus able to deliver quality training. However, most of the more than 1,000 private and public BTJET institutions fail to deliver training commensurate with the required standards. One indicator is the low pass rate in BTJET examinations. About half of all registrants for UNEB BTJET examinations fail to pass their

examinations. Results in DIT trade testing are slightly better but also indicate severe problems, particularly in modern occupations. Better quality requires better qualified BTVET instructors as well as better training infrastructure. The physical infrastructure of many institutions is dilapidated and inadequate for the number of enrolled students. Most workshops lack essential training equipment and tools. The BTVET system fails to provide adequate quality control. Further, BTVET institutions lack incentives to improve their performance because they are not held accountable for results (GoU, 2012).

Implementation of policies to encourage industrial placements and practical training has been limited. The BTVET Act (2008) stipulates that all students should complete three months' supervised industrial training or apprenticeship. Implementation of these schemes has been limited; employers are reluctant to take on many students owing to the high costs of facilitation and supervision and the challenge of limited space. This has weakened institution-employer interaction, reducing employer contribution to the training process and the relevance of graduates' skills, although a few traditionally high-quality public institutions (such as Elgon Technical College) have more established relationships with employers, who often headhunt their top graduates. Despite the introduction of the Competence-Based Education and Training (CBET) curriculum, the majority of formal BTVET institutions still attach more emphasis to theory than to practical learning, compromising the effectiveness of formal BTVET and the competence of its graduates. Non-formal training providers have often been more successful in providing hands-on experience and practical skills, resulting in higher employer satisfaction. Yet many institutions are unaware of the new standardised training modules for non-formal BTVET and only offer long-term courses that are inflexible and expensive, deterring enrolment and causing unnecessary dropout (GoU, 2014).

With regard to impact, the Government of Uganda (2014) established that BTVET graduates are more likely to find wage jobs and are making use of their skills. Quantitative analysis of the Uganda National Panel Survey (UNPS) suggests that completing formal technical or vocational training on average increases consumption by around 7%. The returns to BTVET in most cases exceed the returns to formal education. This is supported by qualitative evidence on the experience of BTVET graduates. Formal vocational training is perceived to increase employability and the likelihood of finding wage employment, even if BTVET graduates do not earn higher wages. Since wage employment generally pays more than self-employment, BTVET increases average incomes among its graduates. Once recruited, BTVET graduates are perceived to be more productive, indicating proficiency in the utilisation of skills acquired. Stakeholders mainly attribute this to the Competence-Based Education Training (CBET) approach which emphasises vocational skills relevant to the needs of the labour market. Non-formal BTVET is thought to have larger productivity benefits due to a stronger emphasis on CBET, and greater exposure to the tools-of-trade, soft skills and market realities. Since many non-formal training programmes target the informal sector, beneficiaries are less likely to find wage employment but training often increases earnings from self-employment. The returns to training are particularly high when combined with cash injections to increase business assets, one-off grants disbursed under the Youth Opportunities Programme (YOP) component of NUSAF, which recipients used for vocational training, tools and materials, increased earnings after four years by around 40%.

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However, few graduates from formal BTVET institutions create jobs for themselves or others due to insufficient emphasis on business and entrepreneurial skills. Although government has prioritised vocational training to create ‘job makers’ rather than ‘job seekers’, job creation among formal BTVET graduates has been far less than expected. Lack of start-up capital is the most common constraint on enterprise creation that has been identified by formal BTVET graduates but the rate of self-employment among non-formal BTVET graduates, who are typically less well-off, is much higher. This suggests that entrepreneurial and business skills are being overlooked by formal training institutions. Many non-formal training providers specifically target micro-business managers and entrepreneurs who want to develop specialised skills to expand their initiatives, and the beneficiaries are consequently more likely to create jobs for themselves and others (GoU, 2014).

In its evaluation, the Government of Uganda (2014) also found that efforts to standardise the assessment and certification of BTVET candidates have helped job seekers and employers but coverage remains low. Certificates issued by formal BTVET institutions are increasingly recognised, reducing search costs for both job seekers and employers. But efforts to extend standardised assessment to shorter non-formal courses have so far made little headway. A large share of job appointments are still made on the basis of trust and personal connections (e.g. plumbers and mechanics), leaving some individuals with relevant skills unable to access productive employment.

