



Food and Agriculture Organization  
of the United Nations



KNOWLEDGE MATERIALS – VALUE CHAINS

## Coffee value chain analysis

### Opportunities for youth employment in Uganda



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## Acronyms

ACF	Agricultural Credit Facility
ACPCU	Ankole Coffee Producers Co-operative Ltd
AFCA	African Fine Coffee Association
BCU	Bugisu Cooperative Union
CBI	Centre for the Promotion of Imports from Developing Countries
CECOFA	Central Coffee Farmers Association
COMTRADE	Commodity Trade Statistics Database
CURAD	Consortium for enhancing University Responsiveness to Agribusiness Development
CSR	Corporate Social Responsibility
DRE	Decent Rural Employment
DRUGAR	Natural Dry Uganda Arabica
GPS	Global Positioning System
EPRC	Economic Policy Research Centre
ESA	Agrifood Economics Division of FAO
ESFIM	Empowering Smallholder Farmers in Markets
FAO	Food and Agriculture Organization of the United Nations
FAQ	Fair Average Quality
FGDs	Focus Group Discussions
FOT	Free on Truck
FTBIC	Food Technology and Business Incubation Centre
GDP	Gross domestic product
FSD	Financial Sector Deepening
ICA	International Coffee Agreement
ICO	International Coffee Organization
IDH	Sustainable Trade Initiative
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
ITC	International Trade Centre
KIIs	Key Informant Interviews
LC1	Local Council One
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MoGLSD	Ministry of Gender, Labour and Social Development
MDAs	Ministries, Departments and Agencies
MoFPED	Ministry of Finance, Planning and Economic Development
MTIC	Ministry of Trade, Industry and Cooperatives
NAADS	National Agricultural Advisory Services

NARO	National Agricultural Research Organisation
NACORI	National Coffee Research Institute
NUCAFE	National Union of Coffee Agribusinesses and Farm Enterprises
NSYEA	National Strategy for Youth Employment in Agriculture
NDP	National Development Plan
NPA	National Planning Authority
OFID	OPEC Fund for International Development
OPEC	Organization of the Petroleum Exporting Countries
OSH	Occupational Health and Safety
OWC	Operation Wealth Creation
SACCO	Savings and Credit Cooperative
SFVC	Sustainable Food Value Chain
TWG	Technical Working Group
UBOS	Uganda Bureau of Statistics
UCDA	Uganda Coffee Development Authority
UCF	Uganda Coffee Federation
UCP	Uganda Coffee Platform
UEPB	Uganda Export Promotion Board
UGX	Ugandan Shilling (currency)
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
UIRI	Uganda Industries Research Institute
USAID	United States Agency for International Development
USD	United States dollar (currency)
VSLAs	Village Savings and Loan Associations
WB	World Bank
WUGAR	Washed Uganda Arabica
YLP	Youth Livelihood Programme

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## Executive summary

Uganda, like other sub-Saharan African countries, continues to experience increasing levels of youth unemployment in view of its rapid population growth in recent decades. Such a trend exerts mounting pressures on the overall capacity of the national economy to generate adequate numbers of decent jobs to absorb the working age population.

The country depends on agriculture as a source of livelihood and foreign exchange earnings. The country's 2015/16–2019/20 Agriculture Sector Strategic Plan identified coffee as one of the 15 priority commodities that the Government of Uganda is focusing on to promote growth, development and employment creation.

In its effort to support the Government to enhance youth employment in agriculture, in 2018 FAO launched a selection process to identify the value chain with the greatest potential to boost youth employment. Based on considerations of economic and socio-political feasibility, as well as overall sustainability considerations, national youth and agriculture stakeholders have decided on pursuing actions in the coffee value chain.

This study was therefore commissioned to analyse the coffee value chain and identify constraints and opportunities for youth employment. It also aimed at suggesting upgrading options and policy actions that could realize the potential for creating and enhancing youth employment in the coffee sub-sector.

### General value chain findings

- Prior to the tabling of the Coffee Bill in 2019, the coffee sector in Uganda has been lightly regulated. Compared to other crops, the coffee value chain is one of the most advanced in terms of centralized policies and regulations. The Uganda Coffee Development Authority (UCDA), a public agency under the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) is mandated to oversee and coordinate its development.
- Uganda produces both Robusta and Arabica coffee, at a ratio of 4:1. The country exports its coffee all over the world in the form of green beans, primarily to traditional markets in Europe (especially Italy and Germany) and the United States of America. The outlook for Ugandan coffee is generally positive, with all export companies indicating that there has been a steady growth in demand. The global market is becoming increasingly competitive however, and has experienced over-supply from major producers such as Brazil and Vietnam. Since 95 percent of Ugandan coffee is exported, any trends and changes in the international market will have a direct impact on the prices and conditions of farmers and enterprises back home. While mainstream Robusta still dominates the industry, there has been a growing focus on quality, sustainability and specialty coffee.
- In Uganda, agriculture is dominated by smallholders with an average land holding of 1.4 ha per household. It is estimated that about 85 percent of coffee producers in Uganda intercrop their coffee trees with bananas and other staple crops. Coffee is a priority crop for Uganda because it supports the incomes of many subsistence farmers and, on average, generates approximately 20–30 percent of the country's foreign exchange earnings. However, production has been increasing very slowly, with annual production levels at around 3–4 million bags for the last 15 years. Coffee production in Uganda is characterized by very low productivity, minimal application of inputs, and struggles with pests and diseases. Furthermore, little on-farm washing is realized for Arabica beans, due to the lack of equipment, while on-farm drying for Robusta beans is relatively common.



- Coffee aggregation and primary processing take diverse forms and actors are at different levels of sophistication. There are business owners who perform both functions and those who simply provide transport services for a fee on behalf of larger traders and processing companies. However, the majority are small businesses that rely on manual labour to pulp, dry, sort, load and transport coffee to the next points of sale. Work is seasonal with low pay.
- Since the Ugandan coffee industry was liberalized in early 1990s, the export segment has been populated by international commodity traders. Sustainability and quality demands have driven vertical integration: export companies have increasingly performed and controlled upstream functions. They not only have secondary processing factories in Kampala, but also buying points and washing or hulling stations in coffee-growing districts. Furthermore, pressure on traceability has contributed to the rise of third-party certifications and recently company-specific traceability systems. This often involves the operation of a digital platform, through which information on supplying farms is registered and the journey of coffee is closely followed.
- Contrary to the vibrant export segments, the coffee retail sector in Uganda is under-developed. Despite being one of the world's leading coffee producers, the vast majority of Ugandans do not drink coffee but rather opt for tea. Recently, however, there have been growing efforts to encourage local consumption, with the emerging presence of small roasters and coffee houses that are popular among the urban youth and upper-middle class clientele, although these are still few and far between.

#### **Youth involvement in the coffee value chain**

- The study reveals a substantial concentration of young people in the coffee value chain, indicating that the value chain is contributing to providing incomes and employment to a considerable proportion of Ugandan youth. In working towards the objective of exporting 20 million 60 kg bags by 2030 – almost a fivefold increase from the current figure – the coffee value chain has considerable potential to further attract young people into the labour market.
- Nonetheless, while young people are involved in all stages of the value chain, most currently take on seasonal jobs as casual labourers with low pay. At the production level, most youth do not own coffee gardens, but simply provide help to family farms or wage labour in activities such as planting, weeding, spraying and harvesting. The marketing and selling of coffee, and the resulting profits, are controlled by middle-aged and elderly men. This is because of lack of access to land and start-up capital, and a general negative attitude towards agricultural activities in perennial commodities. Youth involvement in farmers' organizations is still limited and there are not many specific youth groups.
- Similarly, in aggregation, processing and distribution, as well as the provision of support services (e.g. seedlings, agro-inputs), the majority of youth participate as employees and not as owners of businesses. Many of these jobs, especially in aggregation and primary processing (e.g. loading, transporting, operating heavy machines), involve working in difficult conditions such as poor roads and heavy rains, and exposure to health and safety risks. Many activities are also unfavourable in terms of women's participation due to social norms that prevent them from enjoying the same mobility as men. There is an evident division of labour between young men and women within these value chain functions, with men responsible for physically demanding work and women responsible for tasks that require attention to detail.

- The current situation hinders youth from benefiting equally from coffee earnings and is largely due to inadequate access to productive assets, finance and missing skills. However, there have been promising initiatives from both the public and private sector to better equip young people with the necessary skills and capital, in order to capture jobs in the field, in the factory, and at the office. The commitment of large processing and exporting companies such as Kyagalanyi, Ibero, Kawacom and Great Lakes Coffee is particularly encouraging in terms of the scale of impact.
- This study thus finds considerable opportunities for youth to maximize their participation in and benefit from the coffee value chain if supported to overcome the challenges in terms of access to land, finance and skills. At the farm level, youth could fill the gaps in modern technology use and post-harvest handling through provision of services in groups, such as garden management and storage facilities. At aggregation level, youth need start-up capital to get involved as owners and managers of enterprises and not just seasonal employees. At processing and distribution level, youth participation can be enhanced through appropriate technical training and capacity building in marketing and financial management skills. The growing importance of ICT in agriculture, manifested through the roll-out of digital traceability systems in coffee, can also provide more opportunities for young people to work in quality control and inspection.
- In addition to furthering value addition and fostering decent work for wage employees, youth should also be empowered to own and operate businesses. This study demonstrates the profitability of coffee farms and enterprises, and thus encourages more young people to venture into agriculture. Taking a value chain approach, entrepreneurship opportunities do not stop at the farm gate, but can be increasingly found at downstream stages. For instance, the rise of direct trade in quality and specialty coffee products, aided by digital technologies, opens up space for small and medium enterprises in developing countries. Youth must be empowered as the key force in harnessing the potential of innovations, as they are more open to take on novel processing methods and marketing strategies.

### Policy recommendations for enhancing youth employment

Creating an enabling environment is key in enhancing youth employment for all nodes of the value chain. This report proposes strategic interventions and outlines concrete immediate, medium and long-term policy actions to maximize youth participation in the coffee value chain. These may include, but are not limited to, the following:

- **Enable youth access to land:** develop bylaws that allow youth to access land for coffee production and seedling multiplication, either through leasing or share cropping. Strengthen individual land rights on the leased and rented land for longer time periods. Sensitize coffee growing communities to promote intergenerational transfers of land.
- **Support youth access to affordable capital with flexible payback mechanisms:** support the establishment of youth village savings and loan associations (VSLAs) and capitalize them using existing government initiatives such as the Youth Livelihood Programme (YLP). Assist individual youth and youth groups to start coffee businesses through revolving funds, such as the Youth Venture Capital Fund, which partners with commercial banks. De-risk loans to youth through guarantee mechanisms and capacity building.
- **Foster capacity building for youth-run agribusiness in service provision:** support the establishment of well-organized youth groups and support youth in the handling of group dynamics, group management and sharing of costs and revenues. Train youth in best practices in production and post-harvest handling of coffee. Assist youth groups

in establishment and management of community-level storage and primary processing facilities. Enhance farmers' demands for productivity-enhancing and post-harvest handling services by showing impact on profitability and addressing the accessibility of inputs and equipment.

- **Equip youth with technical and financial skills in coffee processing and promote market linkages between small businesses operated by youth and external markets.** Invest in incubation centres and research institutes that offer opportunities for youth-led businesses to experiment and expand. Train interested youth in business skills such as financial literacy and management, and the development of business proposals and plans. Ensure skill matching in training and education in agriculture and agro-processing.
- **Promote improved working conditions and enforce adherence to contracts.** Limit exploitation of young workers through the promotion of on-job benefits and insurance. Monitor the engagement of younger youth (e.g. the 14–17 age cohort) in the sector, advocating for their rights and inclusion, and guaranteeing that their engagement complies with labour standards. Invest in rural infrastructures to upgrade road and electricity conditions.
- **Increase women's involvement in the coffee value chain and promote fair compensation for female labour.** Work with community leaders to tackle social norms that hinder women from accessing productive resources and devise arrangements that facilitate easier participation for women. Work with leading companies to expand job options for women. Facilitate support programmes that particularly target young women.
- **Raise awareness and interest amongst youth in agriculture and agribusinesses.** Organize coffee events and campaigns that encourage youth involvement in coffee. Promote youth role models in coffee value chain and encourage them to mentor other young people in the communities.
- **Consolidate youth support activities and programmes.** Under the leadership of the Ministry of Gender, Labour and Social Development (MoGLSD) and MAAIF, increase collaboration on youth and agriculture issues between relevant ministries and organizations at the national and local level. Document and consolidate youth-oriented development initiatives and mobilize scattered resources to facilitate youth participation in the coffee value chain.
- **Collaborate closely with private sector initiatives through the Uganda Coffee Platform (UCP) and UCDA.** This is to align proposed support activities with private sector companies and establish sustainable market linkages for emerging youth businesses along the coffee value chain.

In synergy with the strategic actions proposed by the UCDA Coffee Roadmap, these recommendations do not only pertain to youth but also aim at improving the competitiveness and sustainability of the whole coffee sub-sector.



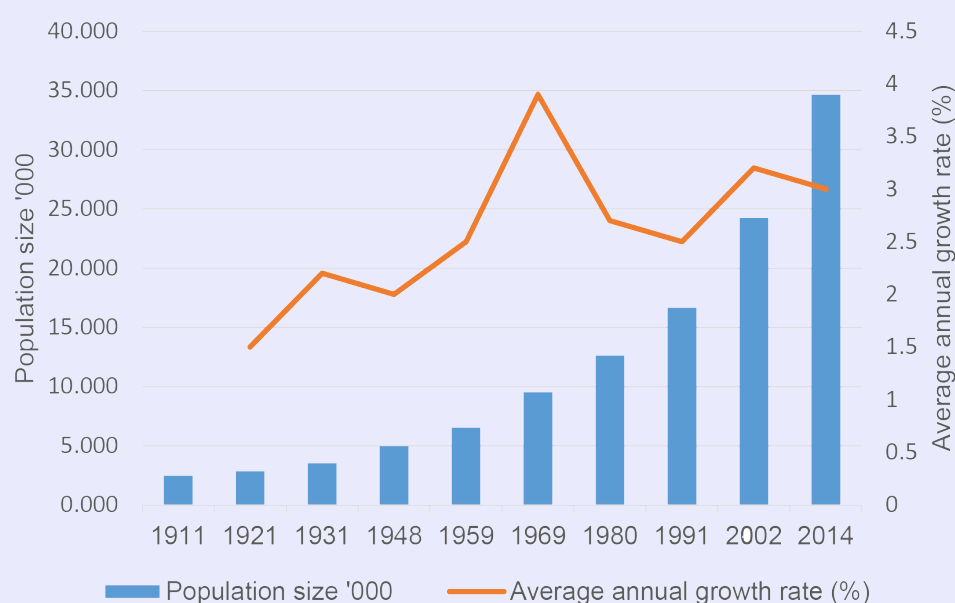




# 1. Introduction

Africa, and specifically sub-Saharan Africa, has experienced rapid population growth in the recent past, which has led to a bulging youth population. This is putting pressure on service provision and on the overall capacity of national economies to generate adequate numbers of decent jobs to absorb the working age population. In Uganda, the population more than doubled in the past two decades and the current annual population growth rate of 3 percent is the second highest in the world (UBOS, 2016). In addition, Uganda has one of the world's youngest populations, with over 78 percent of its population below the age of 30 (ibid). In the 2014 census, the total population of Uganda stood at 34.6 million people, with more than half (56.7 percent) under 18 years old (UBOS, 2018). Youth aged 18–30 years<sup>1</sup> constituted 22.5 percent of the country's population, while youth aged 15–24 years accounted for 20.6 percent (ibid). Additionally, 79 percent of young people live in rural areas where poverty levels are relatively high and agriculture is the major economic activity (NPA, 2015).

**Figure 1: Population size and annual population growth rate for Uganda**



Source: Authors' computation using data from 2014 National Population and Housing Census Report. UBOS, 2016.

The Government of Uganda recognizes youth unemployment and underemployment as one of the biggest development challenges the country is currently grappling with (NPA, 2015). Unemployment rate for youth aged 15–29 years in Uganda stood at 18.6 percent in 2015, up from 13.3 percent in 2013. Moreover, the proportion of female youth of working age who are unemployed (22.4 percent) is significantly higher than that of unemployed male youth (14 percent) (ILO, 2017). According to Kasirye et al. (2015), 63 percent of youth aged 15–29 years are underemployed. Most youth who reported themselves as working are self-employed in low-productivity activities in the informal sector (FAO, 2017). Informal jobs are often associated with low and unstable earnings and job insecurity (Ahaibwe and Mbowa, 2014).

The causes of youth unemployment include limited expansion of job opportunities, low interest in agriculture, inappropriate skills and skills mismatch. In addition, the causes of limited access to quality and decent jobs for youth in agriculture and in the

<sup>1</sup> It is worth noting that the International Labour Organization (ILO) definition of youth covers persons aged 15–24 years, while for many countries including Uganda, national policies refer to youth as persons aged 18–30, or sometimes 18–35.

rural labour market include, amongst other factors, underdevelopment of rural areas, poor economic diversification and low private sector development, as well as low productivity and hence low returns from subsistence farming.

Uganda, like other sub-Saharan African countries, depends on agriculture as a source of livelihood and foreign exchange earnings. The sector employs 72 percent of the population and contributes 40 percent of the total goods export earnings, as well as 22 percent of the gross domestic product (GDP) (UBOS, 2016). The sector is also a major source of raw materials for local industries and, being the largest employer, offers employment to the majority of women (73 percent) as primary producers (UBOS, 2016).

Uganda's 2015/16–2019/20 Agriculture Sector Strategic Plan identified coffee as one of the 12 priority commodities that the government is focusing on to promote growth and development. In addition, the Economic Policy Research Centre (EPRC) and Uganda's Ministry of Finance Planning and Economic Development (MoFPED) identified coffee among the nine key commodities that the government should prioritise in its agro-industrialisation agenda (EPRC, 2018). In a multi-stakeholder workshop facilitated by the Food and Agriculture Organization of the United Nations (FAO) in 2018, the coffee value chain was also selected as the number one value chain with significant potential to boost employment opportunities for youth.

Coffee is Uganda's most valuable agricultural export commodity, consistently contributing 20–30 percent of foreign exchange earnings over the past two decades. In 2018, the value of coffee exports reached United States dollar (USD) 490 million (UCDA, 2018). The earnings from coffee will dramatically increase if the country achieves its target of increasing its coffee annual production to 20 million 60 kg bags by 2030, from the current annual level of 4.7 million bags (Bakema and Schluter, 2019). This will bring about major opportunities to increase the number of decent jobs created in the sector.

## 1.1 Overview of the coffee sub-sector

Uganda produces two types of coffee – Robusta and Arabica – at a ratio of 4:1, which are grown in different parts of the country (ICO, 2019b). According to Verter, Bamwesigye and Darkwah (2015) and Morjaria and Sprott (2018), the crop is mainly cultivated in the Southern and Central districts (57 percent), Eastern Uganda (23 percent), Western Kasere (10 percent) and, to a lesser extent, areas that are not traditionally known for coffee production, like Mpigi, Wakiso and Rakai (10 percent). While Robusta production is concentrated in the Southern and Central districts, Arabica is grown on the slopes of Mount Elgon, bordered with Kenya and the slopes of the Mount Rwenzori, also known as the 'Mountains of the Moon', bordered with the Democratic Republic of Congo. Some Arabica coffee is also grown in the West Nile region in North-western Uganda. Coffee marketed as 'DRUGAR' (Natural Dry Uganda Arabica) or 'WUGAR' (Washed Uganda Arabica) is grown on mountains bordered with the Democratic Republic of Congo, along with Western Uganda and some in Mount Elgon.

According to the Uganda Coffee Roadmap, commissioned by the Uganda Coffee Development Authority (UCDA) and developed by Bakema and Schluter (2019), the average coffee farm size is 0.44 acres (about 0.18 ha), while the plant density is 450 trees/acre for Robusta and 660 trees/acre for Arabica. Coffee has two harvesting seasons, the main and fly seasons, which vary by region. Coffee productivity is still low, at 0.55–1.1 kg/tree for Robusta and 0.3–1kg/tree for Arabica. However, under good

management, Robusta coffee can yield 1.1–2 kg/tree while Arabica can yield 1–1.5 kg/tree (ibid).

In the financial year 2016/17, coffee exports fetched a total of USD 483 million from the exports of 3.34 million bags of Robusta (worth USD 346 million) and 1.08 million bags of Arabica (worth USD 138 million) (UCDA, 2019). In order to realize the 2030 target of 20 million bags, the Coffee Roadmap has proposed a number of strategies aimed at increasing productivity. UCDA is also leading the implementation of the coffee expansion programme. A key activity is the free distribution of coffee seedlings to farmers who are interested in clearing land for new coffee gardens.

To better regulate the industry, a Coffee Bill was presented to the Parliament of Uganda in 2019. The Bill proposes that all farmers and other value chain players be registered. This requirement has attracted mixed reactions from different stakeholders, with some claiming that the Bill is meant to pave the way for taxation of farmers, while the government insists that registration is meant to help them better understand actors along the coffee value chain and guide planning for interventions. In addition, the government argues that the Bill, which also aims to effect licensing of the players, will help to ensure high quality coffee for sustainable access to growing and new markets.

## 1.2 Purpose of the report

The overarching objective of this study is to conduct a coffee value chain analysis and to identify employment opportunities for youth in the coffee sector. The specific objectives are:

1. To identify the key players and their roles along the coffee value chain;
2. To examine different activities performed along different segments of the coffee value chain, and the extent of youth involvement in these activities;
3. To identify constraints and opportunities for youth employment along different value chain segments;
4. To provide recommendations to upgrade the coffee sub-sector and especially outline upgrading options targeting youth employment.

## 1.3 Background on value chain selection

In order to identify a value chain with the greatest potential to provide decent youth employment, in 2018 FAO consulted with key stakeholders through individual meetings and workshops and used an elaborate set of value chain selection criteria. The criteria integrated the economic, social and environmental feasibility, and impact dimensions of sustainable development. The selection also incorporated youth-specific indicators such as job creation, impact scalability, gender mainstreaming and equality promotion, entrepreneurship, and capacity building (FAO, 2018). Using these criteria, the coffee value chain emerged with the highest weighted score in terms of having the most potential for performance upgrading, job creation and decent rural employment opportunities for youth.

The value chain selection started within the Technical Working Group (TWG) on the National Strategy for Youth Employment in Agriculture (NSYEA). A first meeting of the TWG, organised by Shared Action Africa, a consulting organization contracted by

FAO in 2018, aimed at providing the background information on the purpose of value chain selection and the methodology to be adopted to systematically analyse food value chains with the potential to create jobs and decent rural youth employment. The meeting also aimed at discussing the NSYEA, which was launched by the President of Uganda in October 2017. During the meeting, the consulting team introduced the value chain selection tool and used the exercise for pilot testing purposes.

After initial consultations, Shared Action Africa with the support of FAO organized a one-day workshop with the TWG and other key stakeholders. Using the value chain selection tool, the workshop participants selected six out of twelve priority value chains identified in the Ugandan National Development Plan (NDPII). The twelve value chains were: cotton, coffee, tea, maize, rice, cassava, beans, fish, beef, milk, citrus and bananas. Based on considerations of economic and socio-political feasibility, as well as economic, social and environmental impacts, six value chains were shortlisted: maize, coffee, fish, cassava, milk and bananas.

The consulting team then conducted preliminary research and gathered information on the country context, value chain actors, functions, linkages and channels for all the selected value chains. Based on these factsheets, stakeholders used the selection tool to decide on coffee as the number one value chain with significant potential to provide decent jobs to youth.

## 1.4 Target audience

The FAO team consulted with key stakeholders including policymakers, the private sector (including coffee farmers), academics, development partners and civil society organization, as well as young workers and entrepreneurs.

This report specifically addresses ministries, departments and agencies (MDAs) which support the coffee subsector and are key in promoting youth employment in the country. The key MDAs include the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), the Ministry of Gender, Labour and Social Development (MoGLSD), MoFPED, and the Ministry of Trade, Industry and Cooperatives (MTIC). Other departments and agencies include the National Planning Authority (NPA), UCDA under MAAIF, the National Coffee Research Institute (NACORI) and the Uganda Export Promotion Board (UEPB), among others.

As the study generates insights into the functioning and upgrading of the value chain in general, and the creation of youth employment in particular, it should prove valuable to all value chain actors, including coffee producers, aggregators, processors, exporters and retailers. It also points out implications for businesses and services that support the value chain, such as nursery operators, agro-input dealers, seedling multipliers, financial institutions and agricultural insurance companies.

During the fieldwork, the FAO team also engaged with other development partners active in the areas of youth employment and the agricultural sector, such as the European Union (EU), the International Fund for Agricultural Development (IFAD), the World Bank (WB) and the United States Agency for International Development (USAID). In addition, relevant civil society and private sector organizations were contacted, including the Uganda Coffee Platform (UCP), the Uganda Coffee Federation (UCF), the Central Coffee Farmers Association (CECOFA), Ankole Coffee Producers Co-operative Ltd (ACPCU), African Fine Coffees Association (AFCA), Café Africa, Farm Africa, Hanns R. Neumann Stiftung and ESFIM – Empowering Smallholder Farmers in Market (UR



Wageningen). The authors hope that the study will be of interest and value to the work of these partners.







## 2. Methodology

### 2.1 Conceptual framework

This report follows the FAO's Sustainable Food Value Chain (SFVC) framework (2014), which considers the value chain as the core of a system consisting of complex economic, social and natural environments that determine the behavior and performance of farms and other agri-food enterprises.

SFVC development requires systemic analyses at three inter-connected levels:

- The core value chain (composed of value chain actors who produce or procure products from the upstream level, add value to the product and then sell it on to the next level);
- The extended value chain (providers of inputs, finances and other services that support the activities of value chain core actors; these support providers do not take ownership of the product, but play an essential role in facilitating the value-creation process);
- The broader enabling environment (natural elements and societal elements such as policies and regulations, socio-cultural norms, infrastructures and organizations).

Value chain actors are linked to each other and to their wider environment through a governance structure. There are horizontal linkages between actors at particular stages in the chain, for example farmers organizing themselves into cooperatives; and vertical linkages within the overall chains, for example farmers providing their produce to food companies through contracts. By analyzing the linkages between actors across five stages of the core value chain (production, aggregation, processing, distribution and consumption), their support service providers, and how their overall capacities and incentives are influenced by the enabling environment, the SFVC framework aims to uncover the root causes of value chain underperformance. These analyses also identify the areas of greatest potential for improvements in value chain performance, as well as upgrading options and the most effective solution, which may be located at some distance from the observed problem. This calls for integrated interventions along all three of the aforementioned levels, rather than separately at each level.

