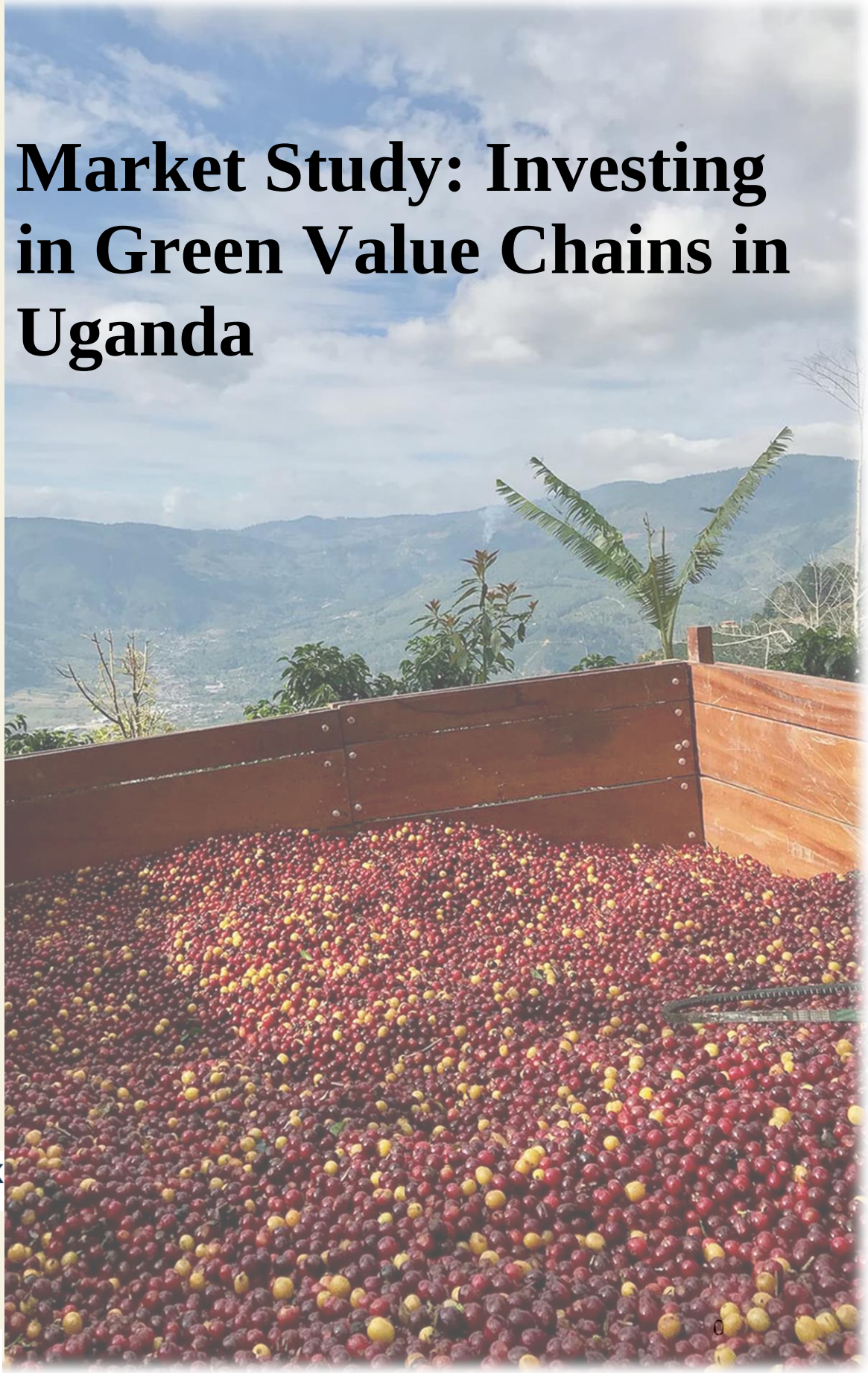
Market Study: Investing in Green Value Chains in Uganda



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LIST OF ABBREVIATIONS

A2F	A2F Consulting LLC
ABi	Agribusiness Initiative
ACF	Agricultural Credit Facility
BoU	Bank of Uganda
CS3D	Corporate Sustainability Due Diligence
CY	Coffee Year
DFIs	Development Finance Institutions
EUDR	European Union Deforestation Regulation
FGD	Focus Group Discussions
FIs	Financial Institutions
GIS	Geographic Information System
KII	Key Informative Interviews
MFIs	Monetary Finance Institutions
MSMEs	Micro, Small, and Medium-sized Enterprises
NGO	Non-Governmental Organization
SACCOs	Savings and Credit Cooperative Organizations
UCDA	Uganda Coffee Development Authority
UGEFA	Uganda Green Enterprise Finance Accelerator
UGX	Ugandan Shillings
USD	United States Dollar
VSEs	Very Small Enterprises

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1 INTRODUCTION

Coffee is a crucial cash crop in Uganda, providing livelihoods for approximately 12 million people nationwide. It also serves as the leading agricultural export, contributing 15-17% of its foreign exchange earnings, or approximately 846 million USD per year. The two main types of coffee in Uganda include Robusta coffee, accounting for 83% of exports, and Arabica coffee, accounting for 17% of exports in Coffee Year (CY) 2022/2023. After coffee, the fisheries sector is Uganda's primary foreign exchange earner, with an income of approximately 200 million USD per year, supporting the livelihoods of more than 1.5 million people or approximately 4% of the population.

Figure 1: Coffee Plant with Berries

Uganda exports 60% of its coffee to the EU, recently reaching almost 1.4 billion USD in export revenue. Similarly, for the fisheries sector in Uganda, the EU is the leading export destination, with Belgium, Italy, and the Netherlands being the most popular countries. Last year, Uganda alone accounted for over 7% of the EU's fishery imports, which are valued at nearly 60 million USD. The coffee value chain contributes approximately 3% to Uganda's GDP, while the fisheries sector accounts for approximately 1% of Uganda's GDP.

The EU Deforestation Regulation (EUDR) has introduced significant compliance and certification requirements for value chain actors. Farmers, processors, and exporters must align local supply chain practices with international standards to access global markets, often leading to costly measures such as formal registration, geo-mapping for traceability, and organization of farming records. Although the Ugandan government allocated approximately 3.7 million USD to support stakeholders with regulation compliance, challenges persist specifically for smallholder farmers and women who often lack national IDs and face gender discrimination in the formal registration of lands.

The World Bank commissioned A2F Consulting to conduct a market study on investing in green value chains in Uganda. The study aims to support the country's transition towards sustainable economic practices by identifying and promoting green finance opportunities in two key export sectors: coffee and fish processing. Through KIIs, FDGs, and Surveys, the study identifies the main stakeholders in both sectors, including their roles, power dynamics, and market interlinkages, as well as their key challenges, constraints, and needs regarding compliance with environmental regulations and green finance adoption. Additionally, the study maps agents who provide green finance products and meet regulatory requirements. The overarching goal is to enhance the resilience and sustainability of these sectors by addressing existing financing gaps,

particularly in green investments, and ensuring compliance with emerging international environmental regulations such as the EUDR.

The report is organized into six main sections, including the introduction and final annexes. Following the introduction, which outlines the study's objectives and background:

- **Section 2** presents an overview of the survey methodology. This includes a summary of the quantitative survey, the sampling strategy implemented, and a description of the qualitative data collection, including methodologies for focus group discussions, in-depth interviews, and key informant interviews.

- **Section 3** delves thoroughly into understanding the market landscape for both sectors, using data gathered from interviews and surveys.

    - **Section 3.1** maps the coffee sector in detail, describing the roles, influences, power dynamics, and needs of each key stakeholder within the value chain. It also details stakeholder interactions, export processes, and the sector's sustainability.
    - **Section 3.2** applies a similar mapping to the fisheries sector, identifying major actors, their roles and influence, and examining sustainability challenges and environmental resilience within the sector.
    - **Section 3.3** describes the crucial role of women, detailing some of their barriers within the coffee and fisheries value chains. This section further emphasizes the growing initiatives towards women and presents a success story case.
    - **Section 3.4** synthesizes cross-sectoral challenges, bottlenecks, and gender-specific barriers, emphasizing their implications for broader value chain development.

- **Section 4** analyzes the challenges and issues regarding regulatory compliance within sectors and opportunities for greater support, such as green finance, to ensure greater compliance.

    - **Section 4.1** outlines the national and international regulatory frameworks affecting Uganda's coffee and fisheries exports, including the EU Deforestation Regulation (EUDR).
    - **Section 4.2** assesses the current compliance status among Ugandan value chain actors, including levels of awareness, use of sustainability certifications, and institutional readiness.
    - **Section 4.3** highlights the significant compliance challenges, such as limited access to digital tools, low levels of traceability, capacity gaps in certification, and financial and gender-related constraints. The section also features case examples that illustrate efforts to overcome these challenges**.**

- **Section 5** explores the green finance landscape to understand the products available and in development in the market.