Technical and vocational training has significant benefits but cannot overcome major constraints on labour demand. In the context of Uganda’s segmented labour market, vocational training may affect who is employed and not the number of jobs available if BTVET graduates find jobs at the expense of non-BTVET graduates. This is unlikely,

given that the inadequate supply of practical skills among the labour force is a binding constraint on the growth of many firms and that BTVET graduates are viewed as more productive once in employment. It is likely that many firms have hired BTVET graduates and would not have expanded employment otherwise. On the other hand, the position of many BTVET graduates remains unstable – the majority of those traced were employed informally with no appointment letters or official contracts. Job insecurity is not confined to BTVET graduates but stems from the excess of supply over demand that characterises the labour market. Vocational training is unlikely to generate the number of jobs Uganda requires unless other constraints on employment creation are addressed – such as inadequate physical infrastructure, limited competition among large firms, poor management practices and access to credit for growth-orientated SMEs (GoU, 2014).

5.4.2 Access and Equity

Opportunities for skills training have been increasing. Enrolments in public BTVET increased by 25% between 2007 and 2009. The Non-Formal Training Programme (NFTP) launched by MoES in 2010 also increased the number of Ugandans who acquired employment-relevant non-formal skills. New BTVET institutions currently under construction in 14 districts will create new training opportunities in areas that are currently underserved. Still, relatively few school-leavers and fewer adults and dropouts access organised training, especially through formal BTVET. Public training providers accommodate only about 1% of primary seven completers, 3% of O-level and 7% of A-level graduates. Even if private provision is taken into account, these levels still fall far short of NDP targets. The NDP calls for the BTVET sub-sector to enrol 10% of all P.7 graduates and 30% of O-level completers. Ironically, many BTVET institutions operate below capacity (GoU, 2012).

In a study on the provision of relevant skills development in Uganda, MoES (2014) later found that there is a large number of privately run, unregistered, small-scale non-formal training outfits which are part of the informal sector themselves. These are responsive to the demands for skills, adjusting quickly to changing needs. The programmes offered often require limited investment in equipment and facilities and provide easy market entry and exit for the providers, for example hair-dressing and cosmetics, tailoring, auto repair, food processing etc. The programmes are often of short duration to fit the 'just-in-time' learning needs of trainees. However, there are challenges that need to be addressed for skills development for non-formal training to be effective. First and foremost is the lack of standardisation and quality control in this kind of training; and secondly the inadequate number of skilled craftspersons available to train apprentices. The other challenge is the fragmented and undocumented nature of the training that does not follow any qualifications and certification framework (GoU, 2014).

5.4.3 Limited Participation in BTJET Programmes

According to the 2012/13-2021/22 BTJET Strategic Plan, many groups do not benefit fairly from BTJET provision. In particular:

- a) Low income groups tend not to participate because of the high fees and high opportunity costs caused by long training durations.
- b) Those who dropped out before completing primary school, almost half of the youth, were not addressed at all until 2010 when the NFTP was initiated.
- c) Females account for only about one-fourth of public BTJET enrolments, and are concentrated in traditional female occupations.
- d) PWDs, around 16% of the population, are virtually excluded from training opportunities in the public system.

- e) Adults have few avenues to upgrade or learn new skills.
- f) Persons living in Karamoja and the northern region have considerably fewer opportunities to acquire skills through training programmes.

A study entitled *Linking Labour Organisation and Vocational Training in Uganda* by the French Agency for Development (AFD) also concluded

The capacity of the formal vocational training system to reach large parts of the population and the poorest segments in particular, is limited. Adequately equipped vocational training institutes are costly to operate. ... a majority of the rural population will continue to depend on non-formal training services in order to acquire and/or improve their productive skills. (Focales, 2010)

5.4.4 Effectiveness

In terms of effectiveness, the Government of Uganda (2014) found that weak implementation capacity has undermined the effectiveness of the government's labour market interventions more than the availability of funds. The evaluation found that absorption was lowest in the BTJET sub-sector, where less than 40% of the funds released were spent.

Better skills development requires strong organisation and management of BTJET. Important steps were accomplished in recent years, including restructuring of the MoES, strengthening the DIT as a semi-autonomous body and especially expanding public-private partnerships. UGAPRIVI has emerged as a strong private sector organisation facilitating skills provision (GoU, 2012).