### 2.2 Scope of the study

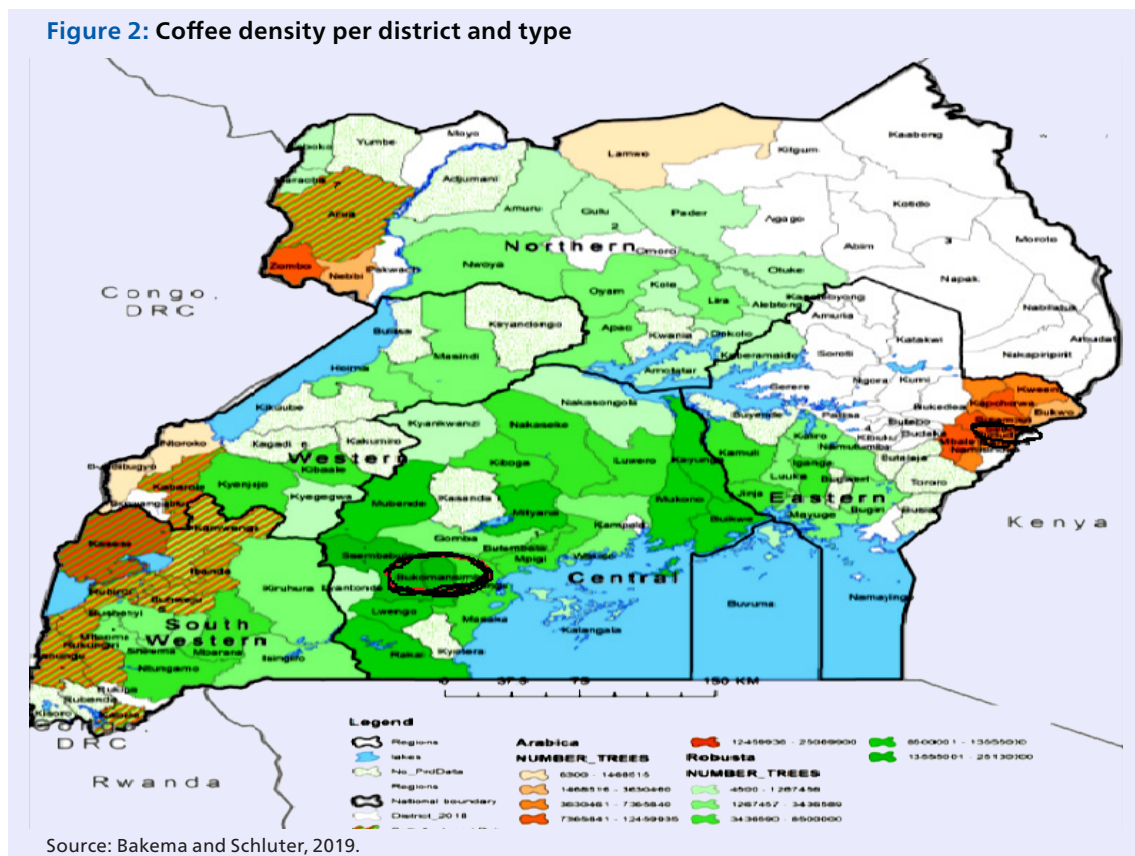
For the purposes of the analysis in this study, primary and secondary data was used. The secondary data covered the whole country, while the primary data was generated through interviews with the private sector and other stakeholders in Kampala, as well as focus group discussions (FGDs) and key informant interviews (KIIs) in two major coffee growing districts, one for Arabica coffee and the other for Robusta coffee. The following criteria were followed in the selection of the two districts:

- Significant coffee production by volume. Through KIIs and document reviews, all coffee growing districts were mapped by type (Arabica or Robusta), and the districts in which fieldwork was conducted were examined in order to establish which produce the highest volumes.
- Districts in which there is processing and trade in coffee products to enable interaction with significantly larger numbers of value chain actors.
- Districts in which there is involvement of youth and women in the coffee value chain.

- Districts in which there is potential to further integrate youth in the coffee value chain.

Using the above criteria, the Bukomansimbi and Bulambuli districts were selected to represent Robusta and Arabica growing districts respectively. It should be noted that apart from Kampala, the districts with significant coffee production volumes also have a higher involvement of youth at the production, aggregation and processing levels because larger businesses at each stage of the coffee value chain require more labour.

Figure 2 below shows the density of coffee per district and by type. Arabica growing districts are shown by the variants of orange colour while those growing Robusta are coloured green. The circled districts are Bukomansimbi in Central Uganda and Bulambuli in the Eastern Region.



With regard to processing and trading, the geographic scope was extended to cover the larger towns that encompassed these study areas. For instance, for Bulambuli district, KIIs were conducted with processors in Mbale district. This is because Mbale district is the sub-regional town and is along the northern trade corridor from Malaba to West Nile, hence most of the processing activities are concentrated there. Likewise, for Bukomansimbi district, KIIs were conducted with processors in Masaka town, which is the hub of processing activities in the Greater Masaka sub-region.

## 2.3 Time and people involved

Data collection was conducted in two phases. First, in July 2019, KIIs were conducted in Kampala with policymakers, research institutes, civil society organizations and the private sector at the downstream stages of the value chain, e.g. processors, exporters and retailers. Representatives from the UCDA, Uganda Agri-Business Alliance, NACORI, National Union of Coffee Agribusinesses and Farm Enterprises (NUCAFE), Kyagalanyi Coffee, Ugacof, Kawacom,

Great Lakes Coffee, Ibero, Imara Coffee, Inspire Africa Coffee, Zukuka Bora Coffee, The Consortium for enhancing University Responsiveness to Agribusiness Development Limited (CURAD) and the Hanns R. Neumann Stiftung were interviewed, among others.

Second, in August 2019, fieldwork was conducted in the two selected districts, Bukomansimbi and Bulambuli, using semi-structured questionnaires. Specifically, in these districts FGDs were conducted with farmers and youth at the production level, and KIIs were conducted with aggregators, primary and secondary processors, agro-input dealers and seedling multipliers. In addition, KIIs were conducted with local government personnel who could provide insights into coffee production and youth involvement in the respective districts. Accordingly, district production officers, chief administrative officers and district and sub-country extension providers were interviewed.

## 2.4 Study design and sampling methods

The study adopted a cross-sectional survey, utilizing both qualitative and quantitative designs. It adopted the FAO's SFVC approach, as detailed above, and specifically addressed Decent Rural Employment (DRE)-related aspects. The analysis covered the end-markets for Ugandan coffee, the main value chain functions (production, aggregation, processing and both wholesale and retail distribution), and the support functions (providers of physical inputs, finance and other services), as well as the broader socio-economic and natural environment. Based on the analysis of the current situation, the study offered an understanding of the opportunities available for youth and the constraints impeding youth access to decent work in the coffee sub-sector which require policy attention.

### 2.4.1. End-market

The study conducted a general (international and national) end-market analysis based on secondary data to determine the main market opportunities for Ugandan coffee and value addition strategies. This involved analysis of the channels, players, trends and consumer preferences of both traditional and emerging markets. It became apparent that youth engagement in the value chain has great potential to contribute to a better response to market demands, in order to upgrade the entire coffee value chain in Uganda.

### 2.4.2. Production

The analysis at this level aimed at understanding the different activities performed at production level and the extent to which youth and women are involved. FGDs were conducted with coffee producers and groups of youth in survey communities, to elicit information about production activities, marketing of coffee and productivity. In addition, detailed data regarding the nature of farming practices was captured. Farmers were asked about the use of inputs and productivity-enhancing technologies, and their access to extension services as well as post-handling and storage facilities. Questions on the prices and quality of the produce and their compliance with standards, if any, were raised. Furthermore, there were focused efforts to capture data on the involvement of youth and women in coffee production, both at household and community level, along with the barriers that hinder their participation.

This study applied purposive sampling. Before sampling, a preliminary field visit to the two selected districts was conducted. In each district, all the coffee growing sub-counties were listed and ranked in terms of coffee volumes (See Annexes, sub-section 6.2). Four major producing sub-counties per district were then selected. For each sub-county, the coffee producing parishes were ranked, and the two with the highest levels of production were

selected. The same method was also applied to select one village per parish from which other players were selected.

**Table 1: sampling of study areas**

	Administrative area	Number of observations
1.	Districts (One for Robusta, one for Arabica)	2
2.	Sub-countries (Four per district)	8
3.	Parishes (Two per sub-county)	16
4.	Villages (One per parish)	16

Source: Authors' own computation based on survey data, 2019.

In each parish and village, FGDs were conducted with farmers and youth, and KIIs were conducted with individual aggregators, processors, distributors service providers, and district representatives at other nodes of the value chain. In the selection of other players, a snowballing method was used. Farmers were asked to whom they sell their coffee, and from whom they buy agro-inputs and seedlings. The sample was then taken from those lists.

In each parish, the survey concentrated on the villages or local council ones (LC1) – the lowest administrative unit in Uganda – with highest levels of coffee production. A list of coffee growers was generated, and up to ten individuals with good knowledge of coffee growing were purposively selected for one FGD interview. In addition, a list of youth who are involved in coffee production was generated, and ten individuals were purposively selected for a second FGD. In total, 32 FGDs were conducted, from which 320 persons were interviewed in groups of ten. In addition to FGDs, a costing survey was conducted among individual farmers who have had coffee gardens for less than six years, to establish the revenues and costs of coffee production.

### 2.4.3. Aggregation

This study surveyed coffee aggregators, agents/traders and transporters to establish their socio-economic characteristics, aggregation activities, level of youth employment and work conditions. The study also examined the level of access to services such as credit and training for coffee aggregators. In addition, the survey examined employment opportunities and the skills required for youth to tap into these opportunities.

A snowball method was used to generate a sample of aggregators to survey. All the aggregators who aggregate and transport farmers' coffee were listed. In each sub-county, three aggregators were randomly sampled, giving a total of 24 from the two districts.

### 2.4.4. Processing

A survey of primary and secondary processors in the two study areas, as well as KIIs with representatives of major coffee processing and exporting companies in Kampala, were undertaken to capture information on processing activities and the level of youth involvement at this level of the value chain. Specifically, the study captured data on processing activities, youth employment, capacity utilisation, adherence to standards, working conditions and profitability. The study also examined the opportunities available for youth employment in processing, skill requirements for youth and current support to enhance youth employment at the processing segment of the coffee value chain. The support is in the form of access (availability and affordability) of services such as infrastructure, finance, and research and development.

To generate a sample of processors, all the processors were listed – primary and secondary, and small, medium and large-scale – and randomly selected three processors per sub-country. If there were not enough processors in the target sub-counties, more processors were selected from the major neighboring districts. For instance, Bukomansimbi district was carved out of Masaka district and hence most processors remained in the mother district. The same applies in the case of Bulambuli district, which was carved out of Mbale, in which some processors in the mother districts who buy coffee from Bulambuli were interviewed.

#### 2.4.5. Distribution

The study collected information from distributors (wholesalers and retailers). These included institutional buyers and the food service industry (e.g. hotels, restaurants, cafés). The data collected includes product and process standards/requirements, access (availability and affordability) of services such as infrastructure, finance, and research and development.

#### 2.4.6. Extended value chain (Support service provision)

In addition to the main segments of the coffee value chain, the study covered the key support providers as categorized in the FAO guiding principles: (i) providers of physical inputs, such as seeds at the production level; (ii) providers of non-financial services, such as agro-input dealers; and (iii) providers of financial services.

The study used the same snowball method to sample agro-input dealers and seedling multipliers. All input dealers and seedling multipliers were listed, and three respondents were randomly selected for each category of agro-input dealers and seedling multiplier per sub-county. The overall total was 48 samples (see Table 2 below).

**Table 2: Sample size per value chain actor and provider of physical inputs**

Value chain segment	Samples
FGDs at community level (Note: each group had ten participants.)	32
Aggregators	24
Primary processors	24
Support service providers: seedling multipliers and agro-input dealers (24 seedling distributors and 24 agro-input input dealers)	48

Source: Authors' own computation based on survey data, 2019.







## 3. Analysis

### 3.1 End-market analysis

Value chain development starts with the identification of market opportunities, as value is ultimately determined by the consumer's choice of which food items to purchase on national and international markets. End-markets for agricultural products are not homogenous, and there are various market segments driven by differences in price, quality, and social and environmental considerations. Understanding the end-markets is fundamental to value addition strategies, for instance, by selling more products to the same markets, selling better products at higher prices, exploring new markets or developing novel products.

This section outlines the main end-market opportunities for Ugandan coffee, analysing different segments in both established and emerging coffee consuming markets based on secondary data. Detailed consumer surveys and interviews with buyers in destination countries are beyond the scope of this study, yet primary information from exporters in Uganda is taken into account in order to supplement secondary information. The section will first and foremost provide an overview of the global coffee market, its structure and Uganda's coffee trade patterns. It will then focus on several key markets for Ugandan coffee, covering both traditional markets based on established trade patterns and emerging markets based on growing demand and potential for value addition through differentiation. Market characteristics such as key players, trends and consumer preferences will be detailed. Finally, the potential to leverage the domestic market and popularize coffee consumption is explored. The section will conclude with recommendations regarding different market opportunities and how youth engagement in the value chain can contribute to better understanding of and responses to market demands.

#### 3.1.1 Dynamics of the global coffee market

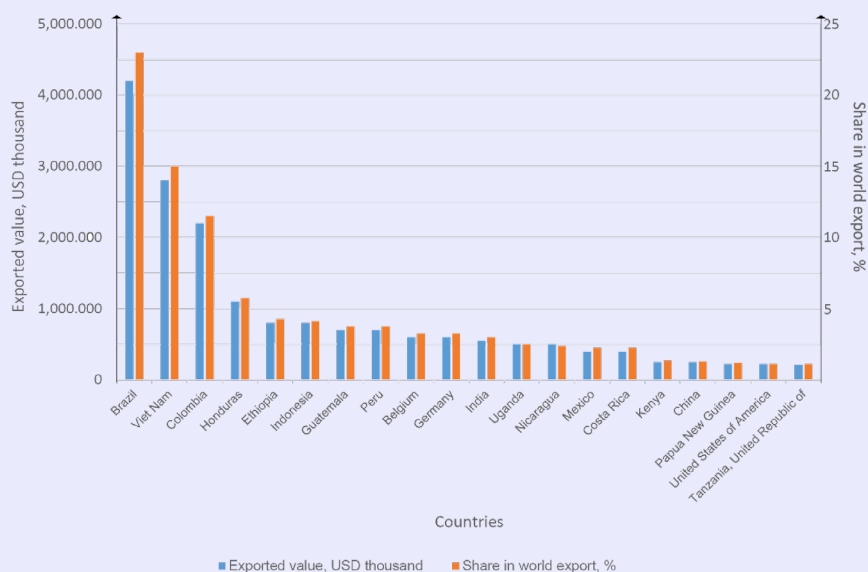
Currently, coffee is cultivated all over the world in developing countries in the tropics. It is often exported to developed countries in Europe, North America, Australia and Japan, primarily in green form (60 kg bags of green beans), where it is roasted and blended to make a daily beverage. There are two main species of commercial coffee traded around the world today – *Coffea Arabica* and *Coffea Robusta*, or Arabica or Robusta respectively (Fitter and Kaplinsky, 2001). Arabica is grown at higher elevations, normally above 1 000 meters and up to 2 000 meters, and delivers beans of superior characteristics. Robusta, on the other hand, flourishes at lower altitudes between 200 meters and 900 meters, is easier to tend to and is more resistant to diseases (ibid).

For the past two decades, Brazil, Vietnam and Colombia have been the major producers and exporters in the global market. While Brazil and Colombia have a rich history of coffee production spanning more than two centuries – with Brazil having experienced periods of dominance in the global market (Daviron and Ponte, 2015) - Vietnam's dramatic rise as a prominent exporter, based on a strategy of high-yield, intensive production of Robusta coffee, has had notable impacts on the global market. Coupled with the augmentation of production from Brazil, it has contributed to the depression of global coffee prices and enhanced the domination of developed countries' buyers.

Meanwhile, apart from significant increases in recent years, Uganda's production and export levels have been largely stable. It has maintained its position as the second largest coffee producer in Africa after Ethiopia. As indicated in Figure 3, Uganda was

ranked 12th amongst the biggest green coffee exporters in 2018, accounting for 2.3 percent of world exports.

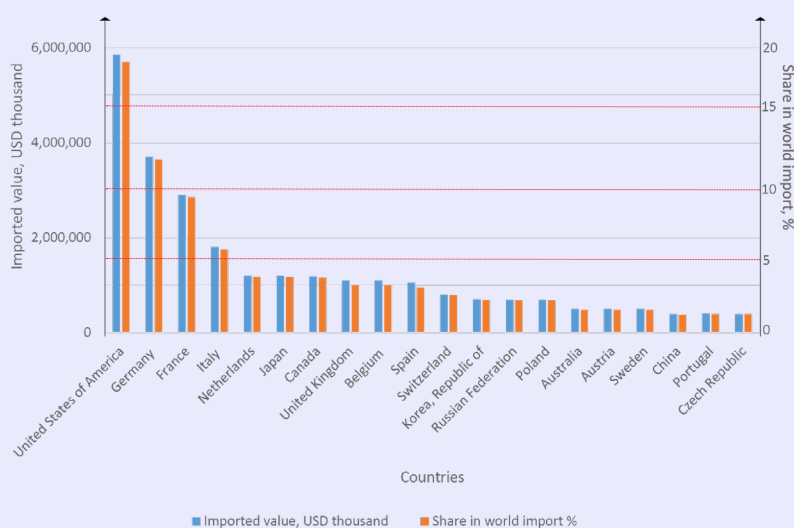
**Figure 3: World's top green coffee exporting countries**



Source: ITC calculations based on UN COMTRADE and ITC statistics, 2018.

On the other side of the coin, the United States of America and Germany are the largest coffee importing and consuming countries, making up 18 percent and 11 percent of global coffee imports respectively, followed by France and Italy, as demonstrated in Figure 4. This pattern is to a large extent reflected in the trade of Ugandan coffee.

**Figure 4: World's top coffee importing countries**



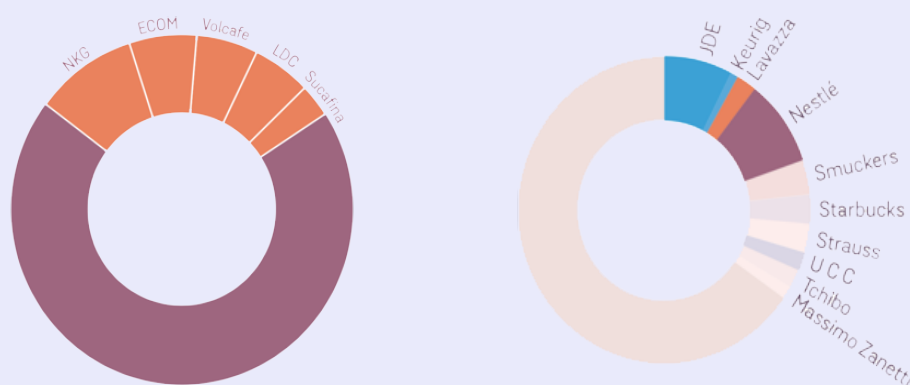
Source: ITC calculations based on UN COMTRADE and ITC statistics, 2018.

## Market structure and coffee prices

Expansion of coffee production and concentration in trading and roasting has intensified the dominance of multinational buyers, who have reaped the lion's share of profits, over the coffee value chain. (Gresser and Tickell, 2002: Daviron and Ponte, 2005: Taylor, Murray and Raynolds, 2005). These roasters tend to source green beans from a variety of origins and adjust the

composition of the blend so as to achieve a standardized profile, without being heavily reliant on any particular origin. In addition, modern steaming methods have allowed the partial replacement of high-cost Arabica with Robusta, playing to the advantage of Uganda, whose coffee exports are predominantly Robusta. However, since Arabica provides unique flavour while Robusta is used to provide the “body” to a coffee blend, Robusta is easier to replace than Arabica.

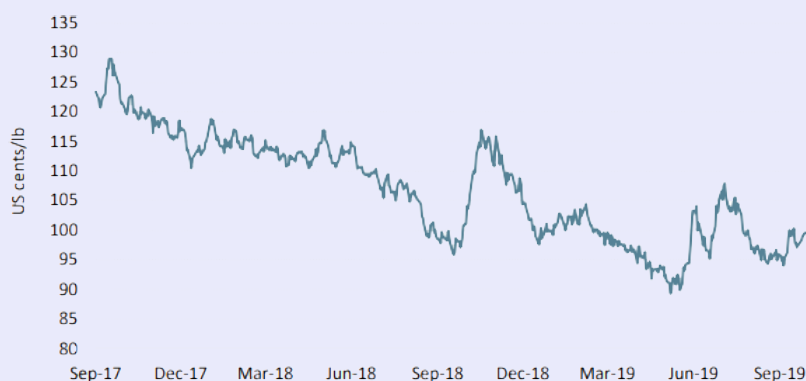
**Figure 5: Top international traders and roasters**



Source: Panhuysen and Pierrot, 2018.

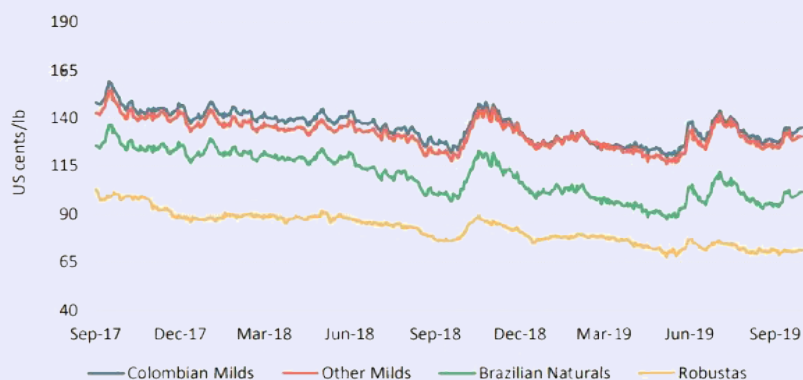
A noteworthy trend in the global trade of coffee in the last two decades is the significance of futures markets, which provide the main channel for coffee pricing, and the increasing influence of commodity investment funds (Jansen, 2013). Futures are contracts to buy or sell coffee “at some time in the future at a previously agreed price” (ibid, p.26), a tool which before 1989 was mostly used by importers and roasters to hedge against price fluctuations (Neilson and Pritchard, 2009). The collapse of the International Coffee Agreement (ICA) in 1989, which regulated quotas among coffee producing countries and operated price stabilization schemes, followed by heavy deregulation and relaxed rules for futures trading, rendered the coffee market more appealing for speculation. Financial institutions and investment funds turned to agricultural commodities in order to diversify their portfolio assets and invested in a bundle of commodities (Jansen, 2013). Futures contracts, however, are more and more distant from the physical market’s supply and demand factors and have led to erratic pricing patterns. Since around 95 percent of Ugandan coffee is exported (ICO, 2019a), the country’s coffee supply chain is heavily tied to global trade and the prices are pegged to the London and New York futures exchange. This suggests that trends in the international market will determine the prices that coffee farmers in Uganda receive and the standards with which they need to comply.

**Figure 6: International Coffee Organization (ICO) composite indicator daily prices**



Source: ICO, 2019a

**Figure 7: ICO composite indicator daily prices**



Source: ICO, 2019a

While global coffee demand grew steadily at an average annual rate of 2.4 percent between 2014 and 2018, global coffee prices have continued to plummet (ICO, 2019a). The coffee price as measured by the ICO composite indicator fell to 97.74 USD cents/lb in September 2019 and averaged 100.47 USD cents/lb. The Robusta price indicator reached a record low of 70.64 USD cents/lb in September 2019, the lowest since April 2010. Production surpluses due to sharp increases in yields from the two biggest coffee producers, Brazil (average 1.5 tons/ha of green beans) and Vietnam (average 2.5 tons/ha of green beans), together with power asymmetry in the coffee trade, have contributed to reduced coffee prices and made it difficult for producers with low levels of productivity to maintain profitability. Although coffee outputs in Vietnam and Brazil are forecast to fall due to extended droughts, global coffee production still outstripped consumption by 4 million bags in the crop year 2018/2019. Nonetheless, considerable growth in coffee consumption in emerging middle economies and in originally coffee-exporting countries might give optimism to the global coffee market.

### Market segments and consumer preferences

In addition to these trends, consumers in mature markets such as those in North America, the European Union, Japan and Australia are increasingly demanding to know the origins of their coffee and the impacts of its production. Healthy and ethical living trends signify increased consumer willingness to reward quality and sustainability, which in turn places pressure on international coffee roasters and traders to integrate these factors into their business models. Such evolutions present a counter trend against the push for tighter margins in the mainstream channel. Some players in alternative channels have striven to differentiate their products through certifications, geographical indications, traceability, specialty or direct trade. They have also explored different ways to foster a feeling of a personal relationship between consumers and producers, and to inform consumers about the apparent quality or supposedly fair and ecologically sound conditions under which their coffee is produced and procured. Recently however, certification schemes have proliferated and expanded to the mainstream. As the certified market is getting competitive and complex, smallholders might be subject to more requirements without the technical and financial capacities to meet them, and without being properly compensated through premiums. Certifications may create new barriers to entry or enhance roaster dominance over the value chain, as suppliers need to constantly monitor trends and respond to buyer demands.