- **Section 5.1** provides an overview of the financial sector in Uganda, including the role of commercial banks, MFIs, SACCOs, and DFIs in supporting green initiatives.
- **Section 5.2** introduces the concept of green finance in the study, reviews relevant product types, and contextualizes green finance within Uganda's policy and regulatory frameworks**.**
- **Section 5.3** presents an in-depth assessment of demand and supply, including financial needs across coffee and fisheries value chains and the capacity of financial institutions to meet them.
- **Section 5.4** identifies key market gaps and opportunities, particularly the need for blended finance models, improved data systems, and greater policy clarity.
- **Section 5.5** estimates the potential market for green finance based on investment needs and current financing shortfalls, offering indicative costs for scaling sustainable practices.

➢ **Section 6** synthesizes the report's findings into practical, actionable recommendations. The recommendations are organized around three pillars—awareness raising, capacity building, and strengthening the green finance ecosystem. The section presents a strategic roadmap for enhancing compliance, sustainability, and access to finance for Uganda's coffee and fisheries value chains.

Figure 2: Terraced Agriculture in Highland Regions

2 STUDY METHODOLOGY

2.1 QUANTITATIVE STUDY

The team surveyed 347 MSMEs[1]: 256 from the coffee value chain and 91 from fisheries, reflecting the relative contribution of each sector to Uganda's exports. Stratified sampling ensured proportional representation across regions and genders. The survey covered 237 MSMEs from the Central region and 110 from the Eastern region. Additionally, efforts were made to ensure inclusivity, with 76 female respondents (22% of the total sample), including 58 from the coffee sector and 18 from fisheries. Respondents included farmers, traders, processors, and exporters across different segments of the value chains. The survey targeted firms across various segments of the value chains, including farmers, traders, and processors.

Table 1: Breakdown by Sector & Region

Business sector.	Interview region		
	Central	Eastern	**Total**
Coffee	176	80	**256**
Fisheries	61	30	**91**
Total	**237**	**110**	**347**

Table 2: Breakdown by Sector & Gender

Business sector	Gender of the respondent		
	Female.	Male.	**Total**
Coffee	58	198	**256**
Fisheries	18	73	**91**
Total	**76**	**271**	**347**

The survey captures all critical segments of the coffee and fisheries value chain, including farmers, traders, processors and exporters. This ensures an accurate reflection of the perspective and relative contribution of the value chain actors in each sector. Farmers constitute the largest respondent group, making up approximately 78% of the sample, which reflects the central role of production and how most actors are engaged in farming. Traders account for 13% of the respondents in the sample. Processors and exporters each make up approximately 4% of respondents respectively. This stratification is aligned with each sector's structure and the distribution of respondents in each segment ensures robust insights into sector-specific challenges and opportunities at each stage of the value chain. It should also be noted that information from

[1] In Uganda, Micro Enterprises employ up to 4 people, with and annual sales/revenue turnover or total assets not exceeding UGX 10 million (2,737 USD). Small Enterprises employ between 5 and 49 and have total assets between UGX 10 million (2,737 USD) and not exceeding UGX 100 million (27,380 USD). Medium Enterprises employ 50 to 100 with total assets more than UGX 100 million (27,380 USD) and not exceeding 360 million (98, 568 USD).

major processors, cooperatives and exporters was collected from interviews just described in the next subsection.

Table 3: Breakdown by Sector & Value Chain Segment

Business sector.	Value Chain Segment of the respondent				
	Farmers	Traders	Processors	Exporters	**Total**
Coffee	210	26	9	11	**256**
Fisheries	62	20	6	3	**91**
Total	**272**	**46**	**15**	**14**	**347**

The sampling strategy employed a combination of centers of aggregation and snowball sampling. The team, with guidance from the value chain sector experts, began by identifying the key aggregation points (e.g., business districts, wholesale markets, and other high-traffic areas for MSMEs) in Uganda's main coffee and fishery production regions. Once the aggregation points were identified, the respondents were randomly selected from these centers. During each interview, respondents were asked which other locations from the sampling list they frequently visited or operated in. This feedback guided our enumerators in prioritizing specific locations reported by respondents for subsequent interviews.

Figure 3: Map of Surveyed Locations

2.2 QUALITATIVE SURVEY METHODOLOGY

In addition to the quantitative survey, the qualitative component of MSME data collection involved 4 focus group discussions (FGDs), 10 in-depth interviews (IDIs), and over 30 key informant interviews (KIIs). To achieve this, each sector (coffee and fisheries) had one FGD per region (Central and Eastern). All the FGDs included a mix of female and male participants. This setup enabled a balanced examination of sectoral experiences across genders and regions, ensuring that regional dynamics and gender-specific perspectives were well-represented in each sector. For IDIs, there was an equal mix of male and female participants, with the Central region having one more participant across the genders for coffee. Over 30 KIIs were also conducted with coffee and fisheries sector stakeholders, including large private sector businesses, NGOs, regulators, and cooperatives. The information presented on exporters is derived from these KIIs.

Table 4 below provides a summary of the stakeholders interviewed in both value chains.

Table 4: List of Key Informant Interviews

Interviewed Stakeholders in the Coffee Sector[2]	
Africa Coffee Academy	Kawacom Coffee
Buganda Cultural and Development Foundation	Kyagalanyi Coffee
Café Africa	Uganda Coffee Development Authority
Kampala Domestic Store (KDS)	National Agricultural Research Organisation (NARO)
International Women's Coffee Alliance (IWCA)	Uganda Coffee Federation (UCF)
Jinja Coffee Cooperative Company (JKCC)	Uganda Coffee Farmers Alliance (UCFA)
Kamama Estates Limited (KCE)	Volcano Coffee
Kwezi Coffee	Masaka Cooperative Union
Masha Coffee	Mountain Harvest Coffee (MHC)
Nasaga Investments Uganda Limited (Nasaga)	Bufumbo Organic Farmers Association (BOFA)
NUCAFE (National Union of Coffee Agribusiness and Farm Enterprises)	Hope Coffee
Olam Uganda Limited[3]	
Interviewed Stakeholders in the Fisheries Sector	
Dokolo North Fisheries Association	Uganda Fisheries and Fish Conservation Association
Katosi Women Development Trust	Fort Aquatech Uganda (FAU)
Lake Victoria Fisheries Organization (LVFO)	Uganda National Women's Fish Organization (UNWFO)
National Fisheries Resources Research Institute (NaFFIRI)	UNFPA Uganda
Africon Cage	

Note: Organizations with Fair-trade, Organic Coffee and Rain-Forest Alliance Certification have been indicated.

[2] Masha Coffee, Olam Uganda Limited, Kawacom Coffee, Kyagalanyi Coffee are Rainforest Alliance certified, BUCADEF, KDS and UCFA are Fairtrade certified, Kawacom Coffee, Kyagalanyi Coffee, Mountain Harvest Coffee are Organic Coffee certified.

[3] Note: One of the managers provided personal interview on own account

3 SECTORAL OVERVIEW & VALUE CHAIN DYNAMICS

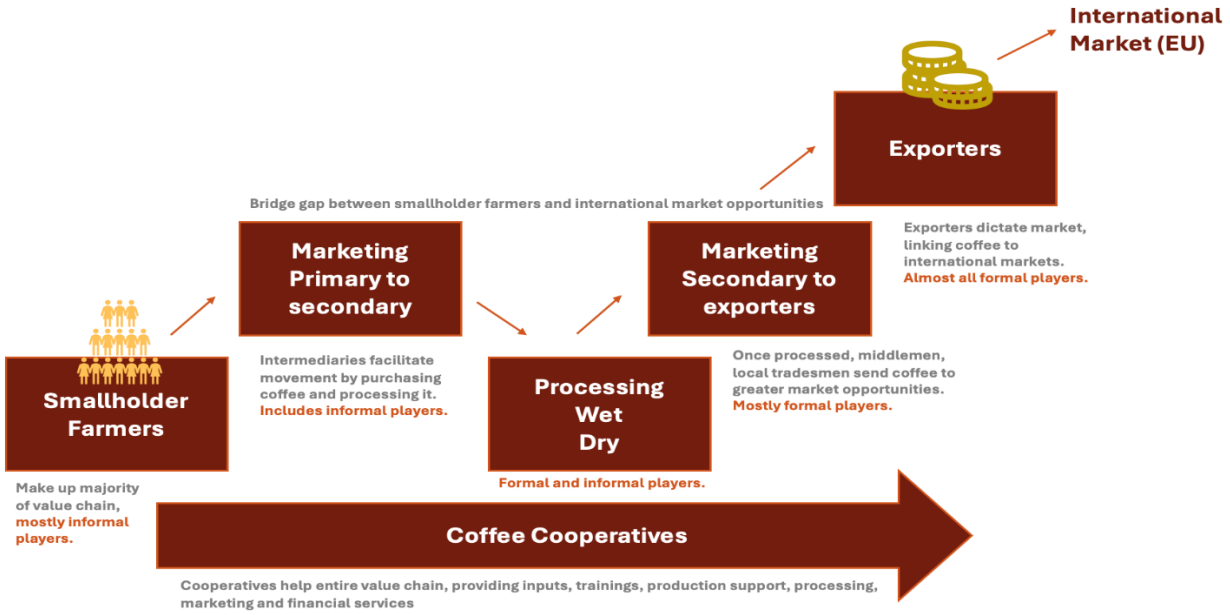
3.1 COFFEE SECTOR

3.1.1 Key Players in the Value Chain

3.1.1.1 Overview

Coffee is mainly grown in Uganda's Central, Western, and Eastern regions, with 126 out of 135 districts producing coffee. Arabica coffee is produced in the Eastern, South-West, and North-West regions – with districts such as Kabarole, Zombo, Nebbi, and Mbale – and exported in the Mount Elgon area. Robusta coffee is mainly produced in the Central and Southern regions – with districts such as Mityana, Mubende, and Oyam – and then transported to the Central regions for further processing and exporting. The Central region is a hub for coffee processing and export activities, as Kampala hosts major processing facilities. Processed coffee is then transported via road to export hubs located outside of Uganda, primarily from Kampala/Mbale inland port to the Mombasa port in Kenya, where coffee is shipped by sea to other ports in Europe[4]. Since Uganda is a landlocked country, it is dependent on ports in Kenya and Tanzania, which can lead to delayed trade flows in the case of roadblocks and political instability in any of the countries.