However, according to the 2012/13-2021/22 BTJET Strategic Plan, the management of BTJET remains highly fragmented. Within the MoES's 16 directorates, departments,

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divisions and institutions are fully or partly charged with different BTJET functions. These include the DIT, the BTJET Department, DES, UNEB, NCDC, the Department of Higher and Vocational Education and Training, the Department of Teachers and Instructor Education and Training, and others. Other ministries and institutions are involved in managing their own BTJET institutions and in policy development (e.g. the National Planning Authority). Many of the involved organisations and units are poorly resourced. Responsibilities between the different players are often unclear and overlapping. Main decisions on BTJET are made within the ministry's SWAp (sector-wide approach) mechanism, which is dominated by general education stakeholders and has only limited representation of BTJET interests. The expertise of core BTJET stakeholders, such as employers and business sector representatives, employee representatives, civil society as well as other sector ministries, is not systematically used for BTJET planning, policy development and monitoring.

Additionally, public BTJET institutions lack the authority to take action on their own. Governing bodies have considerable responsibilities; however key decisions, e.g. about training fees and budgets, require MoES approval. Decisions about training courses are in reality taken in the ministry. Lack of authority stifles incentives and results in a "dependency syndrome", where institutions expect the central ministry to solve their problems. This discourages initiative and innovation at the local level and constrains flexible responses to local market opportunities. This is reinforced by the lack of accountability in public institutions. Neither the BTJET Department nor governing bodies have performance agreements with institutional managers. Managers, instructors and governing bodies are not held accountable for training results. Good or poor examination pass rates do not lead to recognition,

rewards or sanctions. Teacher absenteeism occurs widely without consequences for headmasters or teachers (GoU, 2012).

5.4.5 Costs and Financing Limitations

Shortage of funding is clearly among the binding constraints on BTJET development in Uganda. Resource constraints affect all levels of the BTJET system, including the regulatory structure and BTJET institutions. At BTJET institutions funding shortages result in low teacher salaries, outdated equipment and facilities and unavailability of training materials, all negatively affecting the quality and the image of BTJET. At the regulatory level, financial constraints lead to understaffing and slow implementation of reforms, such as the development of Assessment and Training Packages (ATPs) (GoU, 2012). According to the 2012/13-2021/22 BTJET Strategic Plan, BTJET lacks diversified sources of funding. The two major sources of BTJET funding, the public budget and private households (through training fees) face tight constraints. The share of BTJET in the MoES budget is relatively low, at 4%. Also, public unit spending is low even by African standards. Private financing of BTJET contributes substantially through fees in public and private institutions, but poverty and low household incomes limit the scope for increasing private contributions.

Implementation of the BTJET Strategic Plan is estimated to cost UGX 2001 billion or US\$870 million over the nine fiscal years 2012/3 to 2021/2. Recurrent costs account for 55% of the total and development costs 45%. The estimates represent full sub-sector costs to government. About 40% of the recurrent budget is earmarked for raising access and quality. About UGX 433 billion would be spent on capitation grants/bursaries to support school-leavers attending formal BTJET programmes. Enrolment in formal BTJET is projected to

increase from 42,000 trainees to 103,000 trainees in 2019/20, an annual growth rate of 10%. Per capita funding will be raised gradually to ensure that training is provided at good standards. About 40% of the formal BTNET trainees will receive public scholarships (GoU, 2012).

Non-formal BTNET will be integrated permanently into the public BTNET portfolio. The plan allocates UGX 160 billion for non-formal BTNET. This will increase enrolment in publicly sponsored non-formal training from 20,000 persons in 2010/11 to 40,000 in 2015 and 60,000 by 2016. The bulk of development expenditures is earmarked for rehabilitating and strengthening existing BTNET institutions, both public and private, and for agricultural training (much of which will be borne by MAAIF). During the first phase, about one-fifth of total development costs will finance new BTNET institutions under the existing loan agreements. From 2014/15 onwards, no further investment is budgeted for new public institutions. Instead, incentives will be introduced to expand private provision, through, for instance, matching grants.