Hence, the niche market is steadily moving toward distinction by providing transparency and uniqueness. Buyers of specialty coffee reportedly pay higher prices, which seem less

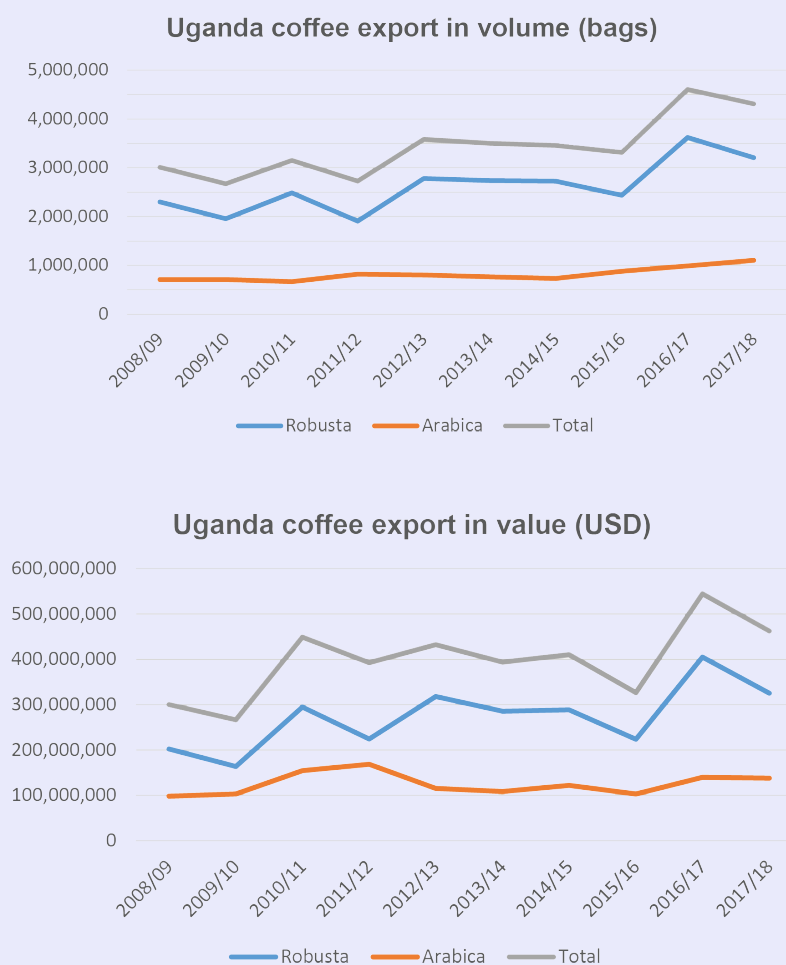
affected by developments in the futures market, although there are a wide range of products and channels, and precise market data does not exist (CBI, 2019c). The specialty market focuses on high-quality lightly roasted Arabica beans that can provide nuanced flavours. Significant emphasis is placed on uniqueness (either signature blend or single origin coffee), transparency (e.g. via the use of blockchain technology) and a long-term relationship between growers and buyers.

Consumers of specialty coffee do not only want outstanding flavour, but increasingly want to know the stories behind their coffee. Many small specialty roasters have gradually become involved in direct trade, which means buying directly from growers or groups of growers, or through importers that build close ties with producers. Notable traditional markets for specialty coffee, for instance, are Scandinavian countries, the United States of America and Japan. This trend has increasingly expanded to other countries in the European Union and is beginning in middle-income countries in Eastern Europe and Asia.

### 3.1.2 Uganda's coffee trading patterns

Figure 8 shows trends in Ugandan coffee exports and domestic consumption between 2008 and 2018. A marked increase in volume can be observed, from 3 million 60 kg bags of green beans per year to just under 4.5 million over the past decade. Of the total exports, Robusta constitutes 75 percent and Arabica makes up 25 percent. In terms of value, Robusta's share is 70 percent and Arabica's is 30 percent.

**Figure 8: Uganda coffee exports in volume and value**

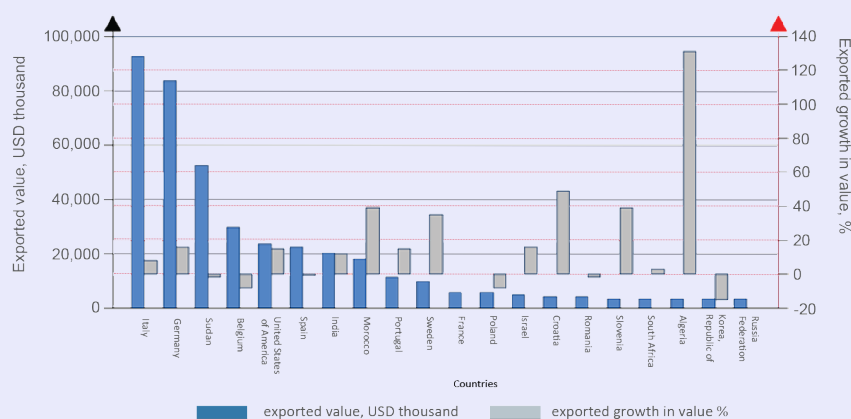


Source: Authors' computation based on ICO, 2019b.

Uganda exports most of its coffee in the form of green beans to countries in the European Union, followed by the Sudan and the United States of America. The two biggest traditional markets for Ugandan coffee are Italy and Germany, which account for 21 percent and 19 percent of total exports respectively.

Figure 9 shows the top destinations for Ugandan coffee (blue bars) and the growth in value exported to these destinations (grey bars) between 2014 and 2018. Positive growth rates are recorded in most traditional markets for Ugandan coffee, yet the most remarkable growth rates are observed in emerging coffee consuming countries in Eastern Europe (e.g. Slovenia, Croatia) and North Africa (e.g. Algeria, Morocco). In the crop year 2007/2008, exports to the European Union accounted for 80 percent of the total exported value, while by the crop year 2017/2018, this figure had dropped to 63 percent (ICO, 2019). This is partly explained by the fact that Ugandan coffee has been exported to new countries outside the European Union, as well as by expanding demands in these non-European Union markets.

**Figure 9: Top destinations for Ugandan coffee**



Source: ITC calculations based on UN COMTRADE and ITC statistics, 2018

### 3.1.3 Traditional markets

#### Italy

Italy is currently the largest and most important market for Ugandan coffee, accounting for just over 20 percent of Ugandan's coffee exports. It is the second largest importer of green coffee beans in Europe, after Germany, with a strong coffee tradition and well-known brands such as Illy, Lavazza and Segafredo. Coffee roasted, blended and packed in Italy is not only destined for domestic consumption, but is also re-exported all over Europe and beyond. Italians consume a large amount of instant coffee in the form of ground powder and single coffee capsules at home, as well as freshly brewed coffee in independent coffee bars, which are integral to Italian culture (CBI, 2019a).

Compared with other European countries, Italy is primarily a conventional market, with strong demands for Robusta beans to enhance the 'crema' of the espresso. Consumers are more attached to signature blends from Italian roasters, or particular brewing techniques. Such deep-rooted traditions mean that specialty and certified coffee market is not yet as developed in Italy. Small coffee shops that offer single origin coffee beans or that employ experimental brewing methods are few and far between.

For such a traditional market, Ugandan Robusta is highly valued as the premium Robusta to be used in espresso and other blends by big brands (to provide the 'body' to soluble

coffees and also cheaper than Arabica). While Brazil and Vietnam continue to be the top exporters to the Italian market in terms of volume, their rates of growth (annual volume growth of 2 percent and 3 percent respectively) have been much lower than that of Uganda (16 percent) in recent years (ITC, 2019). This means that Italy is a particularly attractive market for Ugandan suppliers that can offer big volumes of consistent qualities at competitive prices. Although there has been an increasing presence of smaller roasters, the roasting segment is highly concentrated and dominated by big mainstream roasters.

## Germany

As the biggest importer of green coffee beans and the largest coffee consuming country in Europe, Germany is a strategic target market. All segments in this market, from conventional to niche, have consistently witnessed healthy development. While filter coffee for in-home consumption remains the most popular, there has been a growing tendency for German consumers to enjoy specialty Arabica coffee that is freshly brewed in cafés. Small-scale, high-end roasters that offer innovative products and brewing methods are rapidly gaining traction.

Furthermore, sustainability issues have increasingly determined consumers' purchase decisions. In fact, the certified segment, with third-party standards such as Organic, Fairtrade, Rainforest Alliance and UTZ, is moving from niche to mainstream. To enter the German market, certifications are becoming more and more essential (CBI, 2019b). Germany represents the largest European market for organic food products, and consumers are willing to pay particularly high premiums for organic (Schaack, 2019). As the market evolves, the niche segment is becoming more focused on specialty and traceability rather than certifications.

In view of these trends, a two-fold strategy can be considered when exporting to the German market:

- On the one hand, similar to the case of Italy, focusing on supplying large volumes of Robusta to major roasters. In this mainstream market, Uganda faces strong Robusta competition from Vietnam and Arabica competition from Latin American countries. The outlook seems promising, however, as Uganda's exports have been growing by 5 percent annually in this market between 2014 and 2018, while Brazil's has declined and other competitors, except for Honduras and Vietnam, have stagnated (ITC, 2019).
- On the other hand, focusing on the certified, especially organic, and specialty segments to enhance value for Ugandan Arabica coffee. Next to improvement of quality and exploration with novel products (such as natural dried and honey processed Arabica beans), marketing and branding in order to stand out is extremely important in this market. Geographical indications, stories of origins and demonstration of social and environmental impacts on the ground are among the ways to incentivize consumers to pay premiums for more unique and sustainable products.

### 3.1.4 Emerging markets

Although traditional markets are inherently important, they have also been saturated with fiercer competition and ever tighter margins. Interesting market opportunities are present meanwhile in middle income economies that are driven by an emerging middle class with greater appetite for coffee and unconventionality. As previously mentioned, the most impressive growth in Uganda's coffee exports is observed in non-mature markets



in Eastern Europe, North Africa and Asia. Detailed analysis of these markets needs to be conducted so that concrete strategies to target these markets can be devised. This section will provide key observations in broad strokes.

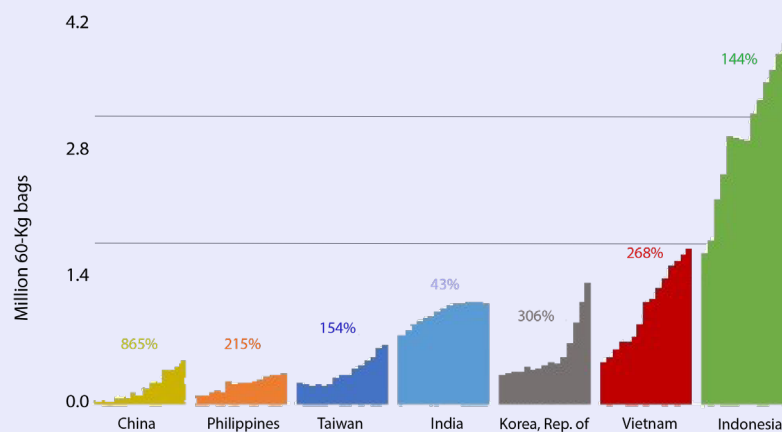
### Eastern Europe

Thanks to economic recovery, exceptional growth in coffee consumption has been witnessed in Poland, Slovenia and Russia over the past decade. Since these markets have not yet been saturated and coffee consumption per capita is still much lower than in developed markets, there is tremendous potential for growth. In 2016, the growth rate was 5.7 percent compared with 1.8 percent in Western Europe, according to data from Euromonitor International (2019). Eastern Europe also proves to be a noteworthy market, as it has been experiencing several waves of coffee market development simultaneously, characterized by demand for not only increased quantities but also greater quality and for novel products. Internet retailing is on the rise. More and more consumers are turning towards fresh coffee rather instant coffee, and the market for specialty coffee is constantly growing with the entrance of new craft roasters and coffee shops every year.

### Asia

Similarly to Eastern Europe, increasing purchasing power and changing habits have augmented the popularity of coffee consumption in South and East Asia, particularly in China, Republic of Korea, Taiwan, Vietnam, Indonesia, the Philippines and India. Over the past 25 years, these markets together have grown at a much faster rate annually (6 percent) than the global average (2 percent), according to a recent ICO report (2018). Despite a deep-rooted tea tradition in some of these countries, drinking coffee is now considered 'trendy', especially amongst young consumers. There have been accelerated increases in expenditures on all coffee formats, though recent trends indicate a preference for higher quality fresh coffee.

**Figure 10: Fresh coffee consumption in selected Asian countries (2003–2017)**



Source: ICO (2018).

In entering these markets, the biggest challenge for Ugandan coffee is the strong competition from countries in the region (e.g. Vietnam and Indonesia), not only in terms of productivity and volume, but also in terms of geographical and cultural advantages. Therefore, in order to compete, Uganda would need to differentiate its coffee in terms of quality and uniqueness.



## North Africa

The Sudan is the one of the biggest green coffee importers in Africa and a coffee re-exporter to the Arab countries. Historically an important partner, exports to the Sudan regularly account for more than 10 percent of total coffee exports. However, recent unrest in the country has led to a rapid decline in Ugandan coffee shipments to the Sudan. This has negatively affected many players in the industry. Meanwhile, there has been a remarkable surge in exports to Northern Africa, notably Algeria and Morocco. Algeria is one of the biggest coffee consuming countries in Africa, with a growing population, and thus could be a very promising market. The largest supplier to Algeria is currently Vietnam, whose exports like Uganda are mostly Robusta (90 percent), along with some Arabica (10 percent) (ITC, 2019). Further buyer engagement and more detailed market analysis is needed for these markets, in order to gain an understanding of specific requirements and consumer trends. In view of the political situation in the Sudan, Uganda needs to explore new options to export directly to North African and Middle Eastern countries. Moreover, value addition could be promoted and exports of further processed or finished products rather than green beans could be considered, since the roasting industries in these countries are not as concentrated as the European Union market and so the entry threshold might be low. Regarding final products, one opportunity that could be opened up is for Ugandan roasters to import Arabica beans from small neighbouring East African countries (e.g. Rwanda and Burundi) and blend them with domestic Robusta beans to create a signature profile, then re-export.

### 3.1.5 Domestic market

Despite being one of the world's biggest coffee producers and a native home to *Coffea Robusta*, Uganda regards coffee as an export product rather than a daily beverage. A very strong tea-drinking tradition has hampered the development of substitutes such as coffee. In office meetings for example, tea is generally served. On the rare occasions that coffee is served, it is usually a jar of instant Nescafe coffee rather than a freshly brewed Ugandan blend.

Domestic consumption accounts for around 5 percent of the total production and the average Ugandan drinks 0.33 kg of coffee per year according to UCDA's Coffee Roadmap, an extremely small figure compared with the international average.<sup>2</sup> There have been recent attempts to promote coffee consumption amongst the Ugandan population. UCDA launched a coffee promotion campaign between 2010 and 2015, and encouragement of domestic consumption has featured prominently in the Coffee Sub-sector 5-Year Communication Strategy (2016/17–2020/21) developed by UCDA. For instance, UCDA has a quality control centre where barista training is conducted, and myths about negative health effects due to coffee consumption, for instance, are dispelled through the distribution of posters and leaflets.

Over the past decade, domestic coffee consumption has risen slowly from 189 000 to 245 000 bags. Though the coffee culture is still nascent and the frequent clientele is mainly foreign or upper-middle class, the idea of coffee shops as gathering places and barista as a profession is gaining traction. Although there is still a long way to go, there is hope in the popularization of coffee consumption, and the growing knowledge and appreciation of quality coffee.

### 3.1.6 Conclusion

<sup>2</sup> The country with the highest level of coffee consumption is Finland, with an average annual consumption of 12 kg per capita. Top coffee exporting countries such as Brazil, Vietnam and Ethiopia have per capita domestic consumption levels of 6 kg, 2 kg and 1.7 kg respectively (Sänger, 2018).

Table 3 summarizes the identified export markets for Ugandan coffee, the suggested product types that Ugandan coffee players could supply to these markets, and the promising segments and main sales channels.

**Table 3: Identified export markets for Ugandan coffee**

Region	Main market	Product type	Segment	Main sales channels
Europe	Italy	Robusta of high quality and consistency	Conventional	International traders and roasters
	Germany Scandinavia United Kingdom of Great Britain and Northern Ireland France	Mainstream Robusta for in-home consumption Organic, certified Signature blend, single origin (arabica)	Conventional Organic; Fair and sustainable Speciality, alternative	International traders and roasters Specialized traders Small roasters and coffee shops (direct trade)
	Eastern Europe	Atypical flavours (arabica)	Speciality, alternative	Small traders and roasters
North America and Japan	United States of America Canada and Japan	Certified Speciality, Atypical flavours	Organic; Fair and sustainable	International traders and roasters
Non-Japan Asia	China Taiwan	Robusta and Arabica Arabica	Conventional	International traders
North Africa	Algeria Morocco Sudan	Robusta	Conventional	Regional traders

Source: compiled by the authors.

Overall, the volume, quality and type of coffee will determine the market segments to be targeted for individual suppliers. For instance, small suppliers of high-quality coffee with distinctive flavour or processing techniques can look into direct trade with high-end small roasters. What is noteworthy is the growing importance of new, non-saturated markets for all types of coffee and the movement of mature markets towards high-quality ingredients and sustainable practices, as well as appreciation for uniqueness and transparency.

Coffee is an exciting market within which trends are constantly evolving. This in turn calls for innovations along all stages of the value chain, which can be led by a young, dynamic workforce with the capacity and willingness to transform. In response to market demands, the creative power of young people can be utilized to capture higher value-added: through innovative methods to obtain high quality and novel products; through new ways to articulate stories related to the origin of the coffee, culture and conditions of producing communities, as well as processing and roasting techniques; or through stronger relationships with clients and communication with consumers overseas, using e-commerce and other digital platforms. These innovations have been observed in the Ugandan coffee value chain to a certain extent – as elaborated in the later sections – yet the challenge is how to create broad-based changes and bring about benefits for youth beyond particular pockets of success.

### 3.2 Value chain map

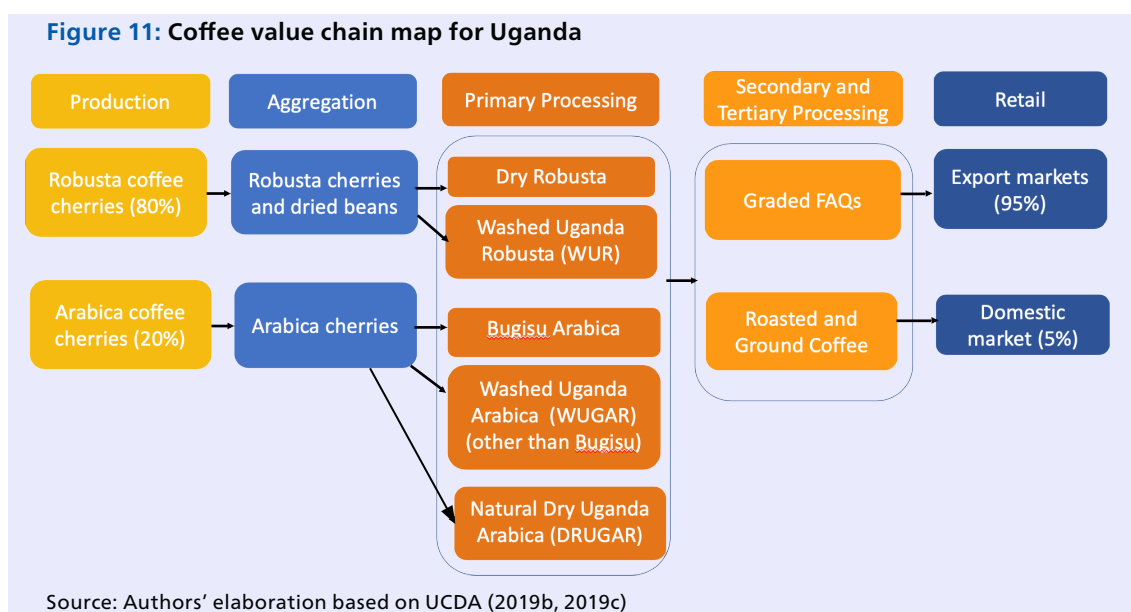


Figure 11 presents the typical flows of coffee from production to consumption. Coffee is cultivated primarily by an estimated 1.7 million households in 98 districts, 55 of which are dedicated to Robusta, 28 to Arabica and 15 to both (Bakema and Schluter, 2019). It is estimated that about 85 percent of coffee producers in Uganda have intercropped small farms, ranging in size from well under 0.5 ha to 2 ha. These smallholder coffee growers normally use family labour, although hired labour is occasionally used for activities such as harvesting (Mugoya, 2018).

Aggregators link coffee producers to both primary and secondary processors. At aggregation level, there are many players, including agents of the large secondary processing plants, transporters, traders – who buy red cherries and sometimes dried beans and sell to processors – and some representatives of organised farmers' groups who aggregate and find markets on behalf of other farmers.

There are several arrangements under which aggregators buy coffee from farmers. Some aggregators buy coffee in advance when coffee trees are at the flowering stage. This practice is common among the agents of big processors who do this to ensure coffee quality. Other aggregators buy red cherries either in the garden, or after harvest, but before drying. This is common in Arabica growing communities. The other category of aggregators buy dried beans from farmers – most commonly in Robusta growing communities – meaning that farmers manage their gardens up to harvest and practice preliminary on-farm processing to transform cherries into dried beans, which are then sold to aggregators. The last category of aggregators buy Fair Average Quality (FAQ) coffee from farmers. Under this arrangement, farmers harvest and pay for primary processing services, such as pulping for Arabica coffee or hulling for Robusta coffee. Of all these arrangements, aggregation of red cherries is the most common in Arabica growing communities, while aggregation of dried beans is the most common in Robusta growing communities.

At processing level, there are both primary and secondary processors. According to UCDA, Uganda has 537 hulleries and 22 washing stations (primary processing facilities); 36 exporting grading plants (secondary processing); and 88 registered exporters and 17 roasters (tertiary processing), as the major value chain players (UCDA, 2019a).

Primary processing mechanisms differ depending on the type of coffee. While there are a few processors for washed Robusta, the majority of Robusta coffee undergoes dry processing. Value is often added to dried cherries sold by farmers and aggregated at the buying stores by hulling unprocessed coffee to ungraded FAQ. Exporters grade FAQ (at secondary processing level), the majority of which are exported as graded green Robusta beans (EPRC, 2018).

For Arabica coffee, two main processing methods (wet and dry processing) are practiced. Wet processing is common in the Mount Elgon sub-region (Mbale, Bulambuli and Sironko) and in the West Nile (Zombo and Nebbi districts). Arabica coffee from these districts is sold as Bugisu Arabica and Washed Uganda Arabica (other than Bugisus) (WUGAR) respectively. The dry processed Arabica (often called natural) originates from Kasese and is sold as Rwenzori Dry Natural Uganda Arabica (DRUGAR) (ibid).

While the majority of Ugandan coffee is sold in conventional markets, with the exception of Bugisus, there have been increasing demands for other types of processed coffee, such as honey processed Arabica in Mount Elgon and washed (rather than dried) Robusta. Honey processing is a hybrid method in which the skin and fruit of the Arabica coffee are removed, but the mucilage still stays. This is different from fully washed Arabica where the mucilage is also removed (UCDA, 2019b). Most Ugandan coffee is exported in the form of green beans, and only a small amount (around 5 percent) is retained for tertiary processing (roasting) and final consumption in the country (UCDA, 2015).

The main coffee value chain is supported by a number of service providers such as agro-input dealers, seedling multipliers, formal and informal financial institutions, and extension service providers. The government coffee expansion programme which is being implemented by UCDA has seen an increase in the number of seedling multipliers and other support service providers. For instance, by the end of 2017, a total of approximately 131 million coffee seedlings were reported planted in 102 coffee growing districts in Uganda, while about 157 million coffee seedlings were available in the nurseries. Farmer sensitization, mobilization and training of farmers continued in collaboration with Operation Wealth Creation (OWC) and local government officials (UCDA, 2015). The key financial institutions supporting the coffee value chain include commercial banks, micro-finance institutions, Savings and Credit Cooperatives (SACCOs) and the informal lending institutions such as village savings and loan associations (VSLAs), and private money lenders.

### 3.3 Core value chain functions

#### 3.3.1 Production

Coffee production is operated on small plots, with limited use of yield-enhancing inputs. Coffee is largely produced by men, while youth and women work either as supporting family members or as casual employees. This is because youth have limited access to land and finance, which are key resources in coffee production, and limited skills to undertake coffee production as a business.

Nevertheless, there are gaps in coffee production that provide opportunities for youth employment. These include the potential for transfer of land and family farms from the elderly to youth for coffee production, the promotion of wider use of productivity-enhancing technologies such as fertilizers and irrigation, and the improvement of post-harvest handling and storage facilities. There is a need for the government and other organizations to strengthen the capacity of youth through trainings and financial support,

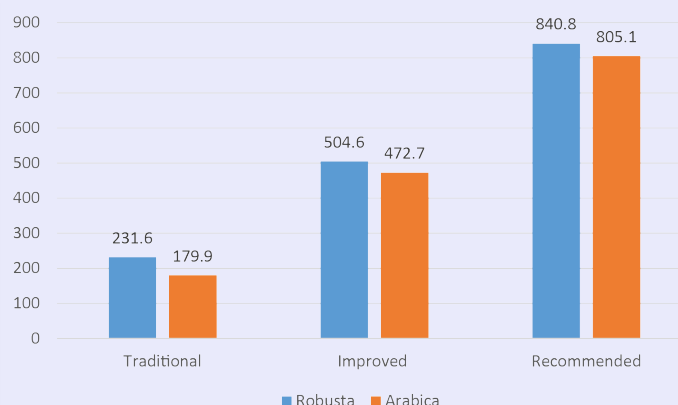
so as to provide these services to farmers, as this will not only enhance production but create jobs.

In addition, there is a need to design and effect arrangements that allow for intergenerational land transfers through mechanisms such as land leasing and share cropping. Parents should be sensitized to the importance of transferring land to their children and the ways in which this can enhance youth involvement in coffee production. Furthermore, it is necessary to change the mindset of youth towards agriculture, from a negative association with poverty to that of a promising business opportunity, by demonstrating that coffee production can be profitable.

### Overall structure

In Uganda, agriculture is dominated by smallholders with an average land holding of 1.4 ha (EPRC, 2018). Coffee is a priority crop for Uganda because it supports the incomes of many subsistence farmers. The average productivity for coffee ranges between 0.55 kg/tree and 1.1 kg/tree for Robusta, and 0.31 kg/tree and 1 kg/tree for Arabica (UCDA, 2019). These yields per tree are less than one-third of the fair yields for smallholders, and less than 20 percent of maximum yields as achieved, for example, in Vietnam (Bakema and Schluter, 2019). Productivity varies depending on the type of coffee and the level of technology used in production. For instance, Mugoya (2018) found that when farmers employed traditional production practices, the yield was much lower compared with the technologies recommended by UCDA (see Figure 12 below).

**Figure 12: Average yield (kg/acre) of Robusta and Arabica smallholder farmers by category**



Source: Mugoya, 2018.

Most farmers do not use productivity-enhancing inputs, and those who apply them use less than the recommended amounts and hence cannot achieve the potential yield. Limited on-farm investment is closely linked to the lack of access to agricultural finance for the majority of smallholder farmers in Uganda (Mugoya, 2018). Other reasons for low investment include limited access to inputs, lack of knowledge about how to apply these technologies, and a misguided attitude towards inputs.

In addition, production inputs should be used as a package, yet many farmers still use a few inputs and not others. For instance, only 1 percent of farmers in Uganda use irrigation, and for coffee the percentage of irrigated farms is even lower. When only one input (e.g. fertilizer) is applied, but other complementary yield-enhancing activities such as irrigation are not applied, farmers still obtain low yields. The changing weather patterns attributed to climate change are increasingly becoming a threat. Furthermore, coffee is susceptible to diseases such as coffee berry, red blister and coffee wilt diseases, which can cause losses and hence farmers intercrop with food crops to hedge against this risk.