Figure 4: Coffee Value Chain in Uganda



Source: A2F Primary Data (2024)

The survey results reveal a highly interconnected value chain, highlighting dynamic interactions among key actors in sourcing inputs and distributing outputs. As shown in Figure

[4] UCDA (2022), Uganda Country Coffee Profile, https://ugandacoffee.go.ug/sites/default/files/2022-03/Uganda%20Country%20Coffee%20Profile_1.pdf

5, the farmers deliver an overwhelming majority of the raw materials/products for each stakeholder within the value chain. Looking at the input side, the farmers are the primary suppliers of raw materials and coffee inputs at each stage of the value chain. As for the outputs, the key stakeholders within the value chain mainly sell to the processors, traders, cooperatives, and consumers. From the survey results, the smallholder farmers present the largest sales with intermediate traders and local markets. The traders have their greatest product sales with cooperatives and processors, while processors have their greatest sales with traders and the local markets. The exporters thus have the greatest sales in the foreign market.

Figure 5: Value Chain Stakeholders' Inputs and Outputs

Source: A2F Primary Data (2024)

3.1.1.2 Farmers

Figure 6: Processed Coffee Ready for Export

Uganda's Smallholder farmers comprise the majority of coffee value chain actors, but intermediaries and brokers hold more power. While smallholder farmers make up most of the sector, with 1.7 to 1.8 million smallholder households engaged in coffee production[5], the middlemen facilitate the movement of coffee through the supply chain. They play a pivotal role in marketing coffee, bridging the gap between small-scale farmers and market opportunities. Despite this, intermediaries ultimately

[5] https://worldcoffeeresearch.org/focus-countries/uganda

make the coffee move across the value chain by purchasing coffee from farmers, aggregating it, facilitating processing, and connecting farmers to greater market opportunities, often providing loans to support operations. As reported in interviews with coffee organizations, the smallholder farmers who make up most coffee producers often earn the least compared to other segments.

Figure 7: Survey Responses on Registration

Source: A2F Primary Data (2024)

This is characterized mainly by informal customs, which impact production trade and sustainability. As discussed in interviews with stakeholders, most smallholder farmers operate without formal land titles, and their businesses are not formally registered. This is reflected in the survey results, in which most respondents claim not to have their business registered, with only very few registered. As such, unregistered agents may face greater financial challenges and encounter limited market opportunities.

Farmers are informally linked to traders within the coffee value chain as credit and pre-financing arrangements are common – approximately one-third of farmers take out loans from local traders. These loans are informal, ranging from 100 to 600 USD with 0-7% interest rates per month[6], and are crucial to facilitating trade for farmers and ensuring finance of agro-inputs, production, and harvest. Still, many farmers remain unaware of alternative formal financing options, and due to poor record-keeping, financial institutions are averse to offer formal loans to this segment. Green financing opportunities also exist through financial institutions, but most stakeholders in the coffee value chain are unaware of and lack technical and agronomic knowledge on how to adopt them.[7]

"The coffee sector in Uganda is majorly informal. Many of the middlemen and aggregators who handle the coffee are not registered enterprises. They do not have the formal structures in place, making it difficult for them to access financing or even participate in development programs."

3.1.1.3 Intermediaries

The middlemen, processors, and exporters direct terms on coffee production, such as delivery schedules, volume, and types of coffee grown. As reported by key stakeholders, this is because the coffee sector in Uganda is fully liberalized, meaning that traders can directly negotiate with farmers – increasing market access and potentially improving efficiency along the supply chain. As such, middlemen have even more leverage over farmers and the production process. Likewise, programs such as Fair Trade, Rainforest Alliance, and Organic Certification are critical

[6] ILO (2024), Mapping the coffee value chain in Uganda

[7] Technical knowledge here refers to the expertise on how to use green finance effectively such as investing in climate-smart agriculture, renewable energy solutions and sustainable processing methods, agronomic knowledge.

to ensure that sustainable practices, including fair wages and pricing, are followed to support smallholder farmers.

3.1.1.4 Cooperatives

Coffee cooperatives also have a dynamic and indispensable role that extends across the entire value chain, from providing inputs, trainings, and production support to post-processing marketing. Through discussions with key cooperatives, their support is evident, varying from access to planting materials, fertilizers, pesticides, coffee seedlings, solar dryers, legumes, and rabbits for soil fertility. Coffee cooperatives share multifaceted roles and contributions that significantly enhance farmers' livelihoods. Many cooperatives provide training programs for farmers, further supporting them in accessing niche markets, guiding them through certification processes, and facilitating connections with international buyers.

Figure 8: Coffee Processing

Additionally, coffee cooperatives actively ensure sustainability, access to green finance, gender inclusion, and market access, which emphasizes their significance in shaping the coffee sector. In interviews, cooperatives highlighted their collaboration with the private sector and government bodies to promote green finance and regenerative agriculture. One cooperative highlighted that it works with over 3,000 farmers, training them on sustainable practices, proper waste management, and soil conservation.

3.1.1.5 Coffee Exporters

Uganda exports coffee to multiple international markets, with the EU being the largest destination, with approximately 60% of its coffee exported. Uganda single-handedly supplies more coffee to the EU than the rest of Africa combined[8]. Total export revenue from coffee reached US$ 1.4 billion in CY 2023/2024[9]. The coffee exporters dictate the coffee market in Uganda, linking the Ugandan coffee producers to the international market. As reported by exporters, they also help stabilize coffee prices by employing financial instruments and trading strategies that benefit other value chain actors, specifically farmers. Currently, the export market is highly concentrated, with the top 10 exporters – out of 95 – handling approximately 75% of total exports. These leading exporters are large companies, including subsidiaries of multinational corporations.

[8] European Coffee Federation, European Coffee Report 2022/2023
[9] ILO (2024), Mapping the coffee value chain in Uganda

Table 5: Main Exporters in Uganda with EUDR Compliance in 2022/2023[10]

Exporter	% of Exports handled	Rainforest Alliance Certificate	Fairtrade Certificate	Organic Coffee Certificate
Ugacof (U) Ltd	15.18%	Yes	No	No
Ideal Quality Commodities Ltd	9.15%	No	No	No
Olam Uganda Ltd	8.75%	Yes	No	No
Kyagalanyi Coffee Ltd	8.11%	Yes	No	Yes
Touton Uganda Limited	7.54%	No	No	No
Kawacom (U) Ltd	7.32%	Yes	No	Yes
Louis Dreyfus Company (U) Ltd	6.87%	No	No	No
Ibero (U) Ltd	4.96%	Yes	No	No
Export Trading Company (U) Ltd	4.08%	No	No	No
Besmark Coffee Company Limited	2.42%	No	No	No
Total	**74.37%**			

Source: *Uganda Coffee Development Authority (UCDA), Rainforest Alliance*

Exporters reported facing a range of challenges that affect their ability to compete globally. Exporting coffee is capital-intensive and requires significant financial resources for procurement, processing, transport, and quality assurance. Many actors in the value chain, particularly small-scale traders and aggregators—operate informally and lack access to affordable trade finance. High interest rates and limited collateral further restrict access to credit, making it difficult to meet the cash flow demands of export operations. Additionally, inadequate infrastructure and logistical constraints contribute to increased costs and delays. Limited technical capacity among smallholders and intermediaries also affects quality consistency and traceability, which are critical for securing and maintaining international buyers.

"Now EUDR has come… now you need to have a digital platform… you need to be able to procure that IT platform to be able to have a traceability system that is auditable, that someone can believe in."

Additionally, with more than half of Ugandan coffee exports going to the EU, the country is vulnerable to stringent regulations such as the EUDR. Compliance with such requirements requires comprehensive traceability systems, verifiable proof of deforestation-free production, and sustainable farming practices across the supply chain. This could translate into significant investments in digital monitoring platforms, training, and certification—costs that could be difficult for smallholder farmers and local enterprises to bear. Stakeholders also have limited awareness and technical readiness to implement these requirements effectively. As a result, exporters face a heightened risk of non-compliance, which could lead to exclusion from the EU market and reduced margins for farmers and exporters.