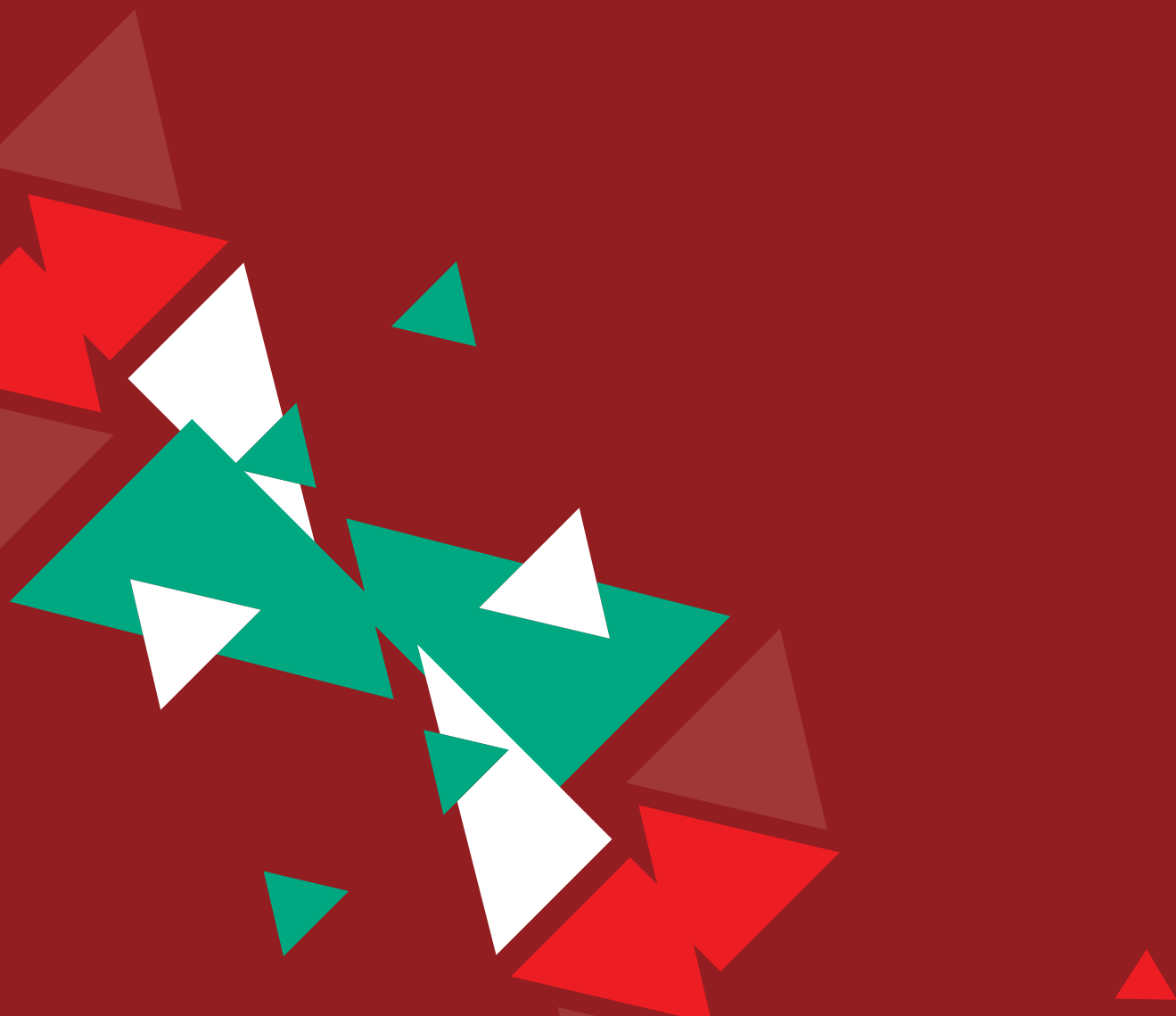
A substantial funding gap exists between the requirements of the strategic plan and currently projected public expenditure under the revised ESSP (2010 revision). For the first four years, corresponding to the current MTEF, the funding gap amounts to 60%

of total estimated costs, UGX 424 billion. Options for closing the funding gap include increased public allocation to BTNET, an increased engagement of development partners, co-funding by other government sectors, and development of more cost-effective training delivery. Further, the strategic plan envisages the introduction of a training levy, which may become a significant additional revenue source for the BTNET system from 2015/16 onwards. The current calculations exclude any potential proceeds from a levy (GoU, 2012).