In Bulambuli, Arabica coffee is concentrated in the sub-counties closer to Mount Elgon where the amount of rainfall is high. The rain received in Masira, Buginyanya and Bulago, among others, has made these sub-counties continue to stand out in coffee production, compared with other sub-counties located at lower altitudes. This could explain why more companies involved in coffee business, such as Kyagalanyi, Kawacom, Gumutindo and Great Lakes, have bigger coffee structures within these sub-counties.

In Bukomansimbi, Robusta coffee is a traditional crop and is grown on over 60 percent of the arable land. Despite its suitable terrain for the cultivation of Robusta coffee, Bukomansimbi lies along the cattle corridor (a broad zone stretching from southwestern to northeastern Uganda, dominated by pastoral rangelands with many semi-arid characteristics) and is increasingly affected by drought. This trend can exert a downward pressure on coffee productivity in the area.

In both districts, coffee has two harvest seasons, though in some sub-counties in Bulambuli, farmers reported one season. The main season in Bulambuli starts in the month of August and ends in January. The sub-counties in the lower altitude areas harvest earlier than those in the high-altitude areas. In Bukomansimbi, the main season is March to June, and the fly season is October to November.

The information from the FGDs revealed that the age of coffee trees range between 7 and 50 years, and the average age of trees is 15 years. The farmers attributed this to the fact that most farmers inherited coffee production from their parents, who had also inherited it from the past generation. Some farmers are now trying to stump some of the coffee trees to allow them to sprout again.

Coffee is normally intercropped with bananas, Irish potatoes, cocoyam and climbing beans. The intercropping is done to provide shade to coffee, especially when intercropped with banana, and also to diversify.

**Figure 13: Coffee intercropped with banana in Bukomansimbi District**



Picture by: Ahimbisibwe Rashid, August 2019.

Since coffee is a perennial crop, one needs to own land to grow it, and therefore most of the coffee in the district is owned by men aged above 40 years of age who also have land ownership rights. Land leasing and/or renting for coffee production is still limited, and share cropping is rarely practiced among coffee producers. As a result, youth simply provide labour for activities such as coffee planting, weeding or harvesting. Meanwhile, they are largely involved in growing and marketing seasonal crops because such crops like

vegetables have a shorter maturity period and hence generate quick returns and can be grown on rented land.

### **Farmers' organizations in coffee production**

The level of organization among farmers varies across districts. The field visits revealed that farmers' groups are strong in Robusta-growing Bukomansimbi and much weaker in Arabica-growing Bulambuli. In Bulambuli, farmers reported that in most sub-counties except for a few in Sisiyi, there are no farmers' groups. This means that each farmer operates their production and sells their coffee individually. This could be attributed to the decline in the operation of growers' cooperative societies in these areas and also the decline in the operations of Bugisu Cooperative Union (BCU) in the region, which previously brought all farmers together, especially prior to liberalisation.

In Bukomansimbi, there are stronger farmers' associations such as the Kibinge Coffee Farmers' Cooperative Society, which provides extension services and finances to the its members, such as soft loans through Kibinge SACCO, supplies seedlings and other inputs, and finds markets for coffee both locally and internationally. Kibinge also has a model through which they manage farmers' plantations, mainly for farmers who have financial challenges. The association negotiates with individual farmers on the management of the plantation for a specified period of time, and the farmer is paid after all expenses incurred by the association are deducted.

Farmers' organizations in Bukomansimbi have also received support from non-governmental actors. For example, Kitanda Tukole Cooperative is supported by Capca Maddo, a non-profit organization. Other foundations such as the Hanns Neumann Stiftung provide support to farmers in Bigasa and Kitanda sub-counties in terms of agronomic practices. Interviews with representatives of Hanns Neumann Stiftung revealed that they have also striven to further the participation of women and youth in coffee production. However, youth involvement in farmers' organizations is still limited and there are not yet many specific youth groups.

### **Youth participation in coffee production**

Youth participation and employment at the coffee production level of the value chain is influenced by both pull and push factors. The pull factors are mainly related to the benefits of coffee cultivation. The push factors on the other hand discourage youth from seeking employment in coffee production or investing in it. The overall choice regarding whether or not to participate in coffee production is influenced by which of these outweighs the other. Consequently, these factors influence perceptions held by youth concerning coffee production and how attractive it is to them.

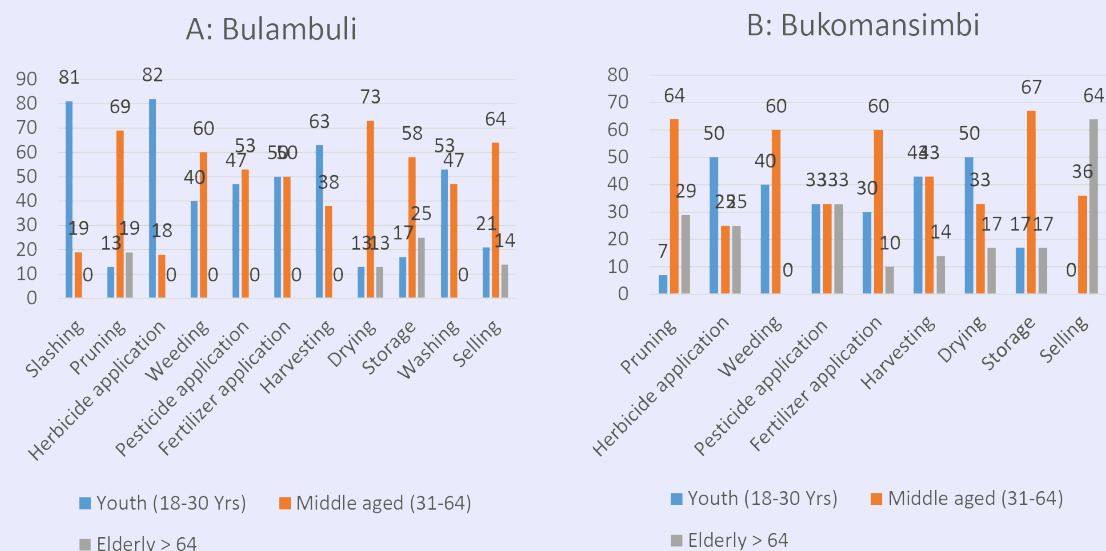
Figure 14 below presents the results of youth and other age cohorts in terms of their involvement in on-farm activities, from land preparation to selling of harvested coffee. The results indicate that in both districts, youth participate more in land preparation, slashing and input application, such as herbicide and fertilizer application. This raises issues in terms of Occupational Safety and Health (OSH). Indeed, through FGDs, farmers reported that there is limited use of protective gear such as gloves in chemical applications.

However, youth involvement in post-harvest handling and marketing is minimal compared with other age cohorts (the middle-aged and the elderly). This finding is explained by the fact that youth participate as providers of labour (usually as casual labourers or contributing family workers) and not as owners of coffee gardens. The FGDs in Bulambuli reported that youth normally help their parents to do some work on coffee farms before

going out to provide labour on other people's farms for income. Working only as casual labourers, youth do not have regular and decent jobs because most of these production tasks are on a seasonal basis and pay low wages.

To attract youth into coffee production, measures must be put in place to enable youth to own and operate their own coffee gardens. In addition, youth should be encouraged to undertake a mix of enterprises such as intercropping with annual or short-term crops which provide a faster cash return than the perennial coffee crop.

**Figure 14: Percentage of production activities performed by different age cohorts**

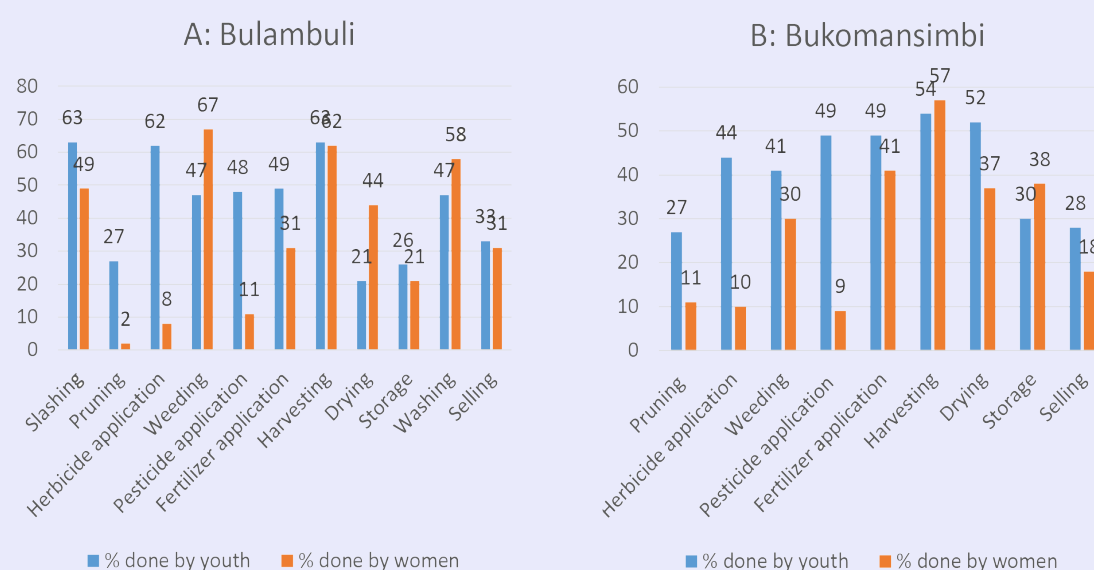


Source: Authors' computation based on field data, 2019.

Figure 16 below shows the levels of youth and women's participation in on-farm activities. Consistent with the results in Figure 15 above, the involvement of youth is high in terms of land preparation and input application, but not in marketing. Likewise, women also do more of weeding, harvesting and even storage, but do not sell the produce. These results suggest that youth and women do not own the coffee. Instead, they are involved as hired or family labour.

Unless youth and women own the coffee they produce – either through share cropping or full ownership of gardens – the activities in which they participate will not offer adequate compensation, and thus will not attract them to coffee production. Youth and women have limited land ownership rights, and even for those who have land access, their user rights are usually too limited to allow them to invest in a perennial crop such as coffee.



**Figure 15: On-farm activities done by youth and women**

Source: Authors' computation based on field data, 2019.<sup>3</sup>

### Opportunities for youth employment in coffee production

This sub-section presents employment opportunities in coffee production which young people can take advantage of.

#### A. Application of good farming practices and improved technologies

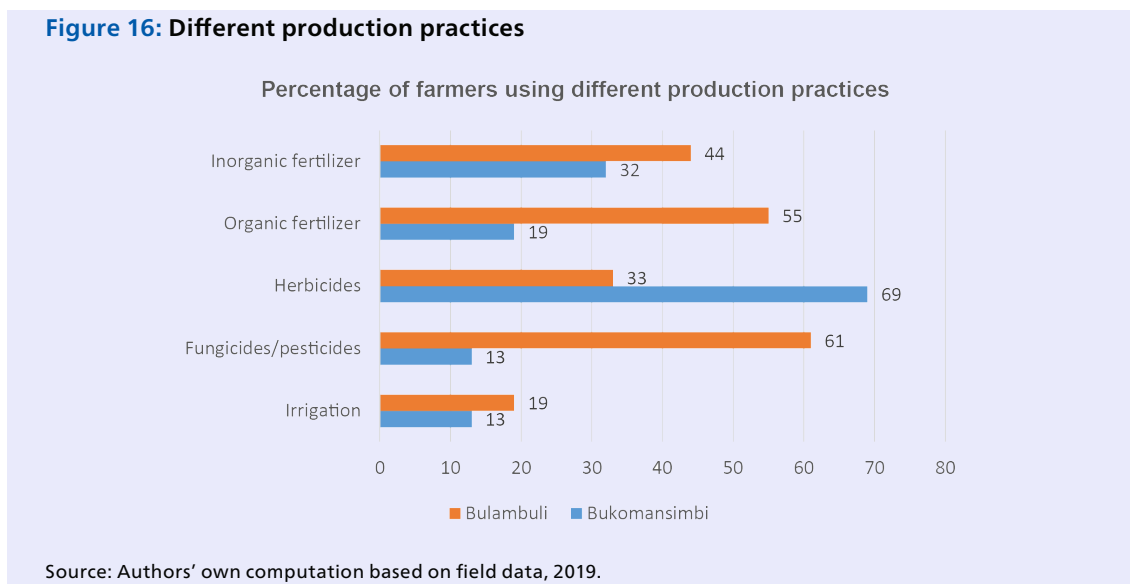
Application of improved and recommended technologies is key, not only in enhancing coffee yields, but also in providing an incentive for youth to participate in coffee production, because they make coffee production profitable. Mugoya (2018) showed that yields significantly increased when different input levels were applied and the application of recommended levels of a combination of inputs resulted in higher productivity.

The level of input application in coffee production is still low in Uganda. Figure 16 shows that the level and type of input applied varies across Robusta and Arabica growing districts. Overall, farmers use more herbicides and fungicides than other inputs such as fertilizers and irrigation. This suggests that farmers are spending more on fighting pests and diseases and less on applying productivity-enhancing inputs. With the increasing spread of the coffee berry disease and stem and berry miners, farmers have been forced to spray their coffee trees with growing intensity.

Irrigation is rarely practiced in these districts, with exception of a few that have newly planted coffee trees. Reasons for not irrigating include water sources being far from the communities and lack of equipment to pump water to coffee-growing areas. The latter is common in Bukomansimbi.

<sup>3</sup> Note: The women considered are of all age groups, while youth refers to all males and females aged 18–30.

**Figure 16: Different production practices**



Although the adoption of inorganic fertilizer is not entirely uncommon, the frequency and amount applied are in most cases insufficient due to the high costs. During the FGDs, most farmers argued that coffee prices are low and hence they do not make enough money to afford most of the inputs and produce more coffee. In Bulambuli, farmers mainly use organic fertilizer, the most common of which are cow dung and chicken droppings.

Bulambuli district has two altitude zones: the lower and upper belt zones. Arabica coffee is grown on high altitude belt, which is relatively cold and receives ample rainfall. The lower belt is relatively dry and flat, and hence not favourable to Arabica coffee. As a result, farmers in the lower belt keep livestock and grow maize, plantain and other annual crops. Manure is transported from the lower belt to the upper belt where coffee is grown. However, transport costs are high and road conditions are extremely poor, especially in the rainy season. For instance, transporting ten 50 kg bags of organic manure (to be applied to one acre of coffee) from the lower zone of the district to the Arabica growing areas costs UGX 300 000 (approximately USD 80).

Youth can be supported to close the input application gap. If they are organised in groups, trained in good farming practices and equipped with initial capital, they can provide services such as fertilizer application to farmers at a cost. To promote farmer demand for youth services, there is a need for extension service providers to provide information to and train farmers about the importance of using production-enhancing technologies. For instance, there is a myth among farmers that simply using inorganic fertilizers would lead to soil exhaustion and overdependence on the same fertilizers. Also, many farmers are not aware of the appropriate dosage and frequency for input application. In addition to tackling bottlenecks concerning the supply of inputs (prices and accessibility), addressing these knowledge gaps can go a long way in improving farmers' demand for and use of better agricultural technologies and engage the services of youth.

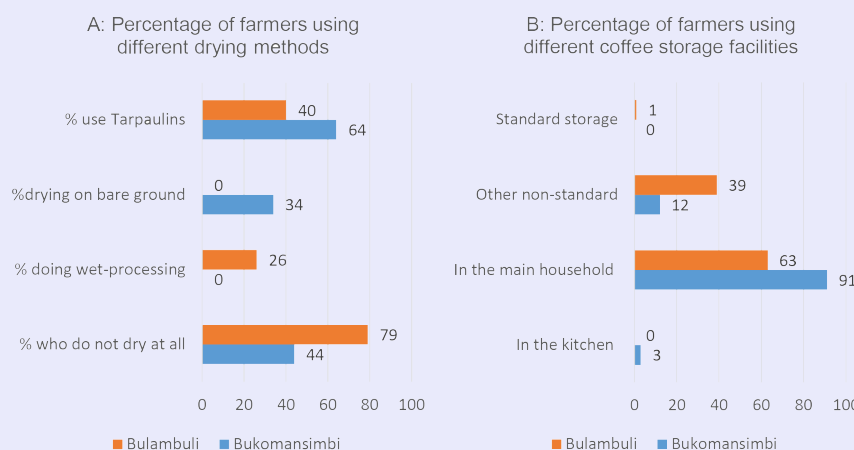
## **B. Postharvest handling**

One of the key ways to enhance the value of produced coffee cherries is proper post-harvest handling, which entails sorting, washing, drying and storage, amongst others.

Figure 17, panel A, shows that 44 percent of farmers in Bukomansimbi district sell red cherries of Robusta coffee. In Bulambuli, the percentage of farmers who sell Arabica red cherries is almost 80 percent, suggesting that only 20 percent perform preliminary processing before selling it. In addition, farmers still practice poor coffee drying mechanisms. For instance, in Bukomansimbi, 34 percent of the farmers still dry coffee on the bare ground.

Figure 17, panel B, shows how coffee is stored. Most of the farmers (about 91 percent in Bukomansimbi and 63 percent in Bulambuli) store coffee in the main house, and very few have separate sub-standard and standard storage facilities. Coffee stored in the main house is exposed to water, and other forms of contamination which can affect its quality. However, the risks of theft are lower. The drying and storage of coffee suggests that post-harvest handling practices are still poor amongst coffee farmers.

**Figure 17: Post-harvest coffee handling**



Source: Authors' own computation based on field data, 2019.

In FGDs, youth indicated that they can fill the post-harvest gaps by forming groups and setting up group storage facilities at community level. This is because it is costly for individual youth to set up storage facilities, yet with a shared cot, it can be relative cheaper to work in groups. Youth can then charge farmers a fee for storage. Furthermore, youth can procure tarpaulins and dry coffee, and then properly store it to maintain its quality. To adequately fill this gap, youth need to be supported with initial capital and training in post-harvest handling of coffee and the management of a coffee storage facility, including financial management and bookkeeping, as well as on working in groups (e.g. how to handle group dynamics, cost and revenue sharing).

**Figure 18: Youth removing dried coffee on tarpaulins**



Picture by: Bengana Patrick, August 2019.

### **Costs of setting up a coffee farm**

Tables 4 and 5 show the costs of establishing one hectare of Robusta and Arabica coffee gardens respectively (ICO, 2019b). The initial cost of establishing one hectare of Robusta coffee is roughly UGX 2.3 million in Year 1. The costs of production increase over the years from Year 3, because of the increase in the number of on-farm activities, including the costs for harvest and post-harvest activities. There are no revenues in the first two years of production as no harvest is realised until the third year. This translates into a total establishment (pre-harvest) cost of approximately UGX 6.3 million over the first three years, before breaking even in Year 3. The net incomes remain positive for the following years, at around UGX 3 million.

On the other hand, Arabica growers incur slightly higher costs at the beginning and only break even and gain profits from Year 4. The total establishment (pre-harvest) cost is over UGX 8 million for the first three years. Compared with Robusta, the yield in Year 3 for Arabica coffee garden is still low however, and thus the revenues gained in Year 3 are not yet sufficient to cover the establishment costs. Only in Year 4, when the yield is double that of the previous year, do Arabica growers start making profits.

These estimated costs of establishing a coffee garden are considered high for youth, who have limited access to finance and have no other assets to sell to raise this money. Furthermore, the costs will only be recuperated after three to four years. Therefore, if youth are to participate in coffee production, arrangements such as share cropping and capital support in form of affordable and long-term credit need to be extended to them.



**Table 4: Cost of production and margins for a newly established hectare of Robusta coffee garden (UGX)**

Activity	Sub-activity	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
<b>Establishment</b>	Bush clearing, land opening, digging holes	550 000					550 000
	Planting into holes	220 000					220 000
	Manure	300 000	300 000	300 000	300 000	300 000	1 500 000
	Cost of seedlings	330 000					330 000
	Fertigation trenches	200 000	50 000	50 000	50 000	50 000	400 000
	Mulching	--		300 000	300 000	300 000	900 000
	Tools (hoes, pangas etc.)	400 000			400 000		800 000
	<b>Sub total</b>	<b>2 000 000</b>	<b>350 000</b>	<b>650 000</b>	<b>1 050 000</b>	<b>650 000</b>	<b>4 700 000</b>
<b>Maintenance</b>	Weeding, training, pruning, applications	360 000	720 000	720 000	720 000	720 000	3 240 000
	<b>Sub total</b>	<b>360 000</b>	<b>720 000</b>	<b>720 000</b>	<b>720 000</b>	<b>720 000</b>	<b>3 240 000</b>
<b>Inputs</b>	Fertilizers	287 892	287 892	479 820	575 784	1 200 000	2 831 388
	Pesticides		50 000	100 000	100 000	100 000	350 000
	Herbicides		72 000	72 000	72 000	72 000	288 000
	<b>Sub total</b>	<b>287 892</b>	<b>409 892</b>	<b>651 820</b>	<b>747 784</b>	<b>1 372 000</b>	<b>3 469 388</b>
<b>Harvesting</b>	Labour			432 000	924 000	924 000	2 280 000
	Tarpaulins			225 000	225 000	225 000	675 000
	Drying			180 000	360 000	360 000	900 000
	<b>Sub-total</b>			<b>837 000</b>	<b>1 284 000</b>	<b>1 284 000</b>	<b>3 855 000</b>
<b>Contingencies</b>		<b>195 500</b>	<b>88 600</b>	<b>151 610</b>	<b>175 640</b>	<b>175 640</b>	<b>786 990</b>
<b>Total costs</b>		<b>2 843 392</b>	<b>1 568 492</b>	<b>3 010 430</b>	<b>3 977 424</b>	<b>4 201 640</b>	<b>15 601 378</b>
<b>Production</b>	Yield (kg/ha)			3 000	3 300	3 630	
	Av. farm gate Price (Kiboko)			2 100	2 100	2 100	
<b>Gross income</b>				<b>6 300 000</b>	<b>6 930 000</b>	<b>7 623 000</b>	<b>20 853 000</b>
<b>Net income (UGX)</b>		<b>-2 843 392</b>	<b>-1 568 492</b>	<b>3 289 570</b>	<b>2 952 576</b>	<b>3 421 360</b>	<b>5 251 622</b>

Source: ICO, 2019b.

**Table 5: Cost of production and margins for a newly established hectare of Arabica coffee garden (UGX)**

Activity	Sub-activity	Year 1	Year 2	Year 3	Year 4	Year 5	Totals
<b>Establishment</b>	Bush clearing, land opening	550 000					550 000
	Digging holes	820 000					820 000
	Planting into holes	328 000					328 000
	Manure	300 000	300 000	300 000	300 000	300 000	1 500 000
	Cost of seedlings	492 000					492 000
	Fertigation trenches	200 000	50 000	50 000	50 000	50 000	400 000
	Mulching			300 000	300 000	300 000	900 000
	Tools (hoes, pangas etc.)	150 000	20 000	20 000	20 000	20 000	230 000
	<b>Sub total</b>	<b>2 840 000</b>	<b>370 000</b>	<b>670 000</b>	<b>670 000</b>	<b>670 000</b>	<b>5 220 000</b>
<b>Maintenance</b>	Weeding, training, pruning, applications	360 000	720 000	720 000	720 000	720 000	3 240 000
	<b>Sub total</b>	<b>360 000</b>	<b>720 000</b>	<b>720 000</b>	<b>720 000</b>	<b>720 000</b>	<b>3 240 000</b>
<b>Inputs</b>	Fertilizers			480 000	480 000	480 000	1 440 000
	Pesticides	200 000	200 000	200 000	200 000	200 000	1 000 000
	Herbicides		72 000	72 000	72 000	72 000	288 000
	<b>Sub total</b>	<b>200 000</b>	<b>272 000</b>	<b>752 000</b>	<b>752 000</b>	<b>752 000</b>	<b>2 728 000</b>
<b>Harvesting</b>	Labour			432 000	924 000	924 000	2 280 000
	Tarpaulins			225 000			225 000
	Drying			180 000	360 000	360 000	900 000
	<b>Sub-total</b>			<b>837 000</b>	<b>1 284 000</b>	<b>1 284 000</b>	<b>3 405 000</b>
<b>Contingencies</b>		<b>170 000</b>	<b>68 100</b>	<b>148 950</b>	<b>171 300</b>	<b>171 300</b>	<b>729 650</b>
<b>Total costs</b>		<b>3 570 000</b>	<b>1 430 100</b>	<b>3 127 950</b>	<b>3 597 300</b>	<b>3 597 300</b>	<b>15 322 650</b>
<b>Production</b>	Yield (kg/ha)			600	1 200	1 200	
	Av. farm gate Price (Kiboko)			5 700	5 700	5 700	
<b>Gross income</b>				<b>3 420 000</b>	<b>6 840 000</b>	<b>6 840 000</b>	<b>17 100 000</b>
<b>Net income (UGX)</b>		<b>-3 570 000</b>	<b>-1 430 100</b>	<b>292 050</b>	<b>3 242 700</b>	<b>3 242 700</b>	<b>1 777 350</b>

Source: ICO, 2019b.

## Profitability in coffee production

This study also elicited information on the average costs and revenues of coffee production per hectare of land. The calculated profits are presented in Table 6 below. On average, a farmer in Bulambuli, the Arabica growing district, makes profits of about UGX 6.5 million per year from one hectare of coffee. In Bukomansimbi, the profits are slightly lower, at around UGX 5.1 million. These results are similar to those documented by Mugoya (2018), who found that coffee farmers make an average of UGX 2 million/acre in profits (UGX 5 million/ha). It should be noted that for new growers, there are greater profits from Robusta coffee production than Arabica in the first five years (see Tables 4 and 5 above). However, in the long run, for the typical coffee farmer, Arabica is more profitable. This is because Arabica coffee growers incur relatively higher initial costs to establish their gardens compared with Robusta coffee growers.

These results suggest that farmers with more land allocated to coffee make higher profits, and that given the level of use of better farming practices in the study areas, there is significant potential for even higher profits if farmers can enhance the level of use of yield enhancement inputs. Land is a major limitation for youth engagement in coffee production, because most have limited access to land and intergenerational land transfers are rare. This is due to different traditional norms and practices, for example the requirement for parents to pass on land to their children only after death. There is also an unequal distribution of land between male and female relatives at the time of inheritance.

**Table 6: Coffee profitability per hectare of coffee garden (UGX)**

Costs and revenues, profits	Bulambuli	Bukomansimbi
Costs in the main season	3 540 000	3 610 000
Costs in the fly season	1 430 000	1 430 000
Total costs	4 970 000	5 040 000
Total revenues	11 520 000	10 160 000
Profits	6 550 000	5 120 000

Source: Authors' computation based on field data, 2019.