[10] This information is self-reported by exporters since EUDR has not yet come into effect. The EU can only confirm this information once their shipments arrive and if the exporters report something different.

Box 1: Deep Dive on Select Export-Oriented Coffee Firms

Kawacom Uganda LTD has grown from a small company to a market leader focusing on the quality of coffee and innovative methods of production, which has proven crucial to remain competitive in the export market. Similar to other exporters in the sector, Kawacom faces high compliance costs to meet international sustainability standards such as EUDR, which can pose challenges in sustaining its usual coffee export amounts. Kawacom believes strengthening links between financial institutions and partner organizations can improve credit access and enable large-scale investments for sustainable production practices. Kawacom promotes sustainability through energy-efficient processing, organic farming, and waste management initiatives while also supporting village savings and loan associations to enhance women's financial inclusion and participation in the market.

Kyagalanyi Coffee Limited is a major coffee exporter, supporting farmers from planting to the final sale of coffee. To comply with EUDR requirements, Kyagalanyi has begun investing in traceability systems through geolocation and farm mapping. They also have a specific Sustainability Department that ensures environmentally friendly farming practices, prevents deforestation – aligned with EUDR, and promotes responsible land use. Kyagulanyi Coffee provides farmers with the necessary tools, quality seedlings, and training to enhance coffee quality while ensuring sustainable farming. The company secures funding through grants and donations from international partners to support its sustainable initiatives. They report that funding in the form of loans would be more helpful and report a lack of green financing opportunities for sustainability-focused initiatives.

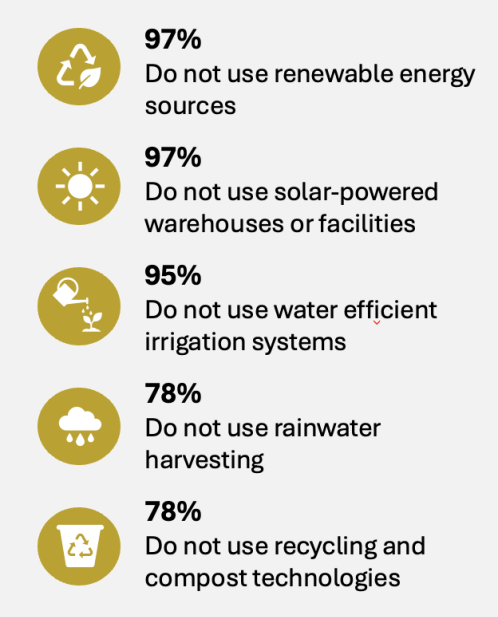
Source: Key informant Interview (A2F, 2024)

3.1.2 Sustainability of the Sector

Cooperatives, in collaboration with the Ugandan government, are mobilizing resources to ensure sustainable farming practices and climate-smart agriculture. As stated in an interview with a key cooperative, approximately 150,000 smallholder farmers have been mapped and registered to date, helping ensure compliance. Nonetheless, costs of compliance remain high, which ultimately deters smallholder farmers from following sustainable practices. Additionally, there are other pushes for smart agriculture. In particular, there has been a rise in internal producer and brand-led sustainability standards, which also contributes to the growing emphasis on sustainability.

Survey results further highlight that most micro and small enterprises are not following production and processing practices related to waste management, soil conservation, water-saving techniques, or energy-efficient technologies. Most respondents report that they are not using energy-efficient machinery and equipment, energy audits, electric vehicles for transport, solar-powered facilities, or other renewable energy sources such as solar panels, wind turbines, and biomass energy systems. Many also report that they are not using water-efficient irrigation systems, water recycling systems, water audits, water-efficient washing stations, or any measures to reduce water pollution. Additionally, although some report practicing crop rotation, integrated soil fertility management, and using mulch/compost as well as ditching to control erosion, most of the respondents do not.

Figure 9: Survey Responses on Sustainable Practices



Source: A2F Primary Data (2024)

Box 2: Kawacom's Sustainability Initiative for Coffee Farmers' Growth

In May 2023, Kawacom Uganda Limited entered a partnership with the United States Agency for International Development (USAID) under the Africa Trade and Investment Activity (ATI) to implement a three-year project titled "Uganda smallholder farmer livelihoods Initiative." The project goals include supply chain expansion by connecting 5,000 new coffee farmers and 5,000 new sesame farmers to the export market; facilitation of Organic and Rainforest Alliance certification for the 10,000 farmers to improve farmgate value and access to international markets; capacity building of 30,000 coffee and sesame farmers to improve yield and quality for supply to the international markets, among others.

As part of the initiative, in Omukabare village in Rubirizi, Kawacom provided training to 101 farmers, including 43 women, on Good Agronomic Practices (GAP), certification standards, and post-harvest handling techniques. The training and support from Kawacom have positively impacted the community. The percentage of farmers in Omukabare selling their coffee directly to Kawacom increased from 18% in 2021 to 61% during the 2023-24 main season, allowing more farmers to benefit from Kawacom's competitive prices.

Source: Key Informant Interviews (A2F, 2024); https://www.ecomtrading.com/news-insights/2023/kawacom-ati-usaid-project/

However, efforts for green and sustainable practices within the coffee value chain, especially among larger, more established players, are already underway, but there is a lack of sensitization and consistent enforcement. Limited knowledge of sustainable business on the demand side and insufficient expertise on the supply side contribute to a slower adaptation of the fully green coffee sector in Uganda, as reported by both coffee organizations and financial

institutions interviewed. Still, there are some sustainability and agroforestry initiatives driven by cooperatives and private estates that are gaining momentum and underscore a growing commitment to sustainable coffee production. Café Africa, for instance, provides shade trees to farmers, which reduces deforestation and restores natural ecosystems. Jinja Coffee Cooperative Company (JKCC) reports sustainability practices by offering ecofriendly training with certifications such as Fair Trade and Rainforest Alliance to farmers, while other cooperatives such as Mountain Harvest complement with organic farming training and income for agroforestry practices.

Box 3: Supporting Agriculture Extension Services

The National Agricultural Advisory Services Programme (NAADS)[11] , which began in 2000 and is still active today, introduced a partnership with the government, public institutions, civil society, and the private sector to build the capacity of farmers through improved coffee farming practices, proper spacing, pruning, and pest management. The goal was to enable farmers to move into commercial production and become part of the commodity value chain, addressing the lack of agricultural information, knowledge, and technology. NAADS was more effective among male-headed, larger, and asset-poor households, with limited reach to females and youth in the agriculture sector.

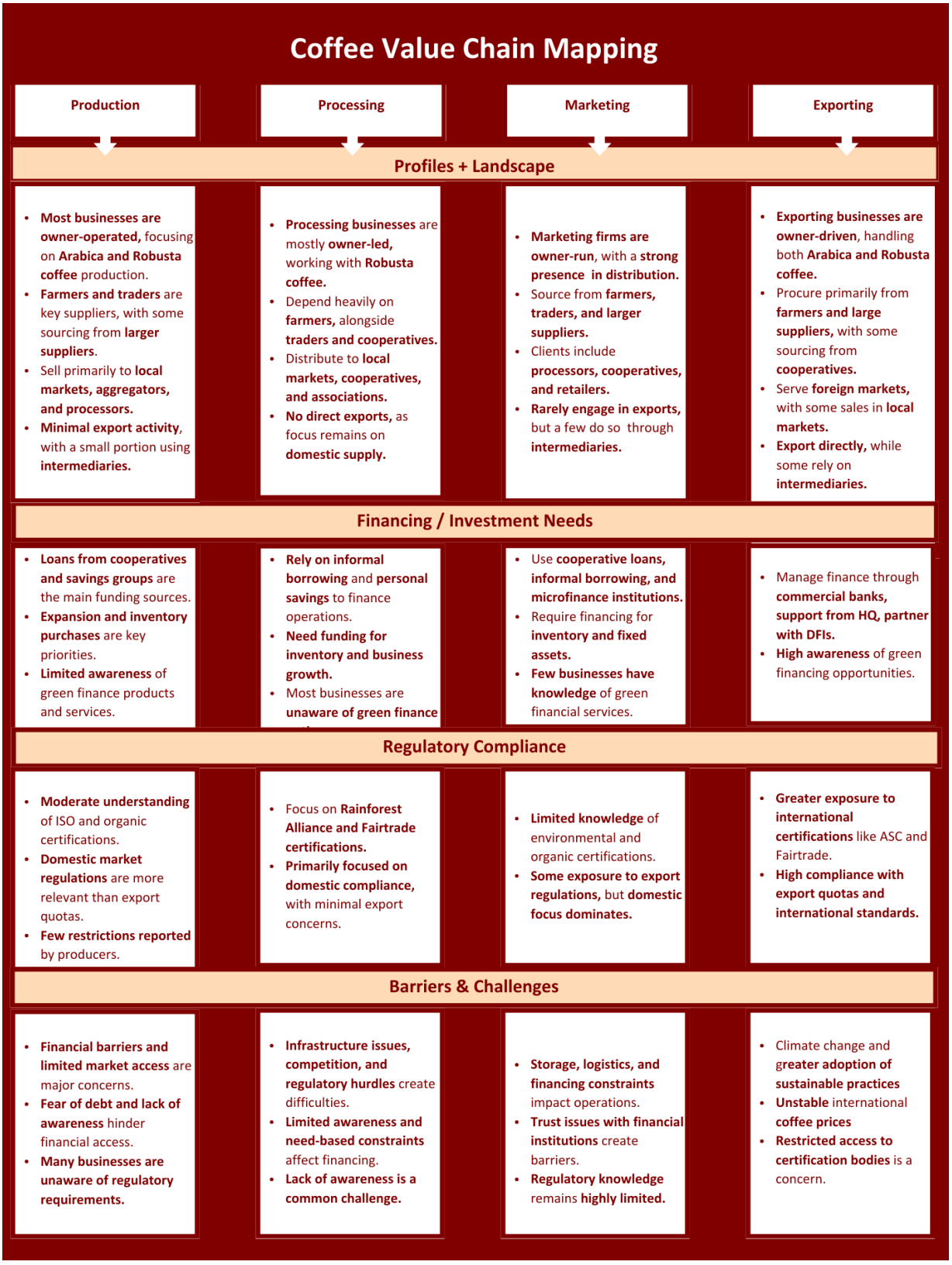
Operation Wealth Creation (OWC)[12] was launched in 2013 to facilitate national socio-economic transformation, focusing on raising household incomes and creating wealth by transforming subsistence farmers into commercial farmers. Its objectives included engaging the masses in commercial agricultural activities, distributing production inputs, facilitating rural technologies to transform farmer activities, stimulating local and community enterprise development, and facilitating infrastructure development, particularly in rural areas.