In its assessment, the *Daily Monitor* (8 August 2016) observed that improvements in BTNET have failed to keep pace with the rapidly changing workplace conditions and requirements. Most BTNET institutions are not adequately resourced and facilitated to keep pace. It also pointed out that learning technical skills is not enough when soft skills that make people employable are lacking. These include problem-solving, conflict resolution, time management, communication, stress management, teamwork and networking. The report observed that vocational training can only have its full economic impact if its graduates get absorbed in perfect labour market situations, unlike Uganda where one's employability, job performance and earnings depend on connections and relations with potential employers.

6.

Conclusions and Recommendations



6.1 Conclusions

In the study areas of Abim, Lira and Soroti, agriculture was found to be the leading economic activity, dominated by crops including maize, millet, cassava, groundnuts and beans, which served as food as well as cash crops. These crops provided food supplies for households but also contributed to households' income generation as cash crops. The mean monthly income from the sale of agricultural produce stood at UGX 220,000, which exceeded the income that households could obtain from alternative income-generating activities. Based on this finding, it is concluded that with access to the market, small-scale farmers in Abim, Lira and Soroti can produce beyond their subsistence needs.

Almost all crop fields were found to be vulnerable to water and wind erosion. Erosion control measures like contour farming, the use of cover crops and planting boundary trees were employed by very few farmers. A significant number of farmers felt incapable to control soil erosion owing to lack of resources while some farmers lacked the knowledge and skills required for soil erosion control. A number of farmers were found to be still relying on the slash-and-burn approach of land clearing, hence aggravating the problem of soil erosion as they exposed bare soils to wind and water erosion. This finding led to the conclusion that smallholders will be better protected from the vagaries of erosion if they are equipped with appropriate knowledge and skills.

There was overwhelming evidence that soil fertility was declining, considering the reduced crop harvests that farmers registered annually. Measures to improve soil fertility were limited to the application of crop and animal manure by less than 20% of the farmers. No farmer had applied artificial fertilisers. It can, therefore, be concluded that small-scale farmers are able to sustain production if they adopt modern farming methods.

Crop rotation was found to be practised by many farmers, mainly to supply farmers with various food requirements annually rather than to improve soil fertility. It was found that farmers frequently planted maize after sorghum or beans after cow peas in a rotation cycle, and this implies that crop rotation was not aimed at soil fertility maintenance or conservation. This finding led to the conclusion that farmers can balance subsistence needs with income generation if they correctly apply soil fertility maintenance measures.

Fallowing as a measure to replenish soil nutrients was found to be rare owing to decreasing land sizes and increasing demands for food supplies, which forced many farmers to continuously plant their pieces of land. However, it was learnt that some farmers were not practising fallowing largely owing to ignorance about its importance. On the basis of this finding, it is concluded that smallholders can maximise output of acreage if they are equipped with knowledge of soil conservation techniques. Many areas of northern Uganda and Karamoja were reported to be prone to long drought seasons, which increased the risk of crop losses to drought. Despite the soil moisture deficits, water harvesting for agricultural use was not found to be practised by any farmer while drip irrigation was practised by only 4% of the farmers. It can, therefore, be concluded that crop losses among smallholders can be minimised if farmers rely less on rain-fed agriculture.

All farmers reported experiencing crop losses to pests, diseases and vermin during growth cycles. On average, 22% of the possible harvests were reported lost before harvesting. Maize was cited as the most vulnerable crop, followed by cassava, millet and groundnuts. Vermin, especially wild and domestic animals, as well as birds, were found to be destroying maize, millet and cassava gardens. Although the crop losses were registered, most farmers reported that they were ill equipped to control crop losses owing to lack of crop protection skills and

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resources like manpower, pesticides, herbicides and fencing materials. Post-harvest crop losses to weevils were also said to be high, especially with cassava and maize. This finding underlines the conclusion that crop losses occasioned by pests, diseases and vermin can be minimised if small-scale farmers are equipped with crop protection skills.