### 3.3.2 Aggregation

Coffee aggregation takes different forms, and the players are at different levels of sophistication. Many aggregators are small business owners employing between 5–8 people, while some are large traders procuring from both farmers and smaller agents. Others simply buy and transport coffee on behalf of trading businesses and processing companies and make a commission in-between.

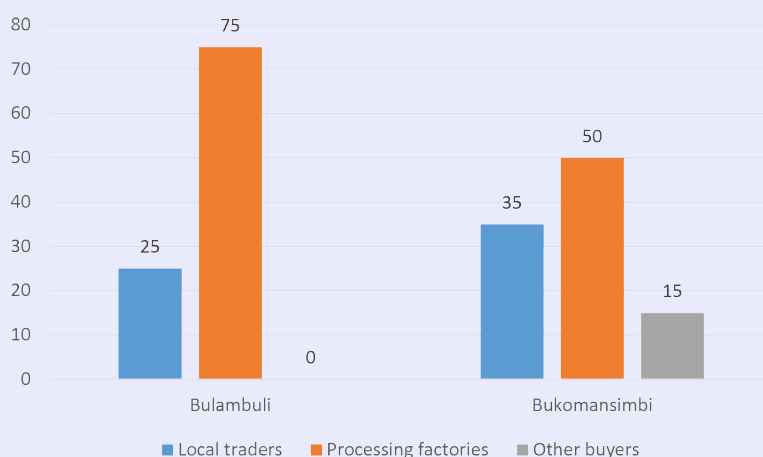
Over 60 percent of employees in the aggregation businesses in both districts are youth – predominantly young men, due to the required energy and mobility, while most owners of the businesses are middle-aged. Youth are largely employed in lifting and transporting the produce and are paid a relatively low daily wage. Aggregation businesses mostly provide employment in the main harvest season, and to a lesser extent in the fly season. Accordingly, most youth are seasonally employed.

However, the many arrangements that exist in aggregation are promising for the creation of wage employment, especially for youth who seldom have capital to buy coffee from farmers on their own. Furthermore, it is necessary to support committed youth to enter aggregation as entrepreneurs.

## Overall structure

As seen in Figure 19 below, 75 and 50 percent of aggregators in Bulambuli and Bukomansimbi respectively sell coffee to processors. However, a significant percentage of aggregators in Bukomansimbi sell to other buyers, suggesting that aggregators work on behalf of larger traders.

**Figure 19: Percentage of aggregators selling to different channels**



Source: Authors' own computation based on field data, 2019.

Coffee aggregation has the potential to be a good business for youth, especially male youth, because it requires energy, mobility and efficiency, which they can offer. In addition, coffee aggregation is attractive to youth because it offers quick returns. Table 7 below shows that most aggregators are male and middle-aged, albeit with some variations across districts. In Bulambuli, 57 percent of the aggregation business owners are men, while in Bukomansimbi the percentage of men is substantially higher, at 91 percent. In both districts, the owners of the aggregation businesses are middle-aged, but still on the younger end of the spectrum, with an average age of 39 and 37 for those in Bulambuli and Bukomansimbi respectively.

The results show that in Bulambuli (Arabica growing district) most aggregators who own the coffee (83 percent) also process. At production level, Arabica farmers reported that they sell red cherries, suggesting that aggregators undertake primary processing using pulping machines. This suggests that the aggregators are providing two services: aggregation and primary processing. In Bukomansimbi (Robusta growing district) the surveyed aggregators mainly provide transport services and do not process. The results also indicate that most aggregators do not belong to associations and have not received any training.

**Table 7: Characteristics of coffee aggregators**

	Bulambuli	Bukomansimbi
Male (percent)	75	91
Age of the owner of aggregation business	39	37
Aggregation and transport (percent)	17	100
Aggregation and processing (percent)	83	0
Aggregators belonging to an association (percent)	33	9
Past training in aggregation (percent)	33	27

Source: Authors' computation based on survey data, 2019.



## Youth employment in coffee aggregation

Aggregation businesses are small, as indicated by the number of employees. Aggregation businesses employ an average of eight and five employees in Bulambuli and Bukomansimbi respectively (Table 8). Half of these employees are youth (50 percent in Bulambuli and 60 percent in Bukomansimbi), but very few are women. However, most of these employees work on a part-time basis, only when coffee is available to aggregate, suggesting that aggregation is a seasonal job for employees. For instance, out of the eight aggregation employees in Bulambuli, seven work on a part-time basis, and in Bukomansimbi out of five employees, three work part-time. Women are less involved in aggregation because of the nature of the work: aggregators use motorcycles and bicycles as the means of transport, but cultural norms and practices bar women from such mobility. In addition, aggregation involves loading and carrying heavy loads, hence making it a challenge for most women. As a result, women mainly work as salespersons at collection centres and administrators, but to a much lesser extent as transporters.

The monthly wages are very low, and even lower for those on a part-time basis. The results show that on average, part-time employees earn about UGX 20 000 per month in Bulambuli, including the payment in kind, and about UGX 15 000 in Bukomansimbi. This is far too low to aid employees' access to basic necessities, and below the proposed minimum wage of UGX 130 000 per month. The wage is low because most employees in aggregation work on casual basis and are only paid as and when they work. In a given month, these employees work for only on a few days. Even full-time employees earn relatively little each month because aggregation is not a job that they do throughout the month, as supplies vary by week and month. For youth to adequately benefit from coffee aggregation, they need to be organized in groups in order to aggregate large volumes which can guarantee employment throughout the month.

**Table 8: Level of youth employment in a typical coffee aggregation business**

	Bulambuli	Bukomansimbi
Employees		
Total number of employees	8	5
Total number of youth employees	4	3
Total number of women employees	3	1
Number of full-time staff	1	2
Number of part-time employees	7	3
Wage for full-time employees per month (UGX)	35 364	37 400
Wage for part-time employees per month (UGX)	12 786	15 000
Payment in kind for full-time (UGX equivalent)	18 657	12 000
Payment in kind for part-time (UGX equivalent)	6 850	-
Total monthly labour cost (UGX)	609 700	253 417

Source: Authors' own computation based on field data, 2019.

## Profitability in the coffee aggregation business

Table 9 shows that coffee aggregation is a profitable business, and the profits are higher in Bukomansimbi than in Bulambuli. The reason for this is possibly because of the existence of big processors who buy directly from farmers, and also out-compete small individual aggregators. On average, traders in Bukomansimbi make profits worth UGX 8 million during the main season and UGX 3 million during the fly season. Those in Bulambuli make about UGX 1.6 million in the main season and UGX 0.4 million in the fly season. Therefore, in addition to creating and improving the conditions for young employees to engage in coffee aggregation, there is a need to support youth to access capital and build capacities, which will enable them to participate in coffee aggregation as entrepreneurs managing a business and not mere seasonal employees.

**Table 9: Costs and profits in coffee aggregation (for a typical business)**

	Bulambuli	Bukomansimbi
Total costs per month of trading during main season	713 000	10 600 000
Total costs per month of trading during fly season	475 000	4 730 000
Profits per month in main season	1 575 000	8 150 000
Profits per month in fly season	347 500	3 080 000

Source: Authors' own computation based on field data, 2019.

### 3.3.3 Processing

Primary processing activities vary across Robusta and Arabica growing regions. In Arabica growing areas, primary processing normally begins with pulping of red cherries. In Robusta coffee producing areas, coffee hulling machines are used to remove the husks from the dry beans.

Almost all coffee (95 percent) in Uganda is exported in the form of green beans, and all large secondary processing/export grading factories are located in Kampala, while a few are situated in Mbale. Since the Uganda's coffee industry was liberalized in early 1990s, the export sector has been populated by international commodity traders such as Volcafe (Kyagalanyi), Sucafina (Ugacof), Ecom Agroindustrial (Kawacom), Olam and Neumann (Ibero). In addition, other small and medium-sized processors are also emerging.

There is a substantial concentration of young people at both the primary and secondary processing stages, either as seasonal labourers during the harvest seasons to sort coffee and operate machines, or as staff of processing and exporting companies that are engaged in sourcing, quality control, laboratory testing and administration. Upgrading and expansion of processing activities, as well as company-sponsored training programmes for young people, will therefore spur youth employment. Furthermore, sustainability concerns and quality demands have opened up many new opportunities in this sector.

#### Primary processing

In Arabica growing areas, especially in the Mount Elgon region where fieldwork took place, the wet processing method is widely used, and coffee cherries are washed and pulped.<sup>4</sup> For Robusta, the dry processing method, in which coffee cherries are sun-dried and the husks are removed by hulling machines, is the most common. Primary processing provides a key opportunity for youth employment because it constitutes a gap in many coffee growing communities where the small pulping and hulling machines are scarce. However, most youth cannot afford these machines and hence remain employees – and not owners – of primary processing businesses.

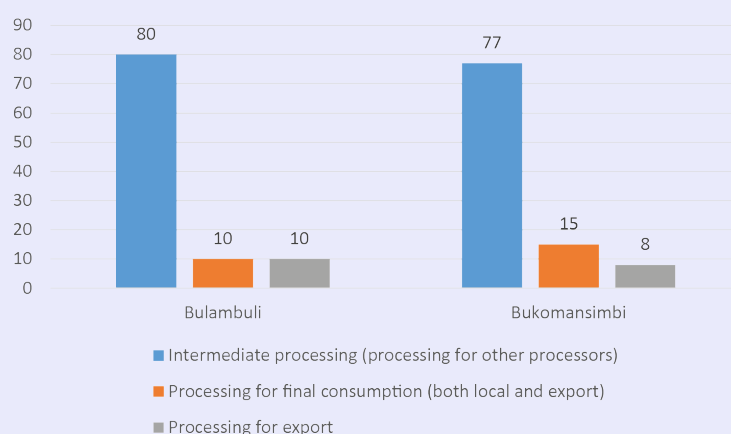
According to field data, only 21 percent of the farmers in Bulambuli undertake primary processing in the form of pulping red cherries of Arabica coffee. The rest sell coffee in its fresh form, as red cherries. This is due to the lack of washing and pulping facilities, as well as the prolonged rains in the area coupled with the poor road network to market and transport washed coffee. The FGD with the youth in Busiya-Bulambuli revealed that farmers do not pulp coffee in the fly season because they face cash constraints and because the volumes of coffee are too small to justify further work and investment in processing compared with the main season. In addition, keeping coffee at home during the long process can heighten the risk of agricultural theft.

<sup>4</sup> In another main Arabica growing region in Uganda, Mount Rwenzori, natural processing (drying the beans immediately under full sun) is the norm.

**Figure 20: Machines used in primary processing****A: Hulling machine****B: Pulping machine**

Picture A by: Bengana Patrick; Picture B by: ©FAO/Hanh Nguyen, August 2019.

In Bukomansimbi, where Robusta is grown, 56 percent of farmers conduct some form of primary processing. On-farm processing is more common here and Robusta coffee is largely sold as dried cherries (Kiboko) while a few farmers hull and sell FAQ. Such a difference could be due to the type of processing and equipment involved (slightly more difficult for Arabica with the wet methods), farm size and yield (larger in Bukomansimbi so it is more worthwhile to do on-farm processing), and the level of organization (more farmer groups in Bukomansimbi). There is also reportedly a large number of coffee processors in Bukomansimbi, both individuals and associations, as well as cooperative societies such as the Kibinge Coffee Farmers' Cooperative Society which conduct both primary and secondary processing. Most processors in both districts sell coffee to larger processors however, especially secondary processors and exporters in Kampala and Mbale, and very few process for final consumption and for export.

**Figure 21: Target markets for processed coffee**

Source: Authors' own computation based on field data, 2019

## Youth employment in primary processing

**Figure 22: Percentage of primary processing activities performed by youth and women in two study areas**

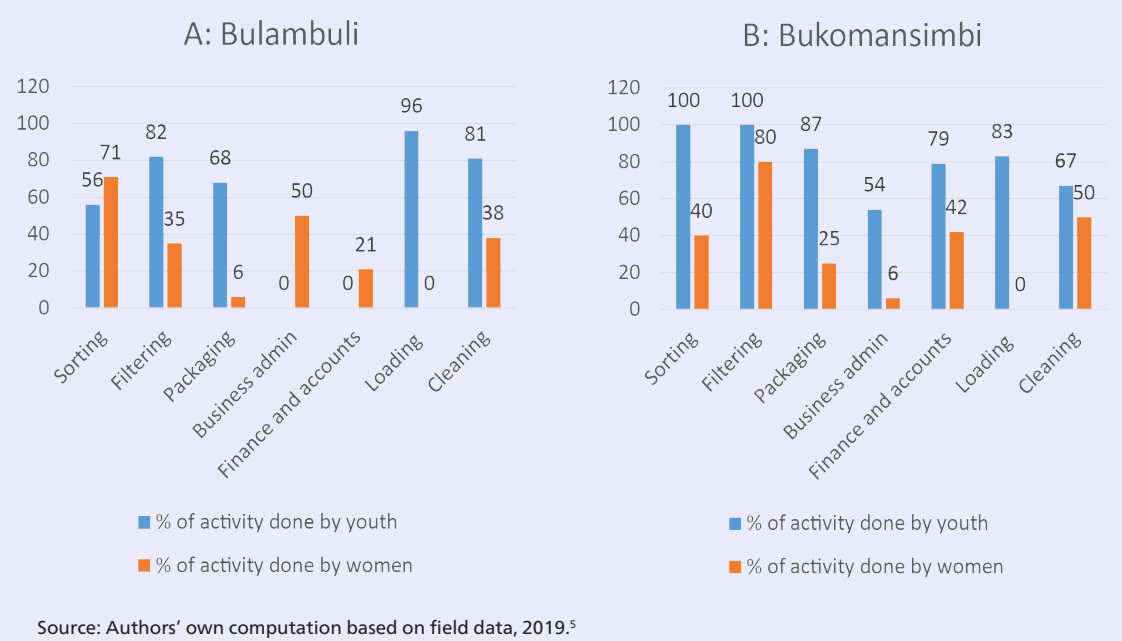
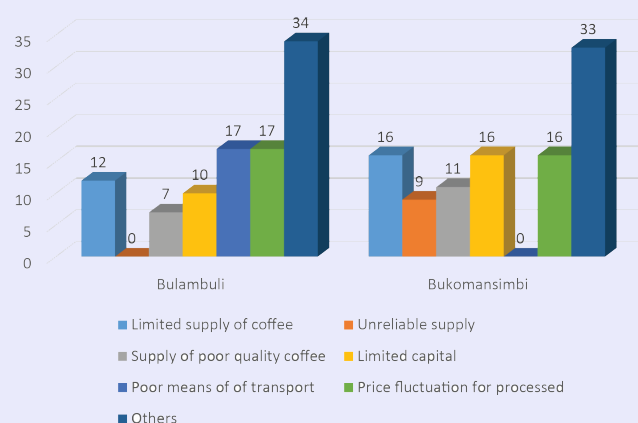


Figure 22 shows that youth dominate in some primary processing activities and are less represented in others. For instance, more than 80 percent of loading and filtering is undertaken by youth. This is because these activities require energy and hence are especially suitable for male youth. However, the percentages of youth employed as business administrators and in finance and accounts are very low, yet such roles are paying better and more stable than other primary processing activities, such loading and sorting.

There are a number of challenges facing processors, but these also present opportunities for youth employment (see Figure 23). These challenges include limited supply of good quality coffee, and where there is supply, it is unreliable. These are caused by a mix of low production and poor post-harvest handling. Youth can fill this gap by increasing their employment in production, and in post-harvest handling, as discussed in the production sub-section above. Other challenges include limits in terms of the capital to acquire processing machines, the requisite skills to undertake improved processing activities and inaccessible markets characterised by poor transportation. There is a need to support youth with start-up capital to buy small hullers and other machines required for primary processing. These youth can be organised into and supported as groups, from which they can individually expand. This support can be in the form of start-up capital, capacity building, and training in areas such as management, business and financial training. This support is also crucial for farmers because it would raise the value of coffee.

<sup>5</sup> Note: The women considered are of all age groups, while youth refers to all males and females aged 18–30.



**Figure 23: Processing challenges**

Source: Authors' own computation based on field data, 2019.

### Secondary processing and export

After primary processing, FAQ beans are further transformed, cleaned and sorted to different grades for export. Table 10 provides an overview of the main steps involved in secondary processing.

The Ugandan coffee sector is vibrant, with many secondary processors, who are often also exporters. Some of the largest companies in this segment are trading corporations headquartered in Europe and Singapore, which have branches in coffee-growing countries that are responsible for sourcing green beans from different origins to sell on to roasters in Europe and North America.

Prior to liberalization, international companies were required to work through Ugandan local exporters and processors. Over the past two decades, however, they have been able to source in-country, either directly through farmers, through producer organizations or through independent aggregators, who bring dried beans to their warehouses and processing plants. With the entry of big international traders that have set up processing factories in Kampala and buying stations in main coffee growing districts, the secondary processing and export segments have become increasingly integrated. These international players not only control the downstream segments of the chain, but increasingly work with other value chain actors such as farmers and aggregators to ensure control over the coffee production and post-harvest handling process, starting with the stage at which the coffee is still in the garden.

**Table 10: Steps of secondary processing of coffee beans**

Step	Description
1. Pre-cleaning and de-stoning	The FAQ (coffee collected from the various suppliers) is of mixed quality depending on the individual supplier's storage and handling techniques. The coffee is often wet (moisture content > 14 percent) and includes extraneous matter e.g. stones, chaff etc. The FAQ passes to the pre-cleaner where the undesirable impurities that are often lighter than the good beans are removed. The wet FAQ passes to a drier. The dry coffee then continues to a destoner where the denser stones are eliminated.
2. Size grading	The cleaned coffee then passes to a grader, which often consists of a box fitted with screens of various sizes in descending order. The larger beans are retained on the required screen and pass to a lateral exit.
3. Gravimetric sorting	Although the sorted beans are now of the same size, they may vary in weight mainly due to poor agronomic practices especially the harvesting of immature cherries. The coffee passes over a gravity table where separation occurs at various points on the fluidized bed.
4. Bag-off	The coffee is then bagged in jute bags of 60 kg, which are then loaded into a container for transportation to the port.

Source: UCDA, 2019c.

The outlook for Ugandan coffee is generally positive, with all companies indicating that there has been a steady growth in demand from both traditional and new buyers all over the world. The sector is vibrant, involving a wide range of companies with different marketing strategies. While mainstream Robusta still dominates the industry, there has been a growing focus on quality, sustainability and specialty, especially in the Arabica segment.

Interviews with several exporting companies reveal that substantial buyer interests in Ugandan Arabica have propelled them to develop their specialty supply chain rapidly. Furthermore, growing public scrutiny of the social and environmental conditions of coffee production has placed immense pressure on roasters to demonstrate transparency along the chain. This pressure is channelled down to exporting companies to exert greater control, enhance quality assurance and traceability from the post-harvest stage, and sometimes up to the farm level.

Major exporting companies have their own sustainability departments, which aim to train farmers on sustainable agronomic practices and agribusiness skills. Some programmes are in place in order to respond to third-party certifications, such as Fairtrade, UTZ and Rainforest Alliance. Recently, however, a number of companies have diverted from third-party certifications to establish their in-house traceability schemes. This often involves the operation of a digital platform, through which information on supplying farms is registered and the journey of the coffee is closely followed. Data is entered on a hand-held device at every stage of handling and roasters and consumers are able to access the information.

With the heightening popularity of direct trade, small and medium trading companies also have taken on the export function. In the Mount Elgon region for instance, most companies target the niche market segment, focusing on achieving high quality and outstanding flavour, or receiving premium prices through sustainability certifications. KIIs with processors revealed that an increasing number of cooperatives and local traders intend to set up their own small processing plants and export directly. Some smaller enterprises that have been successful in processing quality and certified coffee include Zukuka Bora Coffee and Gumutindo Cooperative in the Mbale region.

Low productivity remains the most crucial issue, along with the challenge of enhancing competition in coffee sourcing. Nonetheless, leading exporters indicate that they have witnessed a gradual upward trend in production and that there is enormous potential to increase both the yields and the quality of Ugandan coffee. Some of them have already been collaborating with donor or roaster-driven projects to tackle the issues of low yield through youth engagement. Under these programmes led by large exporting companies (e.g. Kyagalanyi's "Coffee Youth Teams"), young people are assisted to form groups, given equipment, trained in agronomy and financial literacy, and mentored to become field agronomists and service providers.

Via such endeavours, youth have been involved in the rejuvenation of coffee farms (replacing old coffee trees), as well as the management of coffee gardens (pruning, spraying, fertilizing and harvesting services), input distribution and provision of agronomic advice. Evaluation is needed so that the concrete impacts of these projects are better documented, and upscaling is considered beyond the few target regions where these companies are active.

**Figure 24: Coffee processing factory**



Pictures by: ©FAO/Hanh Nguyen, July 2019.

### Youth employment in secondary processing

There is a substantial concentration of young people at the secondary processing/exporting stage, either as staff of an export company who are engaged in sourcing, quality control, laboratory testing and administration, or as seasonal labourers during the harvest seasons. Regarding wage employment, a division of labour between men and women is apparent. Most young men are responsible for physically demanding work such as carrying coffee bags and operating heavy machines, while women are employed to manually sort coffee beans (the finishing touch) or to clean factory space.

Several processing/exporting companies such as Kyagalanyi, Ibero and Kawacom have training programmes aimed at youth and retain graduates from these programmes as permanent employees. They are committed to supporting the creation of job opportunities for young people in the coffee value chain and giving young people the chance to learn and succeed. According to information provided by company representatives, over half of the staff in many companies are under the age of 35. Nonetheless, some point out the difficulties in attracting skilled young people to come and work in the industrial areas.

Apart from on-site and office work, companies such as Great Lakes Coffee also train youth to operate as field agronomists to provide training, advice and inspection, and as agents to collect coffee from farmers. As they have greater mobility during the rainy season, young men in particular have found coffee trading to be an attractive business. Since the limitation is capital, the company has supported a number of trustworthy youth with interest-free capital to buy coffee from farms and sell to their processing stations. The company openly communicates the price range to all parties, so that the margins for youth agents are determined within a certain spectrum, in order to prevent exploitation at the farm gate while remaining profitable enough to create commercial incentives.

The rolling out of digital traceability systems can also provide more opportunities for young people to work in quality control and inspection, since they tend to be more receptive to technology. Many international traders have been launching either in-house or third-party developed apps, not only to manage their supply chain but also to provide access to information and knowledge to buyers. They have indicated their plans to spread these programmes further in the next few years, and the need to employ young people to support this process. Employment will be created in several areas of work, including data entry, inspection and quality control and laboratory testing.

In sum, there appear to be considerable opportunities for youth employment at the secondary processing and export stage, both in wage employment and entrepreneurship. In terms of wage employment, it is in the interest of both young people and employers to build up their knowledge and skills. For the digital transformation of the coffee value chain especially, technology-prone youth must be empowered as the key force in harnessing the potential of innovations.

In terms of entrepreneurship, individual young people, as well as youth groups with entrepreneurial drive, could start testing the waters with small shipments and building direct trade linkages with small and medium roasters from abroad. Furthermore, they could explore novel processing methods and promotion strategies, such as engaging with end consumers through social media (e.g. websites and Facebook pages, where pictures of the producers, coffee fields and factories can be uploaded to foster a direct interaction). Certainly, access to finance, and support and mentorship in the development and implementation of business plans are essential in this process.

### 3.3.4 Roasting and retail

#### Overall structure

The final stage of coffee processing is the roasting stage. This is the most influential determinant of coffee's flavour attributes and also the most value-added activity along the supply chain (Daviron and Ponte, 2005). Roasting machines are used to convert green beans to aromatic brown beans by heating them up to as high as 250 °C for around ten to fifteen minutes (Luttinger and Dicum, 2006). The temperature and duration of the roasting process depends on the preferred darkness of roast (light, medium or dark), which determines the final taste and aroma of the coffee.

The shorter shelf-life of roasted coffee beans compared with their green forms entails that coffee roasting is done close to the end market. Thus, coffee-growing nations tend to export green beans to richer countries, where most coffee is consumed and where this value-added activity takes place. The roasting industry is highly concentrated and controlled by big corporations located in the European Union and the United States of America, such as Nestle, Jacob Douwe Egberts, Tchibo, Lavazza and Starbucks.

Coffee roasting has low barriers of entry in terms of equipment (in contrast with other capital/technology-intensive industries). However, it is the stage along the value chain in with the highest profit margins and power. This is because of the “specific tweaks” that roasters can employ, which many term the “art” or “science” of roasting; their capacity to manipulate supply sources and create signature blends; and their branding tactics to create symbolic attributes to their products to enter and secure markets. Coffee is a prominent example of a buyer-driven value chain, and power asymmetry between buyers from developed countries and producers from developing countries has dominated debates surrounding the economics of the global coffee trade over recent decades.

According to data from UCDA, as of 2019, there are seventeen registered coffee roasters in Uganda and twenty Ugandan coffee brands displayed on the supermarket shelves. The biggest coffee retail channels in Uganda are supermarkets and shopping malls, where packed coffee is available in the form of roasted beans and ground powder. Some are blends of Robusta and Arabica, while many consist of pure Arabica from the Bugisu region on Mount Elgon, and a few from Mount Rwenzori. There seem to be scarcely any imports, apart from common brands for instant coffee such as Nestlé and some coffee from Kenya. Simple equipment to make coffee for in-home use is also available.

**Figure 25: A coffee roasting plant**



Picture by: ©FAO/Hanh Nguyen, July 2019.

Prices per small pack of 250 grams vary from UGX 10 000–14 000 (or USD 2.70–4.00). Coffee is thus still expensive for the average Ugandan worker when compared with alternatives such as tea and soda. Next to entrenched tea drinking habits and limited familiarity with roasted coffee, prohibitive costs might be the key reason for Ugandans to shy away from coffee consumption. Consequently, the targeted clientele is middle to upper middle class, especially the expat community, and hotels and restaurants popular amongst tourists.



**Figure 26: Several Ugandan coffee brands on display in supermarket shelves**



Picture by: ©FAO/Heiko Bammann, September 2019.

Coffee roasters that deliver products for final consumption can be categorized into three main types:

1. International trading corporations, such as Kyagalanyi Coffee Ltd and Great Lakes Coffee, that export 99 percent of their green beans. Some roast a very small amount for their showrooms or for the domestic market.
2. Medium-sized traders that export green beans while roasting and blending for domestic consumption.
3. Small roasters that run their own coffee shops in Kampala or in a big town near the coffee-growing regions (e.g. Imara Coffee, Endiro Coffee, Good African Coffee, Inspire Africa, Nucafe/Café Omukago). Currently they are few and far between, and most of them are situated in areas popular amongst expats and tourists. They buy fresh cherries from the aggregators and farmers, rent primary and secondary processing plants or outsource the processing stage and only do roasting and packaging. The beans are used for freshly brewed coffee at the shop, as well as ground and packed to be distributed to supermarkets, malls and upmarket hotels. Some also export finished products or sell on e-commerce channels, such as Amazon.