The government of Uganda launched the Parish Development Model (PDM)[13] as a multi-sectoral strategy for transforming subsistence households by improving the incomes and overall welfare of Ugandans. The PDM beneficiary target includes subsistence households that operate across the entire agriculture value chain, accounting for approximately 39% of Ugandan households. The aim is to support farmers at the parish level, promoting access to finance, markets, and extension services. This model is aligned and has strong potential to close the gaps left by the previous programs, NAADS and OWC.

Table 6 below provides a summary mapping of the Ugandan coffee value chain.

[11] https://www.kcca.go.ug/kabd/listing-category/agricultural-programmes-and-innitiatives/
[12] https://www.owc.go.ug/loading.php?id=1
[13] The Ministry of Gender, Labour and Social Development: Simplified Guide on the Parish Development Model

Table 6: Mapping of Uganda Coffee Value Chain



Source: A2F Primary Data (2024)

3.2 FISHERIES SECTOR

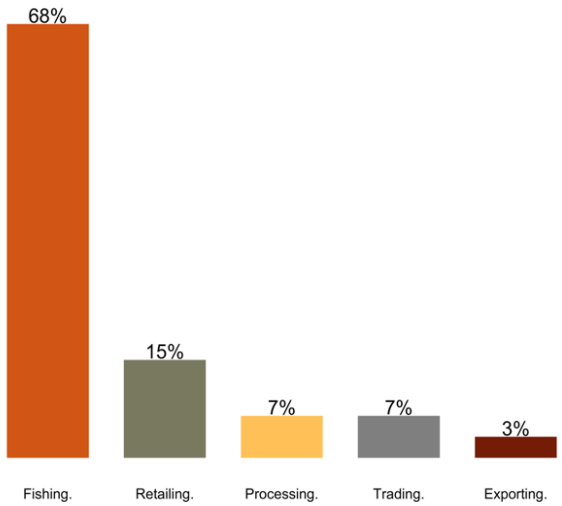
3.2.1 Key Players in the Value Chain

3.2.1.1 Overview

The fisheries value chain in Uganda operates around the major bodies of water, including the lakes Victoria, Albert, Kyoga, Edward, and George. The fisheries value chain contributes approximately 1% to Uganda's GDP[14], providing livelihoods for 1.5 million Ugandans who work directly in fish capture. Lake Victoria is the largest lake and the major contributor to international fish exports, contributing approximately 60% of the total annual catch, especially the Nile perch. The remaining lakes are mostly used for fish farming for local markets and contribute less to the total annual catch; Lake Kyoga contributes 16%, Lake Albert 15%, and the other smaller lakes contribute 9%. Fish from lakes Kyoga and Albert are transported by road to processing plants in the Lake Victoria region and then to export markets. To ensure fish is transported fresh, trucks are refrigerated with ice cubes.

Figure 10: Fisherwoman with Catch

Figure 11: Distribution of Fisheries Value Chain



Similar to the coffee sector, production comprises most of the value chain activity and dominates with fish farmers employing artisanal processing methods. As shown in Figure 11, fishing comprises most of the value chain. Likewise, intermediaries and brokers then control market operations and focus on their own immediate short-term profits. Fish production is critical, but it is done by fishermen who have little influence in the value chain. Meanwhile, the power lies in factory agents and traders who work in the processing stage and make money exporting fish to international markets and lending inputs such as ice cubes for transport to members of the fishing village.

3.2.1.2 Fishers & Boat Owners

The key players in the fisheries market are boat owners and fish farmers, who drive production across the value chain. The former hire fishermen to harvest fish from lakes or, in the case of aquaculture, from fishponds and cages. Fishermen typically earn wages equivalent to

[14] FAO UN (2022), Fishery and Aquaculture Country Profiles - Uganda

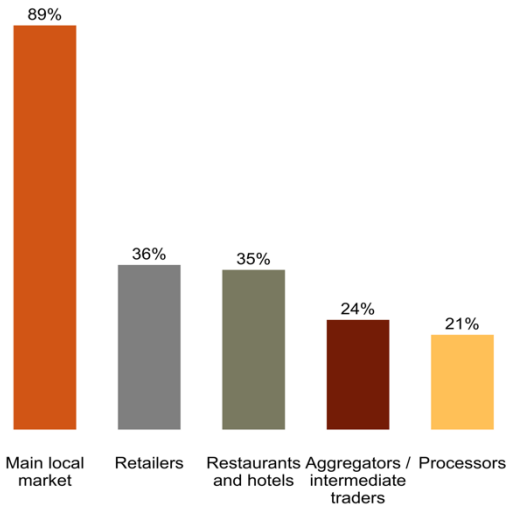
15–30% of the value of the fish caught, whereas boat owners and fish farmers are often successful business owners and respected members of their communities. Fish farming, in particular, is seen as a capital-intensive activity, a point emphasized by sector stakeholders during interviews. High upfront costs for fishing gear—such as nets, boats, outboard engines, fingerlings, cage construction, and fish feed—make entry into fish farming financially demanding.

3.2.1.3 Intermediaries

Fish processing, either done traditionally or in a factory, is critical to clean and preserve the fish– ensuring the product is ready for selling. Currently, 11 functional fish factories in Uganda process approximately 60% of the produced fish for export,[15] while 20% is processed using traditional methods[16] and sold in domestic markets. The highest value addition that takes place domestically includes advanced processing techniques such as filleting, freezing, and packaging – mostly Ugandan Tilapia and Mukene, which have higher costs than imported Tilapia and Mukene from Vietnam or China[17]. Of the 1.5 million involved in the fisheries sector in Uganda, 80% are artisanal fishers, highlighting the significant volume of traditional processing methods.

Transportation is one of the highest cost-incurring activities, after the necessary inputs and equipment for fishing, which contributes to a key challenge in the fisheries value chain in Uganda. Transportation and delivery are mostly undertaken by youth and are costly due to the high price of fuel. A liter of petrol costs approximately 1.3 USD, which is a great barrier for most fishing villages as they are in areas with difficult road access, and trucks are required to use a lot of fuel to reach them. The cheapest method is communal transport, but it has a high risk of rotting fish as it experiences the greatest delays when passing by various villages.

Figure 12: Location of Product Sales within Fisheries Value Chain



3.2.1.4 Fisheries Exporters

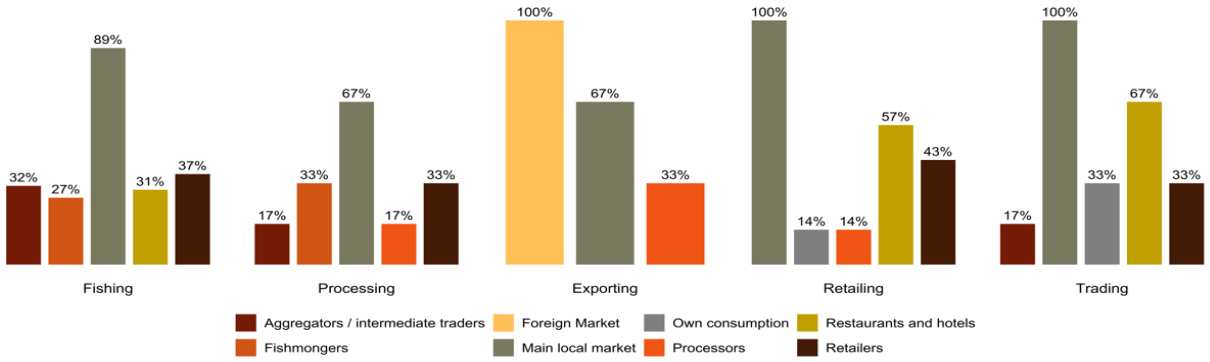
The fisheries expert market is small compared to coffee, totaling approximately 80 million USD in 2023. In 2023, about 7.2% of fishery products imported to the EU came from Uganda, amounting to almost 60 million USD[18]. The top destinations are the EU with Belgium, Italy, and the Netherlands, and non-EU with the United Arab Emirates and Israel[19]. The main fish supplied to the exporting markets is the Nile perch, accounting for approximately 90% of the total fish export earnings. The main fish supplied in local markets are Mukene and Tilapia, which are processed in traditional fisheries and marketed primarily by women traders. The regional markets include

[15] Includes cleaning, preservation and more value is added to ensure the fish product is ready for export markets.
[16] Usually done at the landing site and includes smoking, salting, drying and sun drying of fish.
[17] UNCDF (2020), Market Scoping Study for the Digitization of the Fish Value Chain in Uganda.
[18] European Commission (2023), EU Trade in goods with Uganda
[19] Trend Economy (2024), Annual International Trade Statistics Uganda

East African countries such as South Sudan, the Democratic Republic of Congo, Rwanda, and Kenya.