Many farmers reported having benefited from capacity-building programmes conducted by NGO, private sector and government programmes. Indeed, close to 90% of the farmers knew of an NGO operating in their areas. Most NGOs were said to target farmers and the general public but were not specific on issues of gender, disabilities or age of the farmers supported. Similarly, it was learnt that almost all NGOs did not prioritise any particular value chain. Arising out of this finding is the conclusion that capacity-building for small-scale farmers will be more effective if it is designed and delivered in a manner that takes into consideration the age, gender and physical ability of the participating small-scale farmers.

NGO-supported training sessions were found to be facilitated by extension officers, CDOs and change agents, most of whom were trained agriculturalists with bachelor's degrees and diplomas. However, most training programmes targeted farmers' groups, leaving out farmers with no membership of any group. Over 61% of farmers were found to have missed attending courses because they were unaware of training programmes although, of those who missed the training offered, 14% reported having other engagements. It is, therefore, possible to conclude that NGO-funded capacity-building will be more responsive to individual farmers' needs if it accommodates farmers who have no affiliation to any grouping.

Farmers' trainers were reported to employ various methods and tools to ensure learning during extension programmes. Lectures were said to be conducted within communities as well as field visits to farms. During

training sessions, materials such as posters and booklets were handed out to farmers. However, lectures were found to be ineffective in imparting knowledge to the largely illiterate and semi-literate farmers because they were unable to comprehend the terms and concepts employed. Field visits and discussions were found to be the most effective methods of content delivery to all farmers. On the strength of this finding, the study concludes that training techniques for small-scale farmers will be more effective if they adopt more adult learning styles which integrate a demonstration approach.

The fees that trainers charged farmers' groups were found to be varying with the content to be delivered and the duration of training. The costs of conducting farmer training ranged between UGX 7,000 and UGX 15,000,000 per farmer group, depending on content. The higher fees charged by some trainers kept out some farmers who could not meet the costs. Emerging from this finding is the conclusion that enhancing the skills of small-scale farmers will be more accessible if the cost of training is subsidised for individual farmers.

Through capacity-building programmes, participating farmers reported having gained knowledge and acquired skills in agronomy, crop protection, tree-planting, post-harvest management, marketing and value addition. However, it was established that there were many skills that some farmers had hoped to develop, including disease management, waste management but did not acquire them because they were not part of the planned training packages. This finding informed the conclusion that capacity-building interventions will be more useful to small-scale farmers if they respond to farmers' skill and knowledge gaps.

The language used during training sessions was found to be a key factor in aiding better learning among farmers. Most farmers indicated preference for trainers who were able to conduct sessions in local languages. Practical sessions were said to help many

farmers learn better through hands-on training. Farmers also desired trainers who used basic explanations and evidence-based scenarios to explain processes. The farmers who attended training sessions reported improvement in planting practices, crop spacing and general crop management practices. Stemming from this finding is the conclusion that training of small-scale farmers is more effective if it is delivered in a manner that takes advantage of different aspects that enable individual learning.

Whereas maize and cassava value chains were found to attract many players involved in capacity-building, research and value addition, no single NGO or government agency was reported to target the millet value chain. Millet farmers only benefited from the general farming knowledge provided by stakeholders who supported all farmers irrespective of the value chains they were involved in. This implies that specialised support to millet farmers was lacking. It is, therefore, concluded that smallholder millet growers will only flourish if they are adequately supported through capacity-building, research and value addition.

Farmers in Lira were reported to be receiving support from North Chilli Producers, CARITAS and Agency for Sustainable Rural Transportation (AFSAT), while in Teso, SORUDA, World Vision and PEP were reported to support farmers. In Abim, farmer-support organisations included Abim Women Together in Development (AWOTID) and Share an Opportunity Uganda (SAO). Other NGOs, such as World Vision, ADP, GOAL, CIDI and PEP were supporting farmers to access other social services, including education for their children, clean water and maternal health. Government programmes such as NUSAF, NAADS and OWC were found to be facilitating farmers through the supply of seeds, seedlings, planting stems, farm tools and equipment. Government programmes were reported to have also trained participating farmers and equipped them with various skills in crop production, post-harvest

management, value addition and marketing. In some areas, value-addition centres were reported to have been established.