There are no national household coffee brands. Similarly, internationally well-known coffee chains such as Starbucks are not present in the country, though Café Java – a local fast food chain that belongs to the Mandela Group of Companies – has gained increasing popularity among youth.

### Youth employment in roasting and retail

Due to a quiet domestic market, the coffee retail sector is under-developed and so is its current ability to provide employment. A small number of young people can be found in wage employment as workers in the few roasting and packaging plants, or as servers, baristas and admin staff at the coffee shops. However, the few entrepreneurs who are active in coffee roasting for final consumption indicate their strong commitment to recruiting young people in their business.

This means that in order to enliven the domestic market and build a coffee culture, there is an inevitable need to rely on youth, since they are the ones who invent and pioneer trends. For instance, Inspire Africa Coffee has launched the “mobile coffee booth” with a modern

design and a range of products that are meant to attract young people. Young people are employed to drive the booth around Kampala and serve coffee and other snacks from the back of a van.

**Figure 27: An Inspire Africa mobile coffee booth and an Endiro coffee shop**



Pictures by: ©FAO/Hanh Nguyen, September 2019.

Furthermore, there is a clear need to understand the coffee market from the demand side. Youth are acutely alert to national as well as global trends, which can translate into innovations in marketing strategies and relationship building with clients to capture more value through intangible attributes. The stories of Good African Coffee (Rugasira, 2007), which despite all odds sells roasted and packed coffee from Uganda on the shelves of UK supermarkets, and Endiro Coffee, which brings roasted Arabica beans from Mount Elgon to six coffee shops in Uganda and one in the United States of America, can provide hope and inspiration.

### 3.4 Value chain governance

Value chain governance refers to the coordination of value chain stages and the relationships between value chain actors, making it possible to bring a commodity from primary production to end use (UNIDO, 2011). Two kinds of linkages between value chain actors can be identified, which together form the governance structure of the chain (FAO, 2014). There can be vertical linkages between actors at different stages of the chain: how farmers, aggregators, processors, wholesalers and retailers are strategically linked. There can also be horizontal linkages between actors at a particular stage of the chain, such as farmers' cooperatives or trade associations. Governance, consequently, influences the degree of information exchange, the provision of inputs and finance, the concentration of market power, and hence the distribution of economic benefits.

The global coffee value chain is characterized by a large degree of vertical integration. Major transnational corporations, who occupy the downstream functions of roasting and branding, dominate the chain and have the power to set or enforce standards. Located in some of the richest countries in the world, they would historically source the beans from local exporters via international trading firms. However, the recent business climate in Uganda following liberalization has diminished the position of local firms and facilitated the expansion of international trading firms into upstream sourcing. Most of these firms now operate secondary processing (export grading) factories in Kampala and many have primary processing and buying centres in coffee communities.

While the conventional channel, in which coffee is sold at the farm gates and can pass through several hands before reaching the processing stations and exporters, is still the most widespread, demands for more transparency, sustainability and quality in the chain mean that the certified and traceable channel is gaining ground.

Increased vertical coordination can translate into the provision of much needed extension, inputs and other means of support to improve producers' capacity. For instance, many companies such as Kawacom, Kyagalanyi and Great Lakes Coffee have field extension teams, which provide farmers with training on agronomic practices, financial literacy and at times inputs, such as coffee husks for compost or pruning equipment. When buyers pay premiums for certified coffee, they encourage farmers to invest in inputs by offering the choice of receiving fertilizer.

Due to rampant problems with counterfeiting, access to quality inputs through trading companies could add an important pathway to productivity enhancement. In response to traditional corporate social responsibility (CSR) demands from roasters, some companies also implement sustainability programmes that support livelihood improvement through provision of basic amenities such as hospitals and water sources for communities. Generally, farmers do not have to pay – at least not directly – for certification fees or training and technical assistance. Their agronomic knowledge is strengthened, which can lead to better practices and improved economic outcomes.

There are also growing horizontal linkages through farmers' cooperatives and unions. Liberalization led to the collapse of many cooperatives which were not ready to face market competition. Nevertheless, recently producers have joined force to establish cooperatives in response to certification schemes, including Fairtrade and Organic, in order to trade as independent legal entities. They have the rights to sell their certified coffee to different buyers without being bound to one company. Certain cooperatives, such as Kibinge, have achieved functional upgrading with relative success. The cooperative has managed to progress to downstream functions of the value chain and produce their own soluble coffee, with clear indication of origin on each package.

However, under no standards schemes are roasters required to obtain a fixed proportion of their overall coffee purchases through the certified channels. This has placed roasting companies in a clearly advantageous position compared with farmers and exporters. If roasters do not commit to buying a certain level of certified coffee for a long period, trading companies do not find it worthwhile to spend resources on complex documentation processes and the implementation of costly training programmes. In fact, interviews with trading companies reveal a recent move from sustainability certification schemes to traceability systems (e.g. via use of blockchain and apps), coupled with specialty elements (e.g. atypical flavor and outstanding quality).

This new governance mechanism essentially entails the "digitalization of the chain", in which the movement of the coffee is closely followed and details are entered digitally on hand-held devices. All farmers are registered in the system with photos and IDs, and buyers are given access to the traceability platforms. The system is supposed to provide transparency on payment and the transfer of prices from importers to producers. There is also an emphasis on quality assurance at every stage of the handling process.

For the initiation of such a system, companies tend to invest in training a number of young "village agents" to sensitize farmers, collect information (e.g. GPS, photos, IDs) or collect coffee on their behalf. These changes in governance patterns could have positive implications for youth employment, with more positions opening up that entail new skill sets. For instance, there will be demand for agronomists to provide training on new practices to ensure quality and modern technological package for coffee production. There will be wage employment created in aggregation, data entry, quality assurance, and so on, the operations of which will be streamlined.

Regardless of the channel (conventional, certified or traceable), formal contracts between companies and producers are still rare, which hinders the provision of finance and investment



in inputs. Companies indicate that informal buying agreements are preferred and they have little incentive to provide finance or inputs in advance for fear that farmers will side-sell. Thus, it is essential to ensure that these developments in governance work to the advantage of coffee farmers, who are at the receiving ends of buyers' requirements.

Farmers are subject to increasingly stringent standards and frequent inspection, yet may not be sufficiently compensated. Companies need to have clear measures to reward quality and sustainable coffee. Otherwise, the gains from a cup of quality coffee might not be passed to farmers and farm profits might even decrease compared with the conventional channel, in which all grades of coffee can be sold.

### 3.5 Extended value chain: support services

The flow of coffee products and the activities of core actors along the value chain are enabled by a number of services, such as the provision of inputs, finances and other services. These support providers do not take ownership of the product, but play an essential role in facilitating the value-creation process (FAO, 2014).

#### 3.5.1 Seedling multiplication

**Figure 28: Coffee seedling gardens**



Pictures by: Rashid Ahimbisibwe, July 2019.

Access to quality seedlings is key for increasing production and productivity. Quality seedlings help guard against pests and diseases, and also lead into realisation of high yields. In Uganda, access to quality seedlings is a government priority in the pursuit of increasing coffee production. Indeed, the government has contracted several nursery operators to multiply and sell directly to the government for free distribution to farmers. Accordingly, the National Agricultural Advisory Services (NAADS) procures inputs and OWC distributes them to farmers for free. Furthermore, following a coffee wilt disease that affected Robusta coffee in most of the sub-counties in Bukomansimbi in the 1990s, the district together with a zonal branch of the National Agricultural Research Organisation (NARO) took samples and developed a clonal which is resistant to the disease. There is a transition in clonal varieties underway, from old coffee varieties to those which have all the properties of the previous ones but with added resistance, and thus the name coffee wilt resistance.

This is all done under UCDA's replanting and coffee production expansion programme. This arrangement provides an opportunity for youth to tap into a business that has a ready market. Indeed, KIs in Bulambuli indicated that seedling multiplication offers employment

as well as business opportunities for rural youth. With training in business and financial management and access to start-up capital, nursery services could be a part of an overall service provision business for youth or youth groups to coffee farmers.

The survey results (see Table 11 below) indicate that in Bukomansimbi, most seedling multipliers produce on an individual basis, but in Bulambuli, a significant percentage of seedling multipliers (33 percent) produce under contracts with the government through UCDA. It was also found that even those who are not producing under contracts are indirectly contracted, because they sell seedlings to those who are contracted to feel the supply gaps.

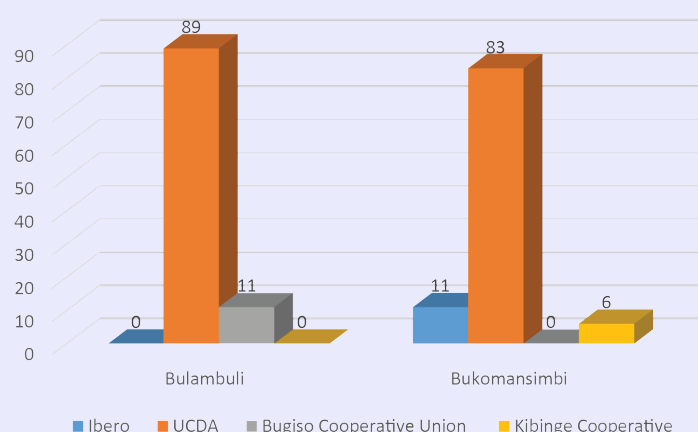
**Table 11: Seedling multiplication arrangement and formalization**

	Bulambuli	Bukomansimbi
Number of years in seedling production (years)	10	9
Producing under contracts (percent)	33	6
Producing individually and under contracts (percent)	8	13
Benefited from organizational support (percent)	58	75
Frequently inspected (percent)	58	81
Provide technical support to their clients (percent)	92	88

Source: Authors' own computation based on field data, 2019<sup>6</sup>

Figure 29 below shows that more than 80 percent of seed multipliers in the two study areas had received support either in form of training, or have been provided a market by the government (e.g. UCDA, NAADS, local government etc.), while some have been supported by cooperatives and processing companies. These efforts could have more impact on youth employment if they focused on and deliberately targeted youth.

**Figure 29: Organizations supporting seedling production**



Source: Authors' own computation based on field data, 2019

Fieldwork results indicate that the majority of employees in seed multiplication businesses are youth. However, a large percentage are employed on a part-time basis (see Table 12). Although it can provide an entry point for low-skilled rural youth to engage in service provision for the value chain, it is even more important to strengthen youth capacity to own and operate seedling multiplication businesses, which is likely more profitable and attractive.

<sup>6</sup> Note: The women considered are of all age groups, while youth are all males and females aged 18–30.



In order to enhance youth entrepreneurship in this business, the government should make deliberate attempts to offer contracts to youth to supply seedlings to farmers and ensure capacity building in business skills, through training and facilitation. For example, the government can support a group of youth in seedling multiplication under the Youth Livelihood Program (YLP) and provide a market for these inputs under UCDA's free input distribution arrangement. This arrangement will not only promote youth employment but will also ease money recovery for the YLP revolving fund.

**Table 12: Youth and women employment in seedling multiplication**

	Bulambuli	Bukomansimbi
Total full-time staff (average number)	4.0	3.0
Full-time: Youth (average number)	2.3	2.6
Full-time: Women (average number)	1.5	1.6
Total part-time employees (average number)	5.9	9.4
Part-time: Youth (average number)	3.8	7.7
Part-time: Women (average number)	2.6	5.2

Source: Authors' own computation based on field data, 2019<sup>7</sup>

### Profitability of the coffee seedling multiplication business

Establishing seedling gardens and running the seedling multiplication business is costly. Table 13 presents annual costs of running a seedling multiplication business. The costs vary across districts depending on the scale of operation. Seedling multipliers in Bukmansimbi operate on a larger scale compared with those in Bulambuli, and hence incur higher costs (see Table 14 for the scale). Overall, the results indicate that high investments are required to run a seed multiplication business, which might impede youth involvement in this business as owners.

**Table 13: Costs of seedling multiplication in the main season (UGX)**

	Bulambuli	Bukomansimbi
Soil for potting	287 500	861 000
Renting land	337 500	1 490 000
Land preparation	254 800	861 100
Herbicides	240 000	113 400
Fertilizers	272 100	291 700
Labour	909 000	1 630 700
Water	47 800	1 403 000
Polythene bags	714 600	1 550 700
Fumigation	178 500	69 300
Transport to far materials	395 000	925 600
Other costs e.g cost of cuttings	317 200	700 900
<b>Total Costs</b>	<b>3 954 000</b>	<b>9 897 300</b>

Source: Authors' own computation based on field data, 2019<sup>8</sup>

<sup>7</sup> Note: The women considered are of all age groups, while youth are all males and females aged 18–30.

<sup>8</sup> Note: Nursery operators in Bukomansimbi operate on a large scale and hence incur higher costs.

However, the seedling multiplication business is also profitable. Table 13 (for costs) and Table 14 (for revenues) show that across the study areas, the yearly profits could amount to UGX 10 million. This makes the business more profitable than that of coffee production, thus there is a need to address the key challenges that limit youth involvement in seedling multiplication as owners so that they can tap into business opportunities at this level of value chain. Nevertheless, this result needs to be treated with caution, as the market is currently fuelled by the government's free seedling distribution programme. It is not certain that when the programme phases out, farmers' demands and willingness to pay for seedlings will remain.

**Table 14: Seed sales and revenue (UGX)**

	Bulambuli	Bukomansimbi
Seedlings sold in 2017	39 560	73 610
Seedlings sold in 2018	32 770	112 910
Total seedlings sold in 2019	48 060	115 710
Price per seedling in 2019	258	347
Revenue from seedlings in 2019	12 415 000	40 150 000
Revenue from Seedlings in 2018	13 900 000	19 000 000

Source: Authors' own computation based on field data, 2019

### 3.5.2 Provision of agro-inputs

The use of productivity-enhancing agro-inputs is very low in Uganda. The reasons are demand-related, especially owing to limited capacity to purchase and use inputs, as well as supply-related factors such as limited access to inputs (owing to availability and price) and poor quality inputs due to high prevalence of counterfeits on the market. Addressing these challenges is key in increasing agricultural productivity. This is an area that has huge gaps but also provides good opportunities for youth participation.

**Figure 30: An agro-input shop in Bukomansimbi**



Picture by: Rashid Ahimbisibwe, July 2019.

All the agro-input dealers interviewed in Bukomansimbi take care of their businesses on their own without the support of any organization. They raise their own capital for investment and identify certified distributors from which they usually buy their stock, either using cash or on credit. A few have been trained and therefore advise farmers on application of inputs

on coffee plantations. Their biggest challenge is the cost of these inputs, because few farmers can afford to use them. Another problem is the proliferation of counterfeits, which erode the trust of farmers. In Bulambuli, agro-input dealers obtain most of the inputs and advice on their use from suppliers in Mbale and Kenya. For this reason, they are able to advise farmers on how to use agrochemicals, although they do not attend any formal trainings. Many make use of their own houses as shop fronts, and some concerns for health and safety were recorded as some chemicals were not well-sealed.

Table 15 shows that agro-input business owners are predominantly middle-aged. In Bukomansimbi, the average age of the agri-business dealers is much lower than that of Bulambuli. In addition, agro-business dealership is dominated by men in Bulambuli (83 percent) but in Bukomansimbi the gender gap is smaller. These results suggest that youth and women are disadvantaged as far as agro-input business ownership is concerned. Agro-input businesses are largely informal and unregistered and operate on the retail level. This suggests that they are small in size and cannot access the benefits of formalisation, such as use of businesses as collateral to access to credit.

**Table 15: Characteristics of agro-input dealers**

	Bulambuli	Bukomansimbi
Average age of business owner	41	33
Female ownership (percent)	17	46
Registration of businesses (percent)	42	62
Supported by organizations (percent)	42	69
<i>Level of operation</i>		
Operating at retail level (percent)	91	75
Operating at wholesale level (percent)	0	8
Operating at both wholesale and retail level (percent)	9	17
Keeping retail records (percent)	58	92

Source: Authors' own computation based on field data, 2019<sup>9</sup>

Agro-input businesses which operate close to farmers are very small-scale, employing an average of around three staff. Over 80 percent of employees in agro-input businesses are youth, and about 50 percent are women. However, like employees in other segments of the coffee value chain, about two-thirds of the employees in agro-input dealership work part-time. This work arrangement may not provide sufficient income for youth to earn a decent living.

<sup>9</sup> Note: The women considered are of all age groups, while youth are all males and females aged 18–30.

**Table 16: Employment provided by agro-input dealers**

	Bulambuli	Bukomansimbi
Total: Full-time staff (average number)	1.1	1.4
Full-time: Youth (average number)	1.0	1.2
Full-time: Women (average number)	1.2	1.1
Total: Part-time staff (average number)	2.0	3.0
Part-time: Youth (average number)	1.8	3.0
Part-time: Women (average number)	1.0	1.0

Source: Authors' own computation based on field data, 2019

### Profitability of agro-input dealership businesses

The data was collected from the agro-input shops in Bulambuli and Bukomansimbi, which were selected using a snowball method as described in the methodology section above. In other words, in each sub-county, agro-input dealers which farmers reported to be their suppliers of inputs were selected. These businesses varied in size, and the stock that was considered was mainly what they could sell in a year. It is worth noting that most agro-input dealers stock inputs that can be used on a range of crops. Although the analysis sought to focus the questions only on coffee, it is hard to claim that the revenues and profits observed only relate to coffee inputs. Nevertheless, indicative figures regarding the costs and profitability of these businesses are still provided in Table 17 below for reference.

**Table 17: Profitability of a typical agro-input dealership business (UGX)**

	Bulambuli	Bukomansimbi
Cost of stock	7 437 500	27 400 000
Other business costs	1 819 444	3 362 000
Total revenues	5 840 000	24 300 000
<b>Total profits</b>	<b>1 740 000</b>	<b>2 888 571</b>

Source: Authors' own computation based on field data, 2019.<sup>10</sup>

The agro-input business is profitable, and the level of profits varies with the level of investment. In Bukomansimbi, the level of investment is higher than that in Bulambuli, and so are the profits. This suggests that for youth to gainfully benefit from agro-input businesses, they need to mobilise enough resources and significantly invest.

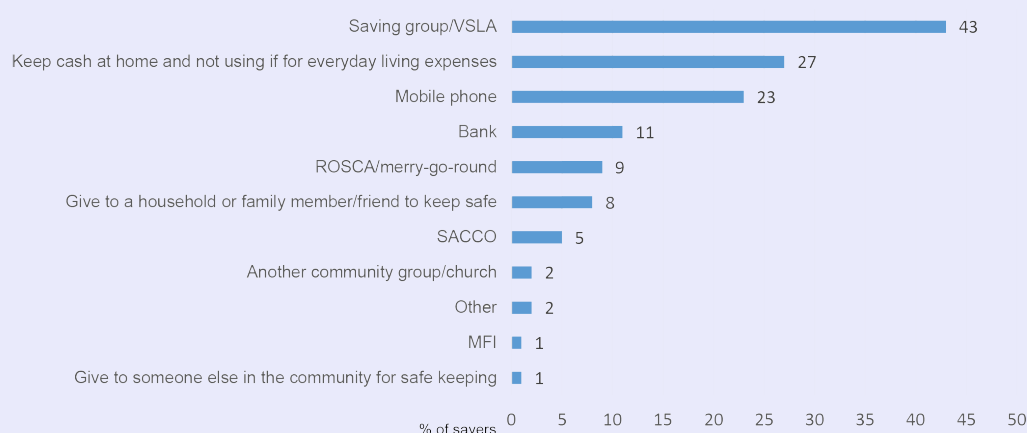
### 3.5.3 Access to finance

While financial inclusion has improved in Uganda generally, access to credit, especially from formal lending institutions, is still limited among farmers. The majority of people use informal institutions such as VSLAs, and many still keep money at home. The FinScope 2018 study undertaken by Financial Sector Deepening (FSD) found that 43 percent of the population save informally with VSLAs, 27 percent keep money at home and 11 percent save on mobile money, while only 11 percent save with commercial banks (Figure 31). There are a myriad of factors causing this, including limited access to formal financial institutions, high service charges, long account opening processes and limited knowledge of the importance

<sup>10</sup> Note: not all stock is sold within a year, so profits are computed on sold stock.

of banking with formal institutions. These factors affect those in agricultural production, and hence those who live in relatively remote areas, to a greater extent.

**Figure 31: Saving mechanisms**

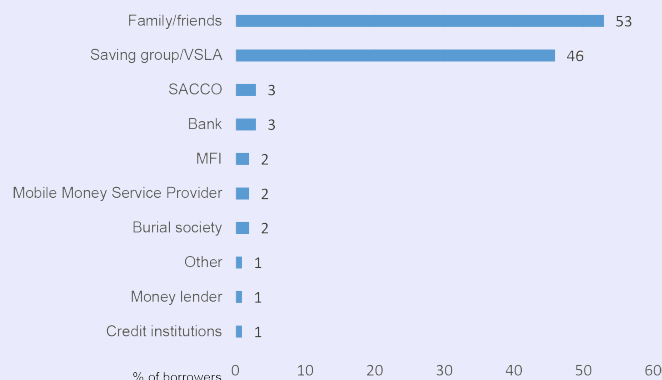


Source: FSD, 2018.

Individuals do not only use informal institutions for saving, but also for borrowing. This is especially prevalent with agricultural financing, where the supply of formal credit to all value chain players is very weak. The main constraints to credit supply include: the high level of fragmentation of the demand for credit; weak supportive regulation for alternative financial products that could be suited for agriculture; low levels of financial literacy among farmers; amongst others (Benni, Berno and del Puerto Soria, 2019). These constraints limit investment in agriculture and hence limit agricultural intensification in Uganda.

The FinScope study found that about 54 percent of Ugandan adults did not borrow in the 12 months prior to the survey. The main barrier to doing so was fear of not being able to meet the repayment terms, followed by not wanting to borrow because they do not believe in borrowing (FSD, 2018). In addition, the study found that those who did borrow mainly obtained credit from informal sources of credit. For instance, 53 percent of borrowers obtained credit from family and friends, while 46 percent obtained it from VSLAs. On the other hand, only about 8 percent obtained credit from formal credit sources such as commercial banks, SACCOs and micro-finance institutions (see Figure 32). Besides, according to calculations from Benni, Berno and del Puerto Soria (2019), out of all borrowers with outstanding loans at formal financial institutions from the last quarter of 2017 to the second quarter of 2019, only 1 percent were aged under 25, and 17 percent were aged under 35. This trend suggests that the majority of youth are disadvantaged in terms of access to formal credit. For all age groups, male borrowers (69 percent) outnumbered female borrowers (31 percent).

**Figure 32: Sources of credit in Uganda**



Source: FSD, 2018.



The field work elicited information on the level of access to finance from different coffee value chain players, revealing that there is limited access to credit especially from formal lending institutions. Figure 33 below shows that most core value chain players use personal savings to fund coffee production, aggregation businesses and primary processing. The results also show that those who borrow obtain money from informal saving schemes such as VSLAs and very few get money from commercial banks. The respondents reported that they do not use formal financial institutions because they lack collateral (which is in most cases land) and fear high interest rates. Also, long loan application processes impede them from using formal lending institutions.

**Figure 33: Access to finance by the main value chain players**



Source: Authors' own computation based on field data, 2019.

The results show that more than 80 percent of the farmers in the two study areas used private savings for coffee production. This does not mean that farmers have sufficient savings to support investment in coffee production, but rather that they have no access to credit. Agriculture production remains a risky venture for commercial banks and other lending institutions to offer credit for. When credit is offered, the interest rates are so high that farmers cannot afford to take it.

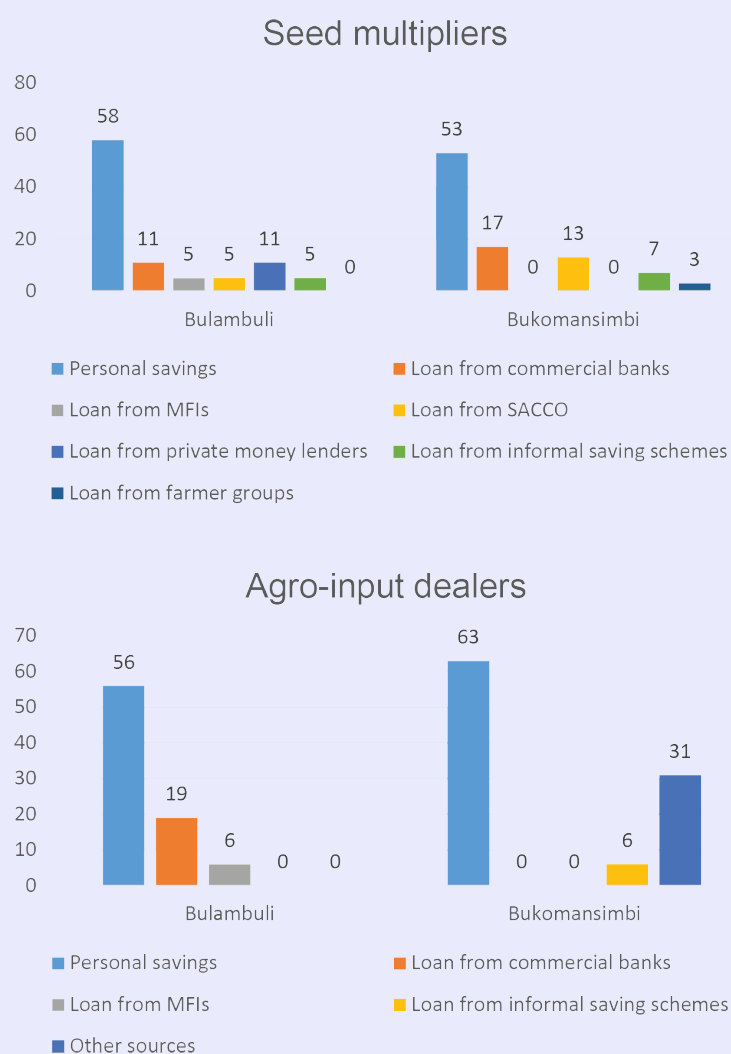
In order to promote youth involvement in coffee production, there is a need to devise other funding mechanisms that take into account the risky nature of coffee production, which remains susceptible to weather shocks and is not insured. This calls for provision of incentives for coffee production by facilitating access to finance and reducing investment risks of coffee

production. Furthermore, although youth are in general more disadvantaged in access to credit compared with other age groups, their financial inclusion is increasing through the use of mobile money services (Benni, Berno and del Puerto Soria, 2019). FinScope data shows that 59 percent of young adults have access to these services as opposed to 53 percent in other age groups (FSD, 2018). Measures to enhance financial access for young people and facilitate their participation in coffee businesses could therefore consider building on the digital transformation of finance.