Local markets dominate the fishing sector. According to the survey results, shown in Figure 13, the majority of fisheries value chain actors in Uganda primarily sell their products to local markets, except for exporters who mainly serve the foreign market. Most value chain actors—fishers, processors, retailers, and traders—primarily sell to local markets. Restaurants, hotels, and retailers are common buyers, especially for processors and traders. Exporters are the only group that mainly sells to international markets, though some also supply the local market. Overall, the figure highlights the central role of local markets in fish distribution, with most products circulating within the domestic market rather than being exported.

Figure 13: Main Source of Products in Each Stage of Fisheries Value Chain



3.2.2 Sustainability of the Sector

In recent years, fish stock has been declining due to persistent overfishing, the capture of immature fish, and pollution; thus, in response, the Ugandan government has increased efforts for sustainable fishing practices. Some examples of these practices include new fishery regulations, such as the Fisheries and Agriculture Act, with stricter licensing for fishing boats, formal registration of all fish farming actors, and leveraging mobile technology to collect community-level monitoring data to prevent overfishing. Despite these initial efforts, the sector remains largely unstructured, heavily localized, and dominated by small artisanal methods, which makes it difficult to enforce regulations and sustainable practices.

Key cooperatives and organizations within the fisheries sector in Uganda have begun leading sustainability initiatives via policy advocacy, technical support, capacity building, and partnerships. For instance, Africon Cage Aquaculture specializes in sustainable aquaculture and reported its work in providing technical expertise for eco-friendly technologies and supporting MSMEs in responsible fish farming via sustainable feeds and cages. Moreover, the Uganda Fish Processors and Exporters Association (UFPEA) focuses on compliance with sustainability standards through advocacy. Key cooperatives are committed to collaborating and partnering with development agencies, policymakers, and financial institutions such as the World Bank.

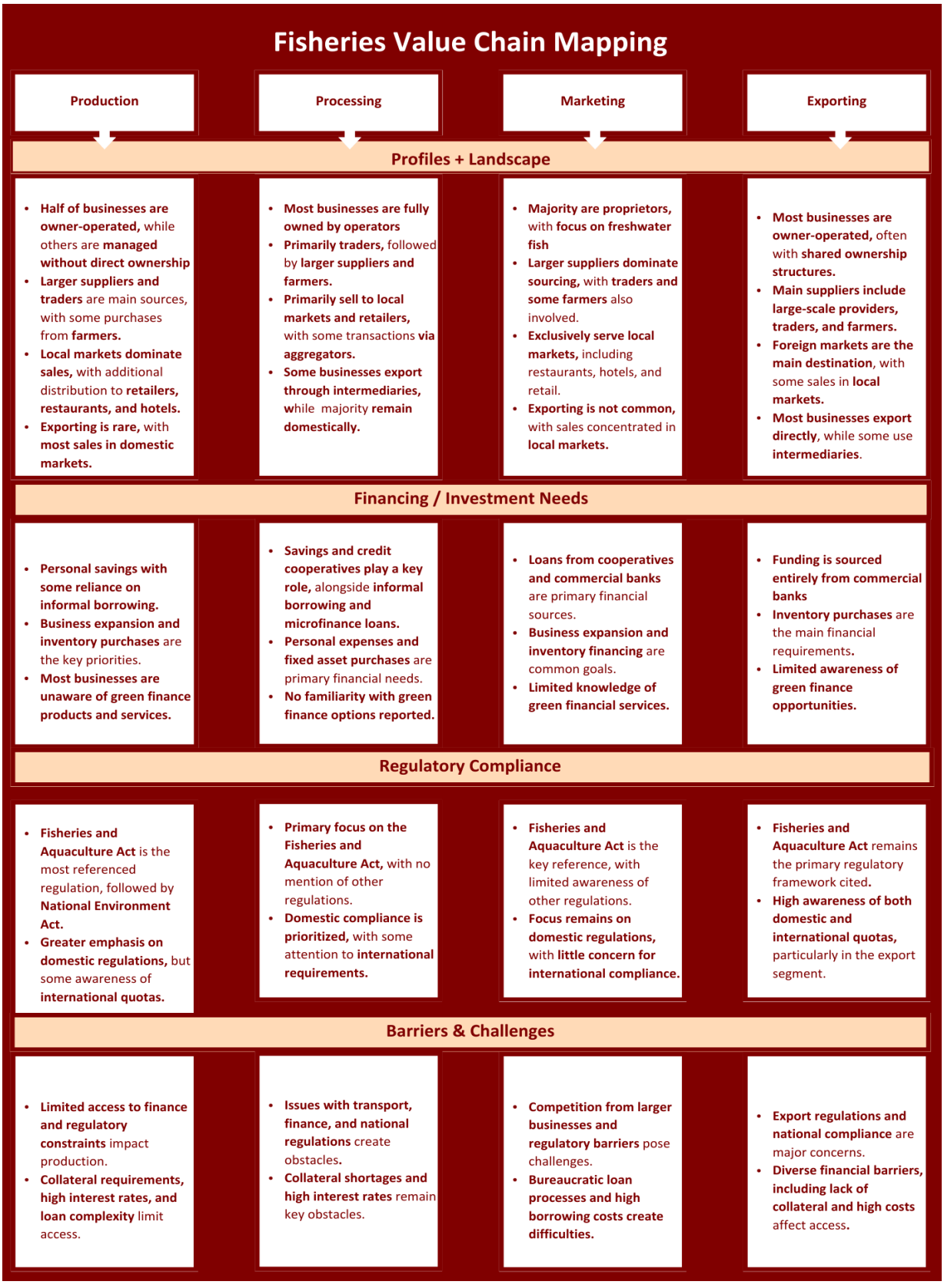
"In the fisheries value chain, sustainability is totally lacking. There are no solar dryers, no solar freezers, no handling facilities for all those which can depend on renewable energy, and yet there is no electricity in most of the communities."

Land regulations and restrictions may also hinder sustainability practices in the fisheries sector, but like the coffee sector, the survey findings report that most are not affected by land restrictions. That is, survey respondents claim to not have any restrictions on how to use land in the fisheries sector. Most respondents report leasing their land and securing leasehold rights, while others report renting the land and obtaining temporary usage rights. Very few own the land with a legal or formal title in which they have full ownership with title deeds. Despite this, the survey findings emphasize that land restrictions are not a reality for most respondents.

Furthermore, survey results for the fisheries sector also show that most respondents do not practice energy, water, or waste-efficient strategies to ensure sustainable measures in their businesses. The overwhelming majority of respondents do not use energy-efficient machinery, renewable energy sources, or measures to reduce water pollution, which is critical to maintaining high fish quality. Most respondents also report not using waste-to-energy systems or ensuring biodegradable packaging materials and segregation of waste. These are sustainable practices that stakeholders in the fisheries sector must quickly engage in.

Table 7 below provides a summary mapping of the Ugandan fisheries value chain.

Table 7: Mapping of Fisheries Value Chain



Source: A2F Primary Data (2024)

3.3 WOMEN'S PARTICIPATION IN THE TWO VALUE CHAINS

3.3.1 Roles in the Value Chain

Coffee production relies heavily on manual labor, and although women contribute to more than half of the workforce, women face significant gender-specific barriers that negatively impact the efficiency of the coffee value chain. Female coffee farmers provide 58% of labor during crop maintenance and harvest stages but have limited access to land and are not expected to be involved in selling or trading coffee[20]. This negatively impacts the Ugandan coffee value chain, not only limiting women's economic empowerment but also reducing overall household income and restricting the efficiency of production. Furthermore, excluding women from taking part in selling and exporting significantly hampers market growth.

Likewise, women in the fisheries sector play a significant role in processing and trading, yet they are met with pronounced gender disparities. Men work in primary production roles in factory processing and international export markets, while women are excluded and are engaged in traditional processing methods and regional market trades. Women take part in lower value-added activities such as fish drying and trading, which earn significantly less than export-oriented enterprises. With limited access to financing, women face great challenges in securing loans and investing in the necessary technology for aquaculture, limiting their ability to compete in broader markets and consequently widening the gender gap.