Although government farmer-support programmes appeared widespread and extensive, 44% of the farmers had not benefited because they were not aware of the programmes or were not selected to benefit. This implies that farmer support by the government was not prevalent. This finding informed the conclusion that support towards small-scale farmers will be more effectual if state and non-state actors are jointly involved in delivering different aspects. The study found the existence of strong farmers' associations, with 54% of the farmers being members of one group or another. Membership required the payment of membership fees and annual subscriptions. The benefits of belonging to a farmers' group included access to market information, group loans, group marketing and participation in group training. On this basis, it can thus be concluded that small-scale farmers will widen their market access prospects if they belong to a farmers' association.

More than 93% of the farmers reported selling their farm produce to generate income. However, farmers revealed challenges in marketing their farm produce due to high transportation costs, price fluctuations, limited markets, lack of produce storage facilities and, sometimes, poor quality of produce. Poor-quality produce was said to fetch between 10-30% less of the prices that consumers and traders were willing to pay for good quality produce. The conclusion that was reached from this finding was that the market potential for small-scale farmers will be enhanced if the farmers can maintain market-driven quality of their produce.

Traders and consumers reported the ability to identify food quality grades depending on visual aspects and physical attributes. Poor-quality maize was said to have smaller seeds, sometimes with a black or brown colour or patches. Poor-quality dried cassava was detected through its having

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rotten black or yellowish-brown patches and holes bored by weevils while poor-quality fresh cassava was judged by black patches and a bad smell. Some of the poor-quality fresh cassava would taste bitter.

Maize, millet and cassava were found to be highly demanded by both consumers and traders. Maize was demanded mainly as seeds and flour, cassava was mainly demanded as dry cassava or cassava flour while millet was demanded as seeds and flour. Fresh maize, cassava and millet were said to attract lower demand owing to their perishable nature. In all cases, processed food products fetched better market prices, with price increases ranging between 20 and 30% of the price that non-processed foods fetched. Almost all farmers reported selling their produce in an unprocessed form to consumers or the local markets. This was done to both avoid high transportation costs to processing centres and to save the time and money involved in value addition. On account of this finding, the study concluded that small-scale farmers can compete for attractive prices for their produce if they invest in value addition.

Poor-quality maize was attributed to poor storage, premature harvest and limited drying. Poor millet quality was linked to premature harvests and limited seasoning while poor-quality cassava was attributed to poor storage, limited drying and the long distances involved in transportation for fresh cassava.

Value addition was found to be a new concept to many farmers. Many were not aware of its importance, but even those who were aware of the economic significance of value addition could not attempt it owing to the high costs involved in procuring the requisite technology and skilled manpower. It is on this ground that it was concluded that the prospects of value addition for small-scale farmers will be enhanced if the constraints relating to technology and skilled manpower are addressed.

The government, through MAAIF, was found to have put in place several agricultural policies to support extensive production, marketing of crops and value addition. However, implementation of policies was found to be weak and the impact of the policies was largely unfelt in the study areas. Government interventions, including NUSAF, NAADS and OWC, were found to be in place but support to farmers was limited in terms of who benefits, the value chains supported and the support extended to farmers. The conclusion that flows from this finding is that government interventions targeting farmers will be more effective if the scope of support is widened across the spectrum of farmers, value chains and the needs of farmers.

6.2 Recommendations

6.2.1 Recommendations Relating to Specific Skills Gaps

a) Mitigating soil erosion

This study found that the capacity of small-scale farmers to mitigate soil erosion was severely wanting and, therefore, affecting productivity. Given the varied soil types, land use practices, landforms and the severity of wind erosion and water runoff, developing capacity will need to be closely tailored to specific locations. Accordingly, tailored training interventions are recommended for all farmers to cultivate their ability to mitigate and control soil erosion on their landholdings. Alleviating soil erosion will help in reducing nutrient losses as well as protecting budding crops from water and wind damage.

b) Soil fertility maintenance

With only a handful of farmers making efforts to maintain soil fertility, the need for skills in soil fertility maintenance and water conservation is apparent. To build up farmers' technology for preserving soil fertility, this study recommends public and private investment in specialised training in water harvesting, manure use, agro-forestry, fertiliser application and irrigation.

c) Climate change adaptation

As the study revealed, small-scale farmers in the study areas have been severely disadvantaged by their over-dependence on nature, with drought posing an acute challenge. Escaping this trap will require training providers to mainstream climate change adaptation into all training interventions for farmers in northern Uganda and the Karamoja and Teso sub-regions.

d) Pest and disease control

This study highlighted the magnitude of crop losses which smallholders suffer as a result of pests and diseases. In this respect, capacity-building is necessary to overcome the formidable impediments associated with pests and diseases if smallholders are to avert losses. To mitigate this drain, a deliberate component on pest and disease control and management is recommended for the training packages delivered to small-scale farmers. Capacity development, however, must not only enable small-scale farmers to control pests, vermin and weevils but also integrate logistical support for agro-chemicals and integrated pest management approaches for poor farmers.