It should be noted that as one moves down the value chain from production to processing, the percentage of those obtaining credit from more formal lending institutions increases. Compared with farmers, there are fewer aggregators and primary processors using private savings and more using commercial banks. This might be because these businesses are less risky compared with farming, or because the owners possess collateral, and hence pose less of a credit risk.

The fieldwork results in Figure 34 below also show that personal savings are the main source of financing for seedling multiplication and agro-input businesses. This suggests that either the players have no required collateral, or the businesses are so risky that lending institutions charge very high interest rates that the players involved cannot afford.

**Figure 34: Sources of credit for seedling multipliers and agro-input dealers**



Source: Authors' own computation based on field data, 2019

## 3.6 Enabling environment

Value chain actors and support service providers operate in a broader enabling environment which can influence their performance through various pathways. Together they influence the access to market, finance, information and resources of value chain actors, their relationships (governance) and their capacities and incentives to upgrade. In fact, many systemic causes of value chain constraints – and thus the greatest opportunities for improving value chain performance – may lie in the broader environment rather than the chain itself.

For analytical purposes, the societal environment in which the value chain is embedded is divided into four categories: (1) formal institutional elements such as national policies, regulations and laws; (2) informal sociocultural elements such as norms, unwritten codes of conduct, cultural preferences and habits; (3) physical infrastructural elements such as energy, roads, ports, water, and telecommunication networks; and (4) organizational elements, such as inter-professional associations and research facilities.

### 3.6.1 Policies, regulations and laws

Following the collapse of the ICA in 1989, the fixed price system in Uganda was abandoned. The Uganda Coffee Marketing Board was dissolved, leaving many cooperatives to go out of business due to their inability to cope with fluctuating prices and competition from both local and international traders.

Since then, the coffee sector in Uganda has been completely liberalized and currently there is strong and healthy competition. The number of processing and trading companies has risen sharply, with 200 export licenses granted in the ten years post-liberalization, and the industry has benefited from private sector investment into capacity building for farmers. Analyses show that the marketing chain has become more efficient, which has improved farmers' share of the export price. Ugandan farmers now receive 70–80 percent of the Free on Truck (FOT) Kampala price (Matthews, Claquin and Opolot, 2015).

Until recently, the coffee sector was lightly regulated. Compared with other crops, the coffee value chain is one of the most advanced in terms of centralized policies and regulations. UCDA, a public agency under MAAIF, is mandated by the 1991 Statute to oversee and coordinate the development, regulation and promotion of the coffee industry in Uganda. UCDA is governed by a Board with representatives from different sectors: public sector (one representative from each ministry: MAAIF, MTIC and MoFPED) and private sector (representatives of actors along the value chain: farmers, processors, exporters and roasters).

Other than the 1 percent of the total export value that exporters need to pay to contribute to UCDA's operations, no other tax is levied on the coffee industry. This makes coffee trade in Uganda fairly attractive compared with neighbouring countries with state-controlled auction systems, namely Kenya and Tanzania. However, there has been heated debate over the recently proposed Coffee Bill. Companies have expressed concerns about the possibility of overregulation, which might hinder the competitiveness of Ugandan coffee. In addition, in 2018, a 1 percent withholding tax on agricultural transactions above UGX 1 million came into effect, although its impact on the profitability of the coffee sub-sector has not yet been studied.

UCDA has been involved in quality control and inspection of coffee destined for export, certifying and licensing coffee processing factories, as well as service providers such as nurseries and input dealers. UCDA has also extensively engaged in the promotion of domestic coffee consumption and operated a barista training programme. In addition, it collects statistics and publishes an annual report on the performance of the coffee sector.

While UCDA has traditionally been tasked with supporting the downstream value chain functions, recently it has been increasingly involved upstream. As previously mentioned, UCDA has managed a sector-wide tree replanting programme in order to replace old coffee trees with higher yielding planting material. More importantly, the new planting material is

also supposed to be more resistant to the coffee wilt diseases that devastated the Ugandan Robusta coffee stock at the end of the twentieth century.

The Government of Uganda has acknowledged that youth unemployment presents an enormous socio-economic challenge. The 2017 NSYEA strategy calls for a holistic value chain development approach and policy coherence of youth-targeting programmes such as the YLP, the Youth Venture Capital Fund and OWC. It also underlines the need for a youth-friendly National Agricultural Extension Policy. Whereas MAAIF assumes the role of the lead implementing agency, coordination from other ministries and agencies is essential to ensure policy coherence and impacts at scale.

The NSYEA outlines the roles and responsibilities of the key stakeholders in strategy implementation. MoGLSD, for instance, is the best situated to work with MAAIF in attracting youth to the agriculture sector, particularly coffee, since youth issues fall under its mandate. Together with MAAIF, the Ministry of Local Government and the Office of the Prime Minister are responsible for implementation at district level. Other key stakeholders include the MTIC/Uganda Cooperative Alliance, MoFPED, the Ministry of Education and Sports, the Ministry of Science, Technology and Innovation, the Ministry of Information, Communication and Technology, amongst others, each leveraging their areas of expertise to facilitate a policy environment conducive to youth inclusion in agriculture.

In particular, the coffee sector appears to have the strongest governance/coordination amongst priority commodities, with a dynamic multi-stakeholder platform. The UCP, chaired by UCDA and hosted by Café Africa, facilitates public-private dialogue and brings together key experts in the sector. It gathers representatives of all different categories of value chain actors and support service providers for discussion of issues that could lead to advocacy for policy reforms. Collaboration and consultation with the UCP to ensure the representation of youth and youth issues, as well as the promotion of specific activities targeting youth, need to be considered in efforts to upgrade the coffee value chain.

Recently, youth involvement has become a high priority on the agenda of the UCP, demonstrated by the coffee agronomy training which Café Africa undertook in cooperation with the Sustainable Trade Initiative (IDH) under the Global Sustainable Coffee Programme. This effort to provide coffee-specific extension services specifically encourages and targets youth as Coffee Community Based Facilitators (IDH, 2018). Furthermore, UCDA's Coffee Roadmap proposes a strategic plan towards the annual production of 20 million 60 kg bags of clean coffee by 2030 – a fivefold increase from the current level. Youth provide a large labour force and huge entrepreneurship potential, and thus youth considerations need to be integrated into all steps of the plan.

Despite demonstrable commitments to the prioritization of job creation and the improvement of working conditions for youth, especially in the agricultural sector, through the National Development Plan II (2016–2020), National Employment Policy (2011), National Youth Policy (2016), National Agriculture Policy and Agriculture Sector Strategic Plan (2016–2020), there are still policy gaps to address that could be important for the fostering of value chain development for youth employment in the agriculture sector in general and the coffee sub-sector in particular.

Most notable is the lack of specific policies and legal framework governing employment and rights to access productive resources for the youth category of those aged 14–17. Decent work and occupational health and safety in agriculture for vulnerable groups like youth has also not been given adequate attention. Importantly, despite its youthful population, Uganda has a low share of youth representation in governance mechanisms. Youth remain marginalized in both formal and informal decision-making processes, where middle-aged or older men hold most prominent roles (UN-HABITAT and GLTN, 2013).

### 3.6.2 Socio-cultural norms

One of the main obstacles that hinders young people's participation in the coffee value chain, particularly at the production level, is constrained access to land. Since coffee is a perennial crop, coffee production is a long-term investment that takes up to three or four years to yield its first main harvest. As such, young women and men who wish to take up coffee farming would need to own land for an extended period of time. Most of them do not, and face major difficulties accessing this productive resource since in rural areas most land is governed under customary tenure systems, with land changing hands through inheritance. Due to social perceptions of youth as a transitional period and young people as immature and impatient, they are expected to wait until middle age to access land. In fact, although youth are entitled to property rights and participation in economic activities, land is still seen as an adult privilege (UN-HABITAT and GLTN, 2013).

Furthermore, youth are often excluded from land use consultations and their concerns are rarely incorporated. Coffee is also seen as a cash crop, which traditionally fall under the ownership of men, and so young women face even higher barriers due to the cultural norms favouring male inheritance, and many can only access land through marriage (UNDP, 2015). Although women devote labour to maintaining coffee gardens, the incomes are typically controlled by male elders and thus women are more incentivized to tend to subsistence crops such as matoke and beans. Land fragmentation due to population growth and environmental stress also means that the few young people who can access land are likely to receive tiny plots, preventing them from realizing economies of scale.

It is often presumed that young women and men are not interested in agriculture and willingly migrate to urban areas in search of quick gains. Instead of investing in education in agriculture, there are social expectations that youth will use education as the means to get out of agriculture, which is associated with poverty, and move to the highly regarded formal employment. An EPRC (2017) study shows that the higher the level of education youth obtain, the less likely they are to engage in agriculture. The probability of agriculture uptake amongst youth with secondary education decreases by 20 percent as compared with youth without formal education.

According to data gathered by the World Bank, the value-added per worker in the agricultural sector in Uganda is the lowest among neighbouring East African countries. Thus, the agricultural workforce is populated by low skilled labour, which in turn hinders the sector from advancing (Young Leaders Think Tank for Policy Alternatives, 2015).

Without an enabling environment that fosters employment creation for rural youth, including the facilitation of land access, young people would find themselves most likely to provide casual labour for occasional cash, or forced to leave their hometowns to look for income-earning opportunities. While agriculture needs to prove itself as a viable business for young people, young people can in turn contribute to this process by running profitable crop enterprises, such as coffee, on their own farms. If youth could obtain secure access to land in a timely manner, there would be greater potential for them to stay and invest in their futures. Lack of land rights hinders their incentives to invest in the land for agricultural production, as well as their access to credit by offering land as a collateral.

### 3.6.3 Physical infrastructures

#### Transport

Uganda is landlocked and thus coffee has to be exported through the port of Mombasa in Kenya. Since liberalization, competition amongst freight and shipping companies has led to a sharp reduction in the costs and time of cargo movement from Kampala to Mombasa (Matthews, Claquin and Opolot, 2007). Primary processing is mostly done in the growing districts or the nearest town where hulling and washing stations of different



scales are located. The FAQ coffee is then transported to Kampala for further processing and export grading.

The main roads that connect Kampala to some of the main Robusta growing districts in Central Uganda are in good condition, making it easy to transport coffee to factories in Kampala. Between Western Uganda and Kampala, the distance is significantly longer and, coupled with high fuel costs, involves increased transportation costs. While the main roads are in more or less reasonable condition, rural roads that lead to the farms are significantly bumpier. In the mountainous regions where Arabica is grown, particularly in the Mount Elgon/Bugisu region, the tracks leading to the coffee-growing communities are in very poor state, which is exacerbated during the rainy season.

The most practical means of transport is boda boda (motorcycle), as larger vehicles can get stuck in the mud for as long as half a day. It is typical to see many people involved in pushing vehicles and motorcycles that carry harvested coffee (as well as agrochemicals and other physical inputs), to facilitate movement.

Poor road conditions decrease value chain efficiency and quality (since it is advisable that coffee cherries be processed as quickly as possible to prevent fruit spoilage). This might negatively affect the quality of coffee when transporting from the farm and increase post-harvest loss. Furthermore, it reinforces the view among youth of agriculture as hardship. Plans to expand production and improve quality require investment in rural roads and maintenance of the roads from the regions to the city and airport.

### **Mechanization, ICT and digital agriculture**

The downstream functions of the value chain are dominated by international trading companies, well equipped with warehouses, stations and machinery. Many have made use of innovative technologies, such as apps on hand-held devices, to trace their coffee with the support of field staff, a large proportion of whom are youth. With increased access to ICT in the rural area, companies such as Kyagalanyi have also started to digitalize payments to farmers. Mobile money has seen substantial adoption in the country, becoming the primary financial service (Benni, Berno and del Puerto Soria, 2019). Whereas only 10 percent of smallholders in Uganda own a bank account, 21 percent have access to mobile money (Anderson, Learch and Gardner, 2016). Mobile payments enhance transparency and significantly reduce the time and effort involved in cash transactions. Additionally, they help to address the risks of theft and assault linked to the transportation of cash over long distances on a regular basis.

Meanwhile, most coffee farming and primary processing work entails manual labour. For instance, farmers in the Bulambuli district indicate that they sell cherries instead of higher value processed beans due to the lack of primary processing equipment (even a hand pulper) and standard storage and drying facilities. Rudimentary methods of cultivation and processing make it hard to attract skilled youth and reinforce the association of agriculture with subsistence. Moreover, despite the fact that Uganda is well endowed with an abundance of water sources compared with neighbouring countries like Kenya and Tanzania, these resources have not been effectively put to use, and agriculture in Uganda (in particular coffee) remains predominantly rain-fed (Nsubuga, Namutebi and Nsubuga-Ssenfuma, 2014). According to the Japanese International Cooperation Agency (JICA), only 14 000 ha of land, accounting for 2.8 percent of the total irrigable area, are under irrigation, the majority of which are rice fields.

In the age of climate change, low adoption of irrigation systems renders agricultural production vulnerable to erratic rainfall patterns and threatens farm productivity and income (Wanyama et al., 2017). To transition from subsistence to commercial agriculture and engage the young labour force in this transition, public investment is essential

in setting up infrastructure, streamlining extension services and addressing the cost-effectiveness of machinery and irrigation adoption. Exploration of low-cost irrigation technologies, for instance, can make irrigated agriculture economically attractive to farmers, and enhance their control over production in the face of extended period of droughts and changing weather patterns. However, in this regard, and for youth to take advantage, access to investment capital is required.

#### 3.6.4 Organization and cooperation

Support in fostering youth participation in the coffee value chain has been provided by different institutions and diverse projects. Many big exporting companies also collaborate in these projects. For instance, young people have been helped to participate in the areas of input distribution (as agro-input dealers) and service provision (youth groups provide pruning, spraying, and harvesting services). Youth can also participate in the rejuvenation of coffee farms, given the prevalence of old coffee trees in Uganda. In fact, international organizations have increased engagement with the private sector, especially trading companies, as a partner to target coffee farming communities.

Beyond donor-funded projects, several companies have also integrated the youth aspect into their operational models. For instance, NUCAFE has training programmes aimed at youth, and retains graduates from these programmes as employees. Great Lakes Coffee and Ibero also train young people to operate as agents for the companies and provide them with capital to collect coffee from farmers and deliver to their processing stations. Collaboration between public institutions and the private sector proves vital in this case to ensure skill matching.

Although there has been an increasing number of agricultural training programmes offered in the formal educational system, they are still highly theoretical and are not yet well-adapted to fostering the transformation from subsistence to commercial agriculture (Young Leaders Think Tank for Policy Alternatives, 2015). Furthermore, investment in coffee research and development is not yet proportional to the significance of the coffee sub-sector to Ugandan economy. The NACORI, one of the 16 Public Agricultural Research Institutes under the umbrella of the NARO, is the main public institute in charge of coffee research. NACORI was established in 2014 in response to the National Coffee Policy 2013. It has been heavily involved in the seedling programme, since UCDA obtains seedlings developed by NACORI and allocates them to private nurseries, who are responsible for their multiplication and distribution to farmers.

While NACORI has a large amount of land for the purpose of coffee breeding and demonstration plots, they do not have enough financial capacity to hire labour to maintain the demonstration plots as the recommended practice. Additionally, delays in financial disbursements correspond to delays in purchase and procurement. For instance, inputs such as fertilizer or pesticide can come several months or even up to half a year late. Lack of labour and inputs at the appropriate time could severely affect research results.

NACORI also possesses a small bio-technology lab, constructed in 2016 with funds from UCDA, to produce and multiply planting material using tissue culture applications. The process normally takes up to 9–12 months for the generation of Robusta clones, and further time to germinate the coffee from the labs in the greenhouse, then to plantlets. Altogether the process could take up to 15 months. Unreliable electricity, lack of equipment and lack of staff hinders the lab from operating at full capacity and the scientific experiment conditions from being followed rigorously. For example, to obtain the best results, food for the coffee plant cells must be automatically pumped every six hours, so that they are fed for one minute. Nonetheless, limited electricity means that this regime is not followed. A molecular section to verify whether the planting material they distributed is true to type is envisioned, yet is still in the optimization phase and has not fully functioned due to the lack of equipment.

Next to breeding and agronomic practices, to promote a modern face of agriculture that is appealing to youth, research and training on agriculture must look into equipping youth with business skills such as financial literacy and management, and development of business proposals and plans, as well as agrifood processing skills. Incubation centres and research facilities that offer opportunities for youth-led businesses to experiment and expand – such as CURAD and the Food Technology and Business Incubation Centre (FTBIC) under Makerere University – need to be strengthened, and there should be more engagement with the private sector to spark interest among youth and increase their awareness of job opportunities in coffee farming, businesses and service provision. The mindset of youth might change quickly, and therefore they need to be mentored and inspired, not just by adults, but also by Youth Champions, who are successful agripreneurs in their communities.







## 4. Identification of systemic constraints and upgrading opportunities

This section presents the key constraints to youth employment in the coffee value chain in Uganda and proposes solutions to address these impediments. This is undertaken through the identification of the upgrading opportunities and the decent work and youth employment potential along different components of coffee value chain. Lastly, the section provides a SWOT analysis of the coffee value chain.

### 4.1 Root causes of limited youth employment in the coffee value chain

- **Limited access to land.** Most youth have no access to land and those that access it either through renting or borrowing have weak and uncertain use rights, which impedes them from growing coffee. Coffee is a perennial crop that requires up to three or four years to reach its first harvest, and likely more time to break even. Land is increasingly scarce owing to rapid population growth, and as a result land fragmentation and land conflicts have increased. In addition, the land tenure arrangements in rural Uganda remain one of the key factors behind youth's weak land rights. About 80 percent of land in Uganda is under customary land ownership, where the main mode of land acquisition is through inheritance. Most parents do not allocate land to their children when still alive, hence limiting access to land for coffee production. Under the customary land system, formal arrangements such as land leasing and transactions are limited. Therefore, land scarcity coupled with cultural practices that bar youth from owning land until they inherit it from parents have caused most youth to remain landless and unable to engage in production of perennial commercial crops such as coffee.
- **Limited access to finance.** Youth have limited access to credit. This is caused by a number of factors such as: limited access to formal banking institutions, especially in rural areas; high interest rates, which significantly raises the cost of credit; lack of collateral, such as land, which most formal financial institutions demand; and long and costly loan application processes. Furthermore, most youth are employed in informal business activities, with no formal contracts, and hence their creditworthiness cannot be established by lenders. This leaves them with limited opportunities to access finance from lending institutions. As a result, most youth remain financially constrained, with limited opportunities to use financial institutions, and cannot invest and tap into opportunities along the coffee value chain. For youth in coffee production, commercial banks are less interested in extending credit to them because agriculture production is highly risky due to weather shocks and unstable prices. It is thus apparent that in order to support agriculture production and youth involvement in the coffee value chain, institutions that promote development funding with a focus on extending capital are better suited to help youth raise finances.
- **Limited access to and use of productivity-enhancing inputs** such as fertilizers, pesticides and irrigation makes coffee production unproductive and hence not attractive to youth. The limited use of inputs is largely driven by high input costs and the presence of counterfeits and low-quality inputs on the market.
- **Limited access to information** regarding better farming practices and the potential of coffee production in enhancing the incomes of youth. Limited access to extension services is a common challenge facing the entire agriculture sector, and the coffee sub-sector is not spared. In addition, there is limited access to vocational training and education related to agrifood processing, financial literacy and management, and entrepreneurship.



- **A mindset and attitude** that regards agriculture as a “dirty job” has kept youth out of coffee production. Educated youth prefer to seek white collar jobs, because of pressure from parents who believe that when you educate a child, they should be employed in an office job and not in agriculture. Thus, they migrate to urban areas in search of greener pastures, where some end up in casual labour, some start up informal businesses, and the majority remain unemployed. This poses risks in terms of social unrest as well, as there are many cases in which youth end up engaging in criminal activities. There has been a call for an affirmative action through training and use of champions to enhance youth’s interest in agriculture and particularly in coffee-related businesses.
- **Impatience among youth** who want investments with quick returns impedes them from investing in coffee production. Most youth are consequently less attracted to coffee production. To promote gainful employment among youth in coffee sub-sector, efforts and support should be geared toward promoting their employment in the downstream segments of the value chain, such as aggregation, processing or retail, or in the provision of support services such as seedling multiplication and agro-input businesses, which might be preferred over roles in production.

## 4.2 Upgrading and investment opportunities: Identifying the potential for youth employment and decent work

There are a number of upgrading and investment opportunities across various segments of the coffee value chain, from production to consumption, as well as provision of support services such as seedling multiplication and agro-input dealership. The following are the key investment opportunities identified in this study:

### 4.2.1 Opportunities related to the core value chain

#### Coffee garden management and technology application

The level of intensification in coffee production is still minimal. Farmers do not apply fertilizers (organic or inorganic) in the right quantity and quality, and farmers rarely utilise irrigation. The main reasons for limited fertilizer application are the high costs, limited accessibility due to poor roads, and the presence of counterfeits on the market. As a result, the yields are very low. This gap provides an investment opportunity for youth. The youth-targeted funding from the government, such as the YLP, can achieve a greater impact if they provide training in coffee management practices and equip youth with the right tools such as spray pumps, irrigation facilities and pest management equipment, to assist them in providing paid services to coffee farmers. This opportunity has been utilized by the Kibinge Coffee Farmers’ Cooperative Society in Bukomansimbi, which takes full care of farmers’ coffee gardens and agrees on percentage sharing of the coffee proceeds after the harvest. On the other hand, farmers should be sensitized to the benefits of productivity-enhancing activities. If farmers are to be incentivized to purchase inputs and the associated services in applying them, the extremely high input costs in Uganda and the prevalence of counterfeits also need to be tackled.

#### Production and post-harvest handling for specialty coffee

The trends in coffee markets are changing from consideration of volume to specialty coffee, which calls for proper handling and fermentation. Youth need capacity strengthening and initial capital to invest in the more sophisticated yet rewarding coffee production and post-harvest handling practices. However, specific skills are needed to benefit from

this business. Skill enhancement programmes in the country – such as those operated by the OPEC Fund for International Development (OFID), which is credited with promoting technical and vocational skills in Uganda – should promote coffee-related skills through the training of coffee technicians, roasters and baristas, and provide training in other key financial skills required in coffee value addition such as bookkeeping, marketing and branding. Innovations by youth could be promoted through public competitions and contests facilitated by development organizations together with government agencies and the private sector.

### **Aggregation, processing and marketing**

The aggregation business requires energy and vitality, which youth can offer. What they lack, however, is financial support in form of start-up capital to participate in aggregation. Organizations such as processing and exporting companies should support and involve youth as aggregators. Primary processing, using pulping and hulling machines for Arabica and Robusta coffee respectively, is still minimally used. It has the potential, however, to increase the value of coffee significantly. Lack of access to hulling and pulping, and limited knowledge in the use of these machines, has been found to be a key hindrance to primary processing. This thus provides a key investment opportunity for youth, who can be employed by providing these services at a cost to community members. Some FAO-supported Youth Champions reported that they benefitted from this business. For instance, Tamale Jonathan, manager of the Kayunga Nile Coffee Farmers' Cooperative in Kayunga district, benefited from NUCAFE training, and later on established a farmers' group and started bulk purchasing coffee. In his own words, Mr Tamale explained that: "I started a farmers' group of 67 members with the aim of bulking coffee. At first farmers did not like the idea, but later they appreciated it, and in 2015 the membership increased to 120 farmers, especially when farmers realized that the organization was helping them to solve the challenge of market access. As a coffee farmers' association, we started training farmers in different farmers' groups about post-harvest handling and agronomy of coffee. In 2017 we graduated into Kayunga Nile Coffee Farmers' Cooperative. Currently we work with 750 farmers."

#### **4.2.2 Opportunities related to the extended value chain (service provision)**

- **Seed multiplication** presents an investment opportunity for youth. In view of the 2030 target, the government, through UCDA, supports coffee farmers by providing free seedlings for coffee garden expansion. UCDA contracts seedling multipliers to supply seedlings to farmers. However, youth have been left behind in this regard because they lack capital and land, which are the key inputs in seedling distribution business. A small number of young people who have received support to invest in this business have experienced success and even employed other youth. For instance, Mr. Muhindo Willington, a Youth Champion supported by FAO, explained that: "I produce coffee seedlings that I supply to UCDA and farmers. I started the business in 2011. My father gave me three acres of land that I used to start my business, and I got some little money from personal savings and borrowed UGX 5 million from my sister as start-up capital. Currently I operate my business with a working capital of UGX 60 million. I have mobilized youth in my sub-county and they have appreciated that agriculture helps to solve the problem of unemployment".
- **Post-harvest handling and youth managed storage facilities.** Owing to poor post-harvest handling, coffee producers are faced with poor coffee quality and hence low prices. The results indicated that about 34 percent of the robust coffee producers dry the coffee on the bare ground and lack proper storage facilities. For Arabica producers,

79 percent do not dry the coffee at all, because they sell red cherries. This presents an investment opportunity for youth, and for other private investors who can work with youth. Youth groups can be supported to set up storage facilities at the community level and provide a service at a fee. Such an investment would not only enhance youth employment, but it would also improve the quality and value of coffee sold.

#### 4.2.3 Opportunities related to the enabling environment

- **Enable youth access to land:** land leasing provides an option for youth access to land, yet a few people have embraced it as one way of accessing long-term user rights. There is a need for organizations that support youth involvement in coffee production to promote leasing and share cropping through sensitization of coffee growing communities. This will solve the challenge of limited access to land by youth. In addition, land borrowing for the growing of perennial crops will address the challenge of limited intergeneration transfer of land owing to fears that youth can use coffee to claim ownership rights.
- **Enable youth access to finance and credit:** Government agricultural and youth support initiatives such as the Agricultural Credit Facility (ACF) and the YLP should target and avail credit to youth. This is because the profit-oriented and risk-averse commercial banks are often less likely to provide the credit needed by youth in order to participate in the coffee value chain.
- **Capacity building for youth run agribusiness:** there is a need for more organizational support to promote youth groups and to equip them both with skills and start-up capital to support quality enhancement of the produced coffee. Most farmers still dry coffee on the ground and may handle it poorly, which affects its value. Youth groups can be trained to provide extension services and to train farmers in better harvesting and drying practices.
- **Consolidation of youth support activities:** there are different initiatives and organizations supporting youth such as MoGLSD through the YLP, FAO through the Youth Champion Programme, MAAIF, which is implementing the NSYEA, CURAD and NUCAFE, among other programmes. This support remains fragmented, however, with less focus on specific enterprises with a high potential to promote youth employment. There is therefore a need to mobilise scattered resources in order to support youth participation in the coffee value chain.