3.3.2 Ongoing Initiatives for Women

Organizations such as the International Women's Coffee Alliance (IWCA), African Coffee Academy (ACA), Masha Coffee, and Hope Coffee are working towards empowering women and youth. Many have reported tailored programs and initiatives focused on supporting women and encouraging them to establish businesses within the coffee value chain, specifically in production and processing. Additionally, some organizations reported gender-sensitive and youth-inclusive green finance programs that strengthen the productivity of Uganda's coffee sector by addressing systemic barriers. Opportunities like gender-specific financial services, such as lower interest rates, are also being studied to unlock greater growth for women SMEs.

The Uganda National Women's Fish Organization (UNWFO) and other key cooperatives are pushing for women's empowerment and decreasing gender-specific barriers. Main organizations report partnering with government agencies, NGOs, and financial institutions to develop inclusive financial products, facilitate women's access to funding, and allow for more energy-efficient processing, sustainable fishing gear, and better waste management. Green finance is critical for women-led fish processors and traders as it enables them to adopt sustainable practices and invest in new energy-efficient technologies – helping to bridge the gender gap.

[20] ILO (2024), Mapping the coffee value chain in Uganda

Box 4: Namazzi, a Female Farmer in Uganda's Coffee Sector

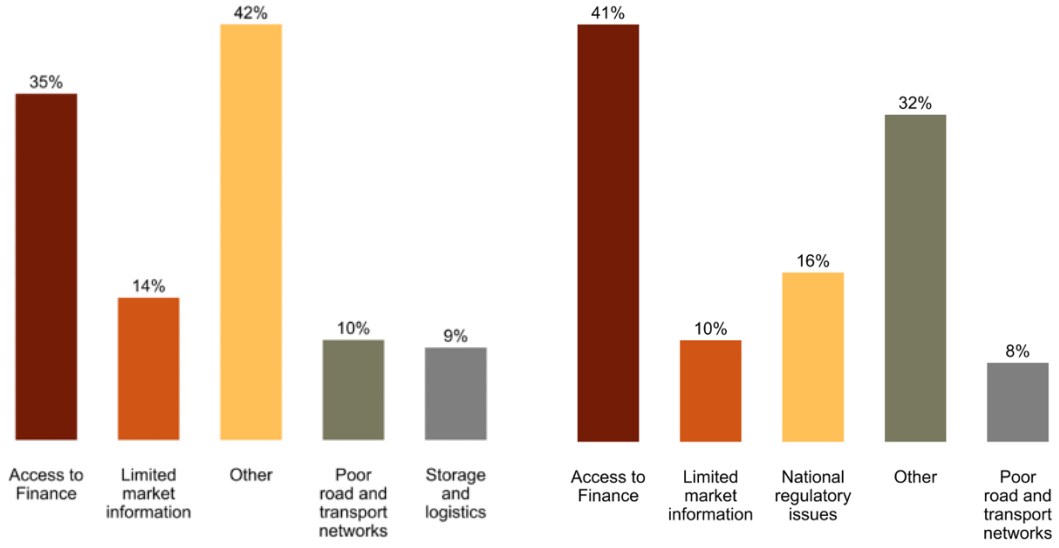
In-depth interviews highlight the story of Namazzi (pseudonym), a young woman from Masaka District in Uganda who was able to transform her livelihood despite facing significant barriers as a female farmer without land ownership rights. Through her involvement in gender-sensitive initiatives and programs from key organizations within the coffee sector, Namazzi gained access to training and mentorship, which provided her with new insights on financial literacy and market access, like how to apply for grants. This allowed her to be aware of and take advantage of opportunities involving green finance, such as risk-sharing mechanisms for WSMEs, tailored financial products for women in agriculture, and affordable loans for sustainable agriculture technologies. Despite these initiatives not providing a full solution to the gender-specific barriers within the coffee sector, Namazzi was able to improve her economic resilience and gain some financial independence. While systematic challenges remain, Namazzi's story demonstrates the potential of gender-focused green finance and empowers other women in Uganda to seek gender-sensitive initiatives, paving the way for greater female inclusion in the coffee value chain.

3.4 Cross-Sectoral Bottlenecks & Challenges

The main challenges in the coffee sector in Uganda, as reported by key stakeholders, stem from a lack of basic infrastructure and policy coordination, affecting all stakeholders but primarily in production. Poor access to electricity, poor quality roads, and poor water are all factors that significantly limit coffee production activities and coffee quality. Simultaneously, frequent changes in sustainability policies, priorities, and mandates for coffee create uncertainty in long-term investments and the overall sector's growth. Likewise, with new green programs, sustainability implementation plans and regulatory changes such as the EUDR, there is little consistency in coordination among the government and the stakeholders within the coffee value chain. Additionally, key stakeholders report that there is limited resource allocation, which hinders the ability to scale up development activities and improve farmer production practices.

Access to finance is a major challenge for many SMEs operating in Uganda's coffee and fisheries sector. According to the survey results, the main challenges in the coffee sector are shown on the left of Figure 14 and include access to finance and others, such as climate change and transport costs, followed by limited market information and a lack of basic infrastructure. According to the survey results, the main challenges in the fisheries sector are depicted on the right of Figure 14 with access to finance being the greatest, other challenges such as high input costs and overfishing, and national regulatory issues as another main issue in the fisheries sector. Moreover, according to the survey, most of the respondents in both sectors do not have their businesses formally registered, which further restricts their access to finance and investments.

Figure 14: Main Challenges in the Coffee and Fisheries Sector



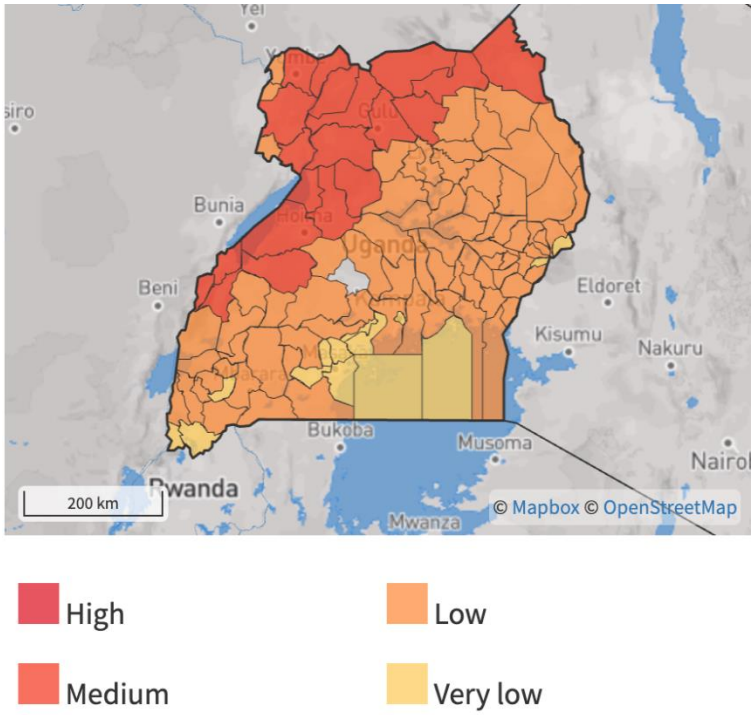
Limited access to finance and insufficient knowledge of green finance poses additional challenges to the least powerful actors in both the coffee and fisheries value chains. These actors, including smallholder farmers, women, and youth, face challenges in accessing affordable credit due to high interest rates and a limited understanding of green finance. Women and youth face additional barriers to finance not only due to limited knowledge and greater financial literacy gaps but also because of a lack of land ownership. Moreover, as reported in interviews with SMEs and key organizations, the application processes for green finance are long and complex, which makes their accessibility even harder for many smallholder farmers. Women and youth also face issues of bankable collateral for medium and large-size loans.

According to the survey results, women in both the coffee and fisheries sectors face significant gender-specific challenges related to societal norms and perceptions that undermine their roles in the business. Most respondents reported that women are frequently cheated by buyers, traders, and other middlemen due to their perceived lack of bargaining power and knowledge about pricing. In the fisheries sector, many state that women are often not allowed or fear going in deep waters, while others lack fishing skills, and thus, women rely on male workers who often exploit them, causing further financial losses for women. In the coffee sector, women face difficulties in heavy lifting tasks and must often hire labor, which many report makes the business more costly.

As reported by key stakeholders within the value chain, climate change is another significant challenge in both coffee and fish production. Rising temperatures, erratic rainfall, and extreme weather events negatively affect production yields, quality, and farmers' livelihoods. Figure 15 emphasizes the regions most affected by extreme heat, indicating that the Northern and Eastern regions are most affected. A notable example in the coffee value chain is the Masaka heatwave in 202,2, which resulted in crop failures and increased pests. The environmental challenges in the fisheries value chain include overfishing, habitat destruction, pollution, and energy-intensive processing. The environmental challenges, combined with limited access to climate-smart

solutions and green finance, leave agriculture and aquaculture farmers without the necessary tools to mitigate the effects of climate change.

Figure 15: Uganda Extreme Heat Hazard Map



Source: https://www.thinkhazard.org/en/report/253-uganda/

Price volatility in coffee is known to be high, exposing mainly farmers and other value chain actors to revenue shocks. Most coffee is traded in future contracts and as the marketplace is liberalized, local export coffee prices tend to follow global trends. Supply-side influences, including irregular weather patterns, coffee roaster preferences, speculative trading behaviors, and perceived quality of coffee, have a substantial effect on the price of future contracts, as stated by different stakeholders. Additionally, limited access to finance impedes equipment acquisition and farm expansion, affecting coffee pricing, long-term growth, and profitability.

Uganda's coffee value chain faces challenges in adding value beyond its raw coffee exports, specifically regarding the domestic economy and in-country trade. This leads back to the issue of lack of infrastructure, as with insufficient coffee processing facilities and poor incentives to promote local roasting and packaging, there are potential economic benefits for smallholder farmers that are lost[21]. Substantial improvements in quality and basic infrastructure must be emphasized via investments in processing facilities and capacity building for locals.

[21] ILO (2024), Mapping the coffee value chain in Uganda

4 EVOLVING REGULATORY LANDSCAPE

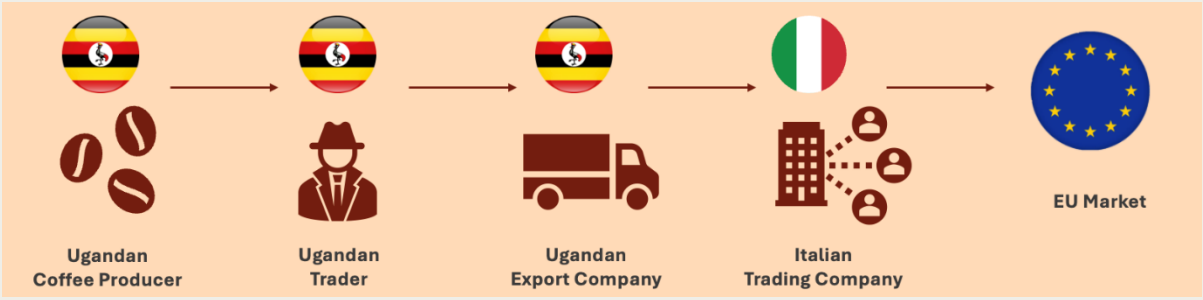
4.1 REGULATORY CONTEXT

Uganda's coffee is subject to national and international regulations that ensure coffee bean quality and sustainability, but greater sensitization is needed to ensure proper enforcement. National regulations are set to govern the coffee sector within the country and are enforced by local authorities, primarily by the Uganda Coffee Development Authority (UCDA). International regulations are set by global agreements for which Uganda must comply to participate in international coffee trade, such as the European Union Deforestation Regulation (EUDR), which requires exporters to prove that their coffee is traceable and produced on land free from deforestation. Uganda must also align with emerging EU directives such as the Corporate Sustainability Due Diligence Directive (CS3D), which emphasizes environmental and human rights compliance.

Box 5: Navigating EUDR Obligations

Figure 8 provides an example of how complex supply chains can be for products covered by the EUDR. In the example, a coffee producer in Uganda sells coffee beans to a local trader who sells them to a local exporter. The exporter sells the coffee to an Italian trading company that sells the coffee to the EU market. Only the Italian company will be checked for compliance as it places a product listed in the EUDR on the EU market. The Ugandan producers, traders, and exporters are not subject to EUDR checks as they are not placing the coffee in the EU market. However, they must provide the necessary information on the coffee's origin so that the Italian company can prove the product complies with EUDR. The compliance information must be passed through all the supply chain links.

Figure 16: Example of Coffee Exports from Uganda to Italy



Source: Navigating EUDR Due Diligence Obligations, Handbook 4: Non-EU Companies Targeting EU Market

The policy regulation sets standards for exporters in order to ensure products comply with international market requirements. Following the entry into force of EUDR in 2023, it will come into effect for medium & large operators and traders on 30 December 2025 and for micro & small enterprises on 30 June 2026. Exporters must provide detailed documentation and evidence of compliance throughout the supply chain, including traceability and geo-located farm data, as part of EUDR requirements.[22] Coffee processors are required to ensure supply chain transparency

[22] Certifications such as Sanitary & Phytosanitary Standards certificates and those required by the Uganda Coffee Development Authority (UCDA), can enhance market access, particularly in markets like the EU, where they are becoming increasingly mandatory.

as part of regulatory compliance and maintain traceability systems to track beans from farm to export. The EUDR will also require formal registration of farms and comprehensive traceability through geo-mapping of coffee farms, maintaining digital records to prove that the coffee beans are not associated with deforestation.[23]

Adhering to international sustainability regulations such as the EUDR will enhance the competitiveness of Uganda's coffee value chain actors and secure long-term access to global export markets. Compliance measures—particularly those related to sustainability, traceability, and certification—are becoming essential for maintaining and expanding market share, especially in the EU, which accounts for over half of Uganda's coffee exports. While current capacity constraints may limit the ability of actors to fully implement these measures at scale, targeted investments and institutional support can bridge the gap. Strengthening compliance systems now will mitigate the risk of market exclusion and unlock new trade and financing opportunities in the medium-to-long-term.

4.2 Current Status of Compliance

Although progress is gradual, the policy landscape in Uganda is slowly aligning with global demands for coffee sustainability and compliance with international regulations. Regulatory frameworks like the EUDR and the CS3D are critical to improve Ugandan market access as reported in discussions with coffee organizations. Key initiatives that advocate sustainable practices within the coffee value chain include certification programs such as the Rainforest Alliance (RFA), Fair Trade, and Organic. These are examples of voluntary sustainability standards, emphasizing Uganda's movement towards improving environmental responsibility. The amount of coffee exports under sustainability standards is approximately 4% per year, which is relatively small but has been steadily increasing[24].

"There is a lack of clear guidelines on regulatory compliance, making it difficult for enterprises to adapt, and more structured regulatory support is needed to help smallholder farmers comply with sustainability standards."

The Ugandan government has established the EUDR-CSLDD task force to oversee compliance processes and funding needs. A budget of 13.9 billion Ugandan shillings is allocated to support EUDR activities, including farmer registration. Collaboration with international partners such as the Danish Embassy is in place to supplement funding and technical support. The Coffee Department under the Ministry of Agriculture has implemented a geospatial monitoring and evaluation system initially developed by the UCDA, which will now support EUDR compliance.

Value chain actors are adopting both international certifications and also strengthening their own internal standards. Official certifications such as the Rainforest Alliance or Fairtrade

[23] Article 9 & Article 33 of Regulation (EU) 2023/1115 on deforestation-free products.
[24] UCDA (2020), 2019-2020 Annual Report, https://ugandacoffee.go.ug/sites/default/files/2022-03/UCDA%20Annual%20Report_2019-2020_0.pdf

simplify compliance by providing structured external verification such as standards for traceability and deforestation-free assessments directly aligned with EUDR. For instance, the Rainforest Alliance supports certified and non-certified farmers by providing tools and systems for EUDR compliance[25]. Alternatively, many businesses and coffee cooperatives develop internal sustainability standards. Ensuring the internal sustainability standards are under EUDR requirements is more challenging since the responsibility for verification and risk assessment lies on the businesses, such as EU exporters themselves. Choosing between official and internal certification standards is subjective to each player within the value chain based on the costs of sustainability practices and the availability of resources.

Table 8: Examples of Sustainability Standards for EUDR Compliance in Uganda

Sustainability Standards	
International Sustainability Certifications	**Ugandan Sustainability Standards**
Rainforest Alliance Certification / UTZ Certified	NKG BLOOM and NKG Verified
Fairtrade Certification	ECOM SMS Verified
EU Organic Certification	Touton's PACT (Partnership for Action Coffee Trading)
4C (Common Code for the Coffee Community)	Volcafe Verified and Volcafe Excellence

Box 6: Internal Ethics & Sustainability Compliance Standards

While some Ugandan companies follow international guidelines, others manage internal standards without getting official certifications such as the Rainforest Alliance or Fairtrade certificates. Companies like Olam Uganda implement internal sustainability protocols through their Ethical Business Program and Supplier Code, including ethics, anti-bribery, and fair employment policies. These systems aim to ensure socially responsible and environmentally sustainable operations. The company has established the Olam Ethical Business Programme (EBP) to ensure sustainable practices are met within all aspects of their business.

Source: Key Informant Interviews (A2F, 2024); https://www.olamgroup.com/about-olam/ethics-and-compliance.html

The financial burden of EUDR compliance is distributed across the value chain[26]. At the coffee producer level, costs primarily involve geolocation data and adhering to a sound traceability system. The local traders incur costs to maintain records and facilitate data flow from the producer to the exporter. This includes organizing farm-level data, verifying farmer geolocation information, and ensuring traceability. The export companies face traceability costs such as integrating data from multiple suppliers, conducting internal audits, training staff on EUDR requirements, and potentially commissioning third-party verifications. The EU importer faces the

[25] https://www.rainforest-alliance.org/business/eudr/

[26] European Coffee Federation