6.2.2 Recommendations Relating to Government Policy

a) Knowledge generation

Considering the government's emphasis on value addition, public and private provision is necessary in advancing capacity for comprehensive research on agricultural issues that have direct relevance to farming practices, suitable varieties, post-harvest management, value addition and marketing strategies. Whereas cassava and maize enjoy government support in knowledge generation, the paucity of research on millet undermines the economic potential of the millet value chain in improving living standards. It is in the interest of small-scale millet growers in Abim, Lira and Soroti for government to prioritise millet for the necessary support that promotes it as a viable value chain.

b) Equitable support to all value chains

In terms of government priorities, the findings of this study suggest that government support has gravitated towards the cassava and maize value chains as opposed to millet. Based on this finding, it is the recommendation of this study that ICCO should lobby for systematic government attention to the agricultural issues affecting millet so as to promote the economic benefits of the value chain beyond food security. Through NARO as a government department playing a key research role in developing crop varieties suitable for different conditions, the government can play a more active role in the research and development aspect of millet. The specific departments of crop protection and extension within MAAIF should be involved in designing appropriate farmer support and training interventions for millet growers. Similarly, the involvement of NAADS and OWC in implementing value-addition programmes could enable the provision of value-addition infrastructure, knowledge and skills to millet growing smallholders.

6.2.3 Recommendation Relating to Skills Development Stakeholders

a) Farmers' groups

As the study has indicated, limited connections among small-scale farmers stand out as an impediment to their productivity and exposure. This study, therefore, deems it crucial that smallholders are backed to plug into the available sources of support that exist or can be constituted as farming groups or associations. Overcoming isolation will enable individual farmers to benefit from capacity development opportunities which different NGOs offer as well as to access credit facilities and enjoy mutually valuable peer support.

6.2.4 Recommendation Relating to Suitability of Training Methods

a) Use of learning aids

The findings of this study underscored a strong link between training styles and imparting knowledge, with lectures reported to be constraining farmers' ability to absorb knowledge. In an effort to provide a reliable channel for developing the skills of participants that are not homogeneous, responsive techniques must be made central elements in the skills development of small-scale farmers. A more effective approach to capacity development which employs more of discussions, field visits, the use of local languages and audiovisual materials during training is recommended to address the recognised major imbalances between the literate and the largely illiterate smallholders.

6.2.5 Recommendation Relating to Learning Needs and Expectations

a) Training needs assessment

As the study findings revealed, effectively addressing the skills gaps of small-scale farmers calls for well-designed training interventions with a clear mission. Given that smallholders face an array of skills and knowledge deficiencies, a comprehensive needs assessment is the logical starting point to plug these gaps. The needs assessment will need to profile the basic crop production skills which different farmers lack so as to identify the training needs, knowledge and skills gaps of the entire farming community.

6.2.6 Recommendation Relating to Fostering Dialogue

a) Partnerships between public and privately funded training interventions

Considering that government interventions have not been widely favourable as the study has shown, developing the capacity of small-scale farmers will benefit from partnerships between public and private entities. Strengthening links between public and private capacity-building interventions will broaden support for farmers as well as avoid duplication of farmer-support activities. A culture of sharing of experiences among the different farmer-support actors is equally essential in improving the coordination of farmer-support activities.

b) Collaboration with collective buyers

As small-scale farmers are also reliant on the available market for their produce beyond subsistence, opportunities for market access need to be proactively sought. Nurturing links between smallholders and collective buying schemes such as Production Purchase, an initiative of WFP which purchases food crops, will expand opportunities to build smallholders' capacity. Collective buying arrangements guarantee a framework through which smallholders, as groups of suppliers, develop the capacity for quality control ranging from crop management, sourcing inputs to harvest management. This ultimately empowers them to negotiate for better prices for their produce.

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