### 4.3 SWOT analysis

This section summarizes the main strengths and weaknesses of the coffee value chain in Uganda, highlighting the implications for youth participation in different value chain segments and service provision. It also outlines the opportunities and threats facing the sector, and how they contribute to fostering or hindering youth employment and entrepreneurship in coffee businesses.

<p style="text-align: center;"><b>Strengths</b></p> <ul style="list-style-type: none"> <li>• Substantial interest from the public sector and alignment with the National Development Plan: in coffee as a high-value export crop and in promoting youth employment in coffee.</li> <li>• Relatively well-structured coffee sector with a large number of support institutions.</li> <li>• Ugandan Robusta considered to be of premium quality compared with competitors on the global market.</li> <li>• Coffee sector liberalized and attractive to private investments, with presence of all large international trading companies.</li> <li>• Washing and hulling stations of major companies in coffee-growing districts, offering rural employment.</li> <li>• Emerging vertical coordination (traceability system) and private companies in need of technology-savvy collecting agents and quality control staff, thus ready to attract youth.</li> <li>• Many young people already engaged in the sector as workers of primary processing establishments and secondary processing/exporting companies.</li> <li>• Aggregation is a vibrant business that involves mobile work and requires the energy of youth.</li> <li>• Long traditions of coffee cultivation. Many people grew up in coffee growing families and are culturally attached to coffee as a crop.</li> <li>• Many agencies and projects with the overall aim of strengthening the sector, including through youth participation.</li> </ul>	<p style="text-align: center;"><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>• Very low productivity smallholdings, with little adoption of modern technology, equipment, nor inputs.</li> <li>• Little record keeping.</li> <li>• Low-yielding old trees that are vulnerable to pests and diseases, with replanting programmes not yet successful at addressing these issues.</li> <li>• Although women provide substantial labour, coffee is traditionally regarded as a cash crop and thus coffee production and businesses are dominated by men.</li> <li>• Youth provide casual labour on an irregular basis, while male elders own coffee trees.</li> <li>• Low number of community-owned or small-scale primary processing factories, hindering smaller value chain actors from participating in value addition</li> <li>• Missing or weak infrastructures (e.g. no irrigation, standard storage), primary processing involves mostly manual labour and thus might not be appealing to high-skilled youth.</li> <li>• Limited research and development capacity given the magnitude of coffee sub-sector to Ugandan exports, and weak extension services.</li> <li>• Inadequate involvement of young people in research and extension. Little training for youth in agribusiness and agro-processing.</li> <li>• Inadequate financial products, especially for farmers. High barriers for youth to access capital to start businesses in the coffee value chain, meaning that most youth remain casual labourers.</li> </ul>
<p style="text-align: center;"><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Potential for youth employment at all stages of the coffee value chain, both as employees and entrepreneurs.</li> <li>• Positive market outlook: consistent demand for Ugandan coffee in main importing countries. Many emerging coffee drinking markets.</li> <li>• Considerable niche market opportunities for high-end coffee. Growing appreciation for uniqueness and transparency in key markets. Youth can find ways to capture value-added through innovative products and novel way of marketing.</li> <li>• Potential for value addition through processing and roasting, to train youth as technicians, quality assurance officers, marketing staff, etc.</li> <li>• Digitalization of coffee value chain, with potential to create rewarding jobs for youth.</li> <li>• Potential for increasing production and productivity through changing farming practices and adoption of modern technology, which calls for the role of youth.</li> <li>• Potential to demonstrate the profitability and attractiveness of coffee businesses to youth.</li> <li>• Increasing domestic consumption, though modest. Barista as a profession and coffee shops as a hangout place are gaining popularity among the younger population.</li> <li>• Government initiatives and emphasis on coffee (Coffee Roadmap, replanting programme) can incorporate a youth dimension.</li> </ul>	<p style="text-align: center;"><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Fluctuating world coffee prices (very low recently) and high vulnerability to the global market due to low local consumption, which may make coffee less attractive to youth.</li> <li>• Increased supply from large producing countries such as Brazil and Vietnam to the conventional markets, as well as emergence of new suppliers to specialty markets, making coffee businesses extremely competitive.</li> <li>• Evolving and complex certification systems, which demands constant monitoring and alertness to trends.</li> <li>• Infrastructure, e.g. electricity and roads in many coffee growing communities is lacking or in poor condition. This results in reduced quality and increased losses, as well as reinforcing youth's perceptions of agriculture as hard, unrewarding work rather than as a rewarding business.</li> <li>• Climate-related risks, such as higher rainfall variability and average temperature, may disrupt coffee production.</li> <li>• Competition for land and shortage of labour.</li> <li>• Further land fragmentation is likely to deter youth investment in cultivating perennial crops such as coffee.</li> </ul>







## 5. Proposed strategic directions for enhancing youth employment in the coffee value chain

### 5.1 Vision

**Vision: A dynamic and sustainable coffee value chain with full potential to provide decent jobs and transform livelihoods of youth in Uganda by 2030.**

This proposed vision statement has been developed with stakeholders that were consulted through KIIs and at the validation workshop, organized by FAO in September 2019 to discuss the preliminary findings of the analysis.

The vision is aligned with the National Development Plan (NDPII), the NSYEA and the overall vision of UCDA and the Coffee Roadmap, with its target of increasing coffee exports to 20 million 60 kgs bags by 2030. It is also in support of the government's budget themes and the political agenda of promoting agro-industrialization for job creation and inclusive growth.

### 5.2 Strategic recommendations

This sub-section proposes recommendations to guide future implementation of the coffee value chain upgrading and development interventions to enhance its performance, with focus on promoting decent rural youth employment.

Stakeholder consultation through the validation workshop, KIIs and FGDs raised a number of key issues that need attention and support in order to unleash the potential of the coffee value chain as a source of decent jobs for youth.

**Support youth groups to provide production enhancing services to coffee farmers.** Coffee production analysis indicates that there is low productivity stemming from limited use of productivity-enhancing practices. This provides an opportunity for youth employment. First, there is a need to train farmers, through extension service provision, on the importance of using inputs, and the right package and measures to apply. Secondly, once farmers appreciate the use of productivity-enhancing inputs and their demand for these technologies and practices increases, the government and private players should support the establishment of well organised youth groups, equip them with business skills such as financial literacy and management, and assist with the development of business proposals and plans. This would help youth to undertake coffee production as a business. In addition, youth groups should be supported to provide services such as fertilizer and pesticide application, and pruning, which they can offer to other farmers in the community at a fee. Some government youth-focused programmes such as the YLP can provide tools to organized youth groups.

**Equip youth with financial literacy and business management skills required in coffee aggregation. Support the establishment of community-level storage facilities and drying facilities operated and run by youth to close the post-harvest handling gap.** This support can be in the form of provision of skills and capital to youth through the existing youth support arrangements from the government and the private sector. Maintaining the quality of coffee through proper post-harvest handling practices is key. A significant number of farmers have no tarpaulins and hence dry coffee on the bare ground, which leads to contamination. For instance, the value chain analysis results indicated that about 34 percent of Robusta producers dry coffee on bare ground while majority of Arabica producers (79 percent) do not dry at all and hence sell red-cherries. In addition, most farmers have no proper storage facilities. Community-level drying and storage facilities can provide employment opportunities for

youth and also enhance the quality of coffee.

**Support youth to access start-up capital to invest in primary processing.** At processing level, youth can invest in primary processing or be employed in secondary processing activities. To promote youth investment in primary processing, they should be supported with start-up capital to acquire and set up washing stations and hulling centres at the community level. For instance, in the Mbale region, there are currently very few community-owned processing facilities. There are either primary processing factories owned by big companies or simple home hand pulperies processing. Investments to fill this gap will augment incomes for farmers and provide jobs for rural youth.

**Train youth to gain technical skills in coffee processing.** To promote youth employment in secondary and tertiary processing, there is a need to develop their coffee processing skills through the training of technicians, roasters, baristas and cup tasters, as well as providing training in other key skills required in coffee value addition and marketing. This will require concerted effort by government agencies together with development organizations, as well as leading exporting companies.

**Support youth to run nursery businesses** and provide quality seedlings to promote expansion of coffee production and replacement of old trees. This will aid the attainment of the target of 20 million bags in coffee exports, as promoted in the Coffee Roadmap. Youth can take up this role, and hence need to be supported under the current free seedling distribution programmes by UCDA and OWC. There is thus a need to specifically offer contracts to youth and youth groups so as to enhance youth employment in seedling multiplication.

**Support the development of bylaws at the local level to strengthen individual land rights** on leased and rented land for longer time periods. Provision of an enabling environment is key in enhancing youth employment in the coffee value chain. The government needs to come up with bylaws at the local level that secure the rights on leased and borrowed land. At present, youth have no access to land because the owners of unutilised land cannot hand it over to youth for fear of losing it. Land laws give use rights to a person who has been occupying land for 12 years or more as a bona fide occupant or tenant. While this strengthens the rights of tenants, it is a disincentive to landlords with big chunks of land who would wish to pass it on to youth under leasehold, sharecropping or even lending arrangements. In addition, there is a need to change the mindset of parents – as well as socio-cultural and gender norms related to land access – towards allocating land to their children for coffee farming, rather than waiting for inheritance. In addition, there is a need to promote land access through sharecropping, an arrangement that allows absentee landlords to offer youth land for coffee production and then share the produce.

**Provide credit guarantees to youth to access affordable loans.** Another way of creating an enabling environment is through credit guarantees to enhance youth access to capital. Existing youth-focused government initiatives such as the YLP and those targeting the agriculture sector in general such as the ACF should provide loan guarantees for youth to access cheap loans. This will solve the challenge of lack of collateral faced by the majority of youth who do not own land.

**Promote and enforce adherence to contracts to protect youth.** Youth are often exploited because they work without contracts and do not enjoy some on-job benefits such as paid leave and insurance schemes. In addition, many of the youth who are employed in informal businesses are not protected from different forms of exploitation and exposure to hazardous working environments, especially for those working in factories. There is a need to enforce the regulations in the Employment Act 2006 across the board for both formal and informal coffee companies.

**Intensify promotional campaigns to attract youth to work in agriculture, especially in the coffee sub-sector.** To change the youth mindset about employment in agriculture in general and coffee in particular, there is a need to expand youth-targeted initiatives such as the FAO Youth Championship Programme. In addition, other platforms such as coffee events and campaigns that promote youth involvement in the coffee value chain should be supported, to enable youth to realize the diversity of employment in the coffee value chain and the opportunities involved. Similar events could be replicated for other profitable food value chains.

**Table 18: Strategic recommendations**

Value chain segment	Strategic goal	Strategic recommendation
Production	Promote youth involvement in the provision of productivity-enhancing technologies and post-harvest handling to improve the quality of coffee	Support establishment of well-organized youth groups and equip interested youth with business skills such as financial literacy and management, and assist with the development of business proposals and plans. This would help youth to undertake coffee production as a business
		Support formation of community-level storage facilities and drying materials operated and run by youth to close the post-harvest handling gap
Aggregation	Enhance youth participation in coffee aggregation, which is currently dominated by older age cohorts	Support youth involvement in coffee aggregation through training in business skills and provision of start-up capital
Processing	Promote youth investment in primary processing	Support the establishment of youth managed community-level washing stations and machines
	Enhance youth employment in secondary processing	Collaborate closely with the private sector to better equip young people with the necessary skills to capture jobs in the field, in the factory, and at the office
Marketing and distribution	Promote market linkages between small businesses operated by youth and external markets	Support participation of youth in specialty/origin coffee fairs to help them building direct trade linkages with small and medium roasters from abroad. In addition, train youth in the use of ICT for marketing
Value chain governance	Promote youth participation and leadership in farmers' groups and industry associations	Work with community leaders and lead companies and outline the benefits in creating opportunities for youth and empowering younger voices
Seedling multiplication	Provide quality seedlings to promote expansion of coffee production and replacement of old trees	UCDA should deliberately capacitate and contract youth to multiply seedlings under the current free seedling distribution intervention by the government
Agro-inputs	Enhance access to quality inputs from certified and experienced agro-input dealers	<ul style="list-style-type: none"> <li>• Train youth to identify authentic agro-inputs and to train farmers on the recommended input application measurements</li> <li>• Train youth on occupational safety and health measures related to the safe handling and use of agro-inputs</li> </ul>

Finance	Enhance youth access to capital for coffee production	Support the establishment of youth VSLAs and capitalize them using government interventions such as the YLP
		Fund youth initiatives in coffee processing through youth-targeted revolving funds and other governmental agricultural support programmes such as the ACF
Enabling environment	Create a friendly environment that promotes youth employment in coffee value chain	<ul style="list-style-type: none"> <li>• Provide loan guarantees for youth to enable them access credit, as they have no collateral. Funds such as the ACF and other youth programmes can fund this initiative</li> <li>• Regulate and enforce youth employment contracts to guard against exploitation</li> <li>• Monitor the engagement of younger youth (14–17 age cohort) in the sector, advocating for their rights and inclusion, and guaranteeing their engagement complies with labour standards (e.g. that they are not engaged in hazardous occupations)</li> <li>• Develop bylaws that make it easy for youth to access land for coffee production, either through leasing or share cropping</li> <li>• Work with communities to tackle social norms that hinder women from accessing productive resources and facilitate arrangements that allow easier female participation</li> <li>• Invest in upgrading infrastructures in coffee-growing and processing districts, streamlining extension services and addressing the cost-effectiveness of machinery and irrigation adoption</li> <li>• Invest in replication and expansion of the services of incubation centres such as CURAD and Uganda Industries Research Institute (UIRI), among others, and research facilities that offer opportunities to youth-led businesses to experiment and expand</li> <li>• Ensure skill matching in training and education in agriculture and agro-processing</li> <li>• Raise awareness and interest amongst youth in agriculture and agribusinesses by coffee events and campaigns that promote youth involvement in coffee</li> <li>• Promote youth role models in the coffee value chain through contests and programmes such as the Youth Championship Programme and encourage them to mentor other young people in the communities</li> </ul>

## 5.3 Proposed interventions outlining immediate, medium-term and long-term actions

### 5.3.1 Immediate (1–2 years) policy and strategic actions

- I. Increase coffee traceability and quality through improved outreach to and training for farmers.
- II. Identify already existing organized coffee farmers' groups for targeted capacity

building and continuous information sharing. Encourage youth participation in the governance of farmers' groups.

- III. Promote best practices in post-harvest and primary processing by supporting the establishment of a number of pulping and washing stations across different coffee growing districts to improve quality. These should be potentially linked with and managed by farmers' groups, paying special attention to youth involvement and leadership.
- IV. Promote coffee consumption to increase local demand. This could be undertaken through coffee promotion campaigns and tasting events, as well as by increasing coffee consumption in public offices.
- V. Support participation of youth in specialty/origin coffee fairs to help them build direct trade linkages with small and medium roasters from abroad.
- VI. Promote youth role models in the coffee value chain through contests and programmes such as the Youth Championship Programme and encourage them to mentor other young people in their communities.

### **5.3.2 Medium-term (2–5 years) policy and strategic actions**

- I. Rehabilitation of old coffee plantations, with services provided by young workers
- II. Research into, experimentation and roll out of disease-resistant coffee varieties.
- III. Target, identify and certify youth commercial coffee nurseries for multiplication of planting materials. These should be deliberately contracted to multiply seedlings under the current free seedling distribution intervention by the government.
- IV. Form a specific coffee extension and training programme that targets rural youth.
- V. Support the formation of community level storage facilities and drying materials.
- VI. Provide loan guarantees for youth to enable them to access credit, as they have no collateral. Funds such as the ACF and other youth programmes can support this initiative.
- VII. Strengthen regulation and enforcement regarding the selling and distribution of inputs in order to curb counterfeiting.
- VIII. Develop bylaws that make it easy for youth to access land for coffee production, either through leasing or share cropping.

### **IX. 5.3.3 Long-term (5 years and above) policy and strategic actions**

- I. Manage and mitigate the effects of climate change, which coffee crops are particularly vulnerable to.
- II. Enhance value addition through extension of cost-effective power sources to rural coffee processors.
- III. Support local manufacturing of pesticides and herbicides to drive input costs down while providing youth employment.
- IV. Invest in replication and expansion of the services of incubation centres and research facilities that offer opportunities to youth-led businesses to experiment and expand.
- V. Invest in rural infrastructures to improve the efficiency of the value chain and working conditions of actors.







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## Annexes

### Annex 1: List of stakeholders and sources in Uganda consulted

Name of key informant(s)	Position	Organizations
Geofrey Arinaitwe	Director of Research	National Coffee Research Institute (NaCORI)
Pauline Aluka	Research Officer	National Coffee Research Institute (NaCORI)
Pascal Musoli	Senior Research Officer: Breeding and Head CVIM Programme	National Coffee Research Institute (NaCORI)
Daphne Nyachaki Bitalo	Research Officer: Geneticist	National Coffee Research Institute (NaCORI)
Lawrence Michael Oketcho	Director Trade Information	Uganda Export Promotions Board (UEPB)
James Kizito-Mayanja	Market Intelligence and Information Manager	Ugandan Coffee Development Authority (UCDA)
Paddy Namurebire	Monitoring and Evaluation Manager	
Stefan Cognini	General Manager	Hanns R. Neumann Stiftung African
Malisa Mukanga	Deputy Country Manager	Hanns R. Neumann Stiftung African
David Muwonge	Deputy Executive Director	National Union of Coffee Agribusinesses and Farm Enterprises (NUCAFE)
Joe Hage-Chahine	Managing Director	Ugacof Ltd. (Sucafina)
Frank Olok	Regional Program Manager	Ugacof Ltd. (Sucafina)
Edward Katende	Chief Executive Officer	Uganda Agri-Business Alliance
Deus Nsubuga	Speciality Coffee Manager	ECOM Agroindustrial Corporation Limited Kawacom Uganda Limited
Johnson Eneko	Quality Manager	
Gabrielle Rosenau	BLOOM Manager	Ibero (Uganda) Ltd A company of Neumann Kaffe Gruppe
Martin Fowler	Agriculture and Livelihood Advisor, Economic Growth Team	USAID Uganda
David Tusasiibwe	Coffee Agronomist	Kyagalanyi Coffee Ltd Member of ED&F MAN Coffee Division
Hezron Mwai Gathu	Commercial Robusta Agronomist	
Norman Mukulu	Head of Sourcing	Great Lakes Coffee Co. Ltd

Name of key informant(s)	Position	Organizations
John E. Schluter	Director	Association Café Africa
Allan Ntanda	Director	Imara African Coffee
Kasamba Christopher	Executive Director Youth Champion of Masaka District	Youth Champion of Masaka District Rakai District
Muhindo Wilington	Youth Champion of Kabarole District	Willington coffee farm, Kabarole District
Jonathan Tamale	Managing Director	Kayunga Nile Coffee Farmers' Co-operative Society Ltd.
Charles Kisémbó	Executive Director Youth Champion of Kagadi District	The Doers Youth Organisation, Kagadi District
Apollo Ssegawa	Executive Director	The Consortium for enhancing University Responsiveness to Agribusiness Development Limited (CURAD)
Aisha Namirembe	Manager	Omukago Cafe
Cyrus Mwasame	Certification Manager	Gumutindo Cooperative Enterprises
Robbiel Nakhayenye	Administration & Procurement Officer	Gumutindo Cooperative Enterprises
Simon Walimbwa	Administration & Procurement Officer	Gumutindo Cooperative Enterprises
Robin Keen	Co-founder/Executive Director	Zukuka Bora Coffee Company/ Jenga Organization
Hon. Sasaga Isaiah Wanzira	Chairman Investment/ Director Sironko Valley Zone	Bugisu Co-operative Union
Lulonide M.	Director Bulambuli Zone	Bugisu Co-operative Union
Mabonga Nathan	Director Lower Central/ Board Treasurer	Bugisu Co-operative Union
Vincent Buyi	General Manager	Bugisu Co-operative Union
Ngati S.	Chairman SACCO	Bugisu Co-operative Union
Rose Nabirye	Agricultural Officer	Local District Government Mbale
Alfred Tsekeli	Production Officer	Local District Government Bulambuli
Mathias Kasamba	Member of Parliament Chairperson Committee of Agriculture, Tourism and Natural Resources	East African Legislative Assembly
Nelson Tugume	CEO	Inspire Africa

## Annex 2: Selection of villages for FGD and KIIs in Bulambuli and Bukomansimbi districts

### 2.1: Ranking of sub-counties and villages in Bulambuli District in terms of intensity of coffee production

Subcounty	Parish	Number of villages	Farmers in coffee production (%)	Rank
Bulago	Bugatisa	18	80	2
	Bunasufa	11	100	1
	Busiya	30	70	3
	Bumusamali	14	100	1
Masiira	Bufumbo	9	90	3
	Gabugoto	13	80	4
	Dunga	13	100	1
	Ganzo	12	90	3
	Kikobero	11	95	2
	Buzemunwa	8	100	1
	Kinyofu	6	60	5
	Malungi	7	80	4
	Mbigi	9	95	2
Sisiyi	Gibuzale	19	98	1
	Kibanda	22	40	5
	Kisubi	14	60	3
	Luzi	22	95	2
	Mabono	30	50	4
	Bumugusha	21	50	4
Buginyanya	Sisiyi	8	70	1
	Goozi	8	30	5
	Bunatajje	10	60	2
	Giduno	12	50	3
	Tabali	10	40	4
	Kirwali	10	20	6
Lusha	Jewa	28	40	5
	Bumwambu	39	100	1
	Gombe	36	60	4
	Bunabude	26	65	3
	Kyinganda	14	70	2

Source: Authors' compilation based on field visits and data from district production offices.



## 2.2: Selected sub-counties and villages in Bulambuli district

Sub-county	Selected parishes	Selected villages
Bulago	Bunasufa	Gimuteli
	Bumusamali	Wodola
Buginyanya	Sisiyi	Machele
	Bunatajje	Gabogi
	Dunga	Dunga
Masira	Buzemunwa	Makuma
	Luzi	Gundu
Sisiyi	Gibuzale	Gibuzale
	Bumwambu	Piyi
Lusha	Kyinganda	Sisiyi B

Source: Authors' compilation based on field visits and data from district production offices.

### 2.3: Ranking of sub-counties and villages in Bukomansimbi District

Subcounty	Parish	Number of villages	Rank
Kibinge	Butayonja	14	1
	Kisojjo	10	2
	Kiryasaaka		3
	Mareku		4
	Mirambi		5
Butenga	Kabigi		3
	Kasebwera	10	1
	Kawoko	19	2
	Kisita		5
	Kyankore		4
Bigasa	Mbirizi		3
	Kigangazi	13	2
	Bukango	19	1
	Butalagga		4
Kitanda	Gayaza	9	1
	Ruwoko		5
	Makukulu	16	2
	Mitigyera		3
	Ndeeba		4
Town Council	Central Ward		5
	Kyango	4	1
	Kirembeko	2	2
	Kisagazi		3
	Kigungumika		4

Source: Author's compilation based on field visits and data from district production offices.

#### Annex 2.4: Selected sub-counties and villages in Bukomansimbi district

Sub-county	Selected parishes	Selected villages
Kibinge	Butayonja	Butayonja
	Kisojjo	Kyamabaare
Butenga	Kasebwera	Gayaza
	Kawoko	Bukiri
Bigasa	Bukango	Kitemi
	Kigangazi	Mijunwa
Kitanda	Gayaza	Buwembo
	Makukulu	Kirinda
Town Council	Kyango	Gayaza
	Kirembeko	Kirembeko

Source: Author's compilation based on field visits and data from district production offices.

### Annex 3: List of participants in the multi-stakeholder validation workshop (Mukono, Kampala, 29 September 2019)

Name	Organizations
Muhindo Willington	Willington Coffee Farm
Maweda Micheal Godfrey	Gumutindo Coffee Cooperative Enterprise
Charles Kisémba Goodyear	The Doers Youth Group
Robinah Magoba	Uganda Investment Authority (UIA)
Ntiringanya Moses	Ministry of Gender, Youth Livelihood Program.
Khaukha Ivan	Zukuka Bora Coffee company
Isaac Mwasa	Zukuka Bora Coffee company
Ogwang Yafesi	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)
Tumwebaze Khamutima	Young Farmers Champions Network (YOFCHAN)
Ntale George	Agriculture Extension Officer Bukomansimbi
Perezi Kawumi	Uganda National Farmers Federation (UNFFE)
Muswuza Patrick	Bukomansimbi Local Government
Augustus Nuwagaba	REEV Consult International
Acden Kagwa	NUCAFE
Nagudi Loyce	Farmer Bulambuli
Eva Tereka	Research Assistant
Shimali Fred	Research Assistant
Massa Amos	Coffee Trader Bulambuli
Kimasi Thomas	Coffee Processor Bulambuli
Kisombo Paul	Farmer Bulambuli
Nanyonjo Mariam	Nursery Operator
Kakoza Joseph	Buganda Farmer Cooperative
Sswadda Sowedi	Kibinge Coffee Farmers' Cooperative
Malisa Mukanga	Hanns R. Neumann Stiftung Africa (HRNS)
Tamale Jonathan	Kayunga Nile Coffee farmers' cooperative
Isabirye Richard	Coffee farmer Luuka district
Sunday Salveri	Coffee farmer Kasese district
Asiimwe Yvonne	Amagara Farmhouse
Kasamba Christopher	Kasamba Coffee Processing Centre
Nakibinge Abudalla	Kawoko coffee nursery-youth
Edward Tanyima	FAO National Coordinator-ICA project
Ojuka Godfrey Acuti	Ministry of Agriculture, Animal Industry and Fisheries (MAAIF)



Name	Organizations
Francis Mwesigye	Economic Policy Research Centre (EPRC)
Isaiah Ssasaja	Bugisu Cooperative Union
Ahimbisibwe Rashid	Research Assistant
Patrick Bengana	Research Assistant
Nsubuga Deus	Kawacom
Johnson Eneko	Kawacom
Phillo Aryatwijuka	ILO
Julian Nyachwo	GOAL International
Tsekeli Alfred	District Production Officer (DPMO) Bulambuli District
Kyebambe Edward	KITFA for Kitanda Farmers Association (KITFA) Bukomansimbi
Kabiito Denis	Uganda National Young Farmer Associations (UNYFA) /UNFFE
Dick Kamuganga	Uganda National Farmers Federation (UNFFE)
Nahurira Gracious	Infinity Research
Nelson Tugume	Inspire Africa
Arinaitwe Geofrey	NaCORI -NARO
Edward Ssenkindu	DFCU Bank
Gvamukulya David	S/Stat MAAIF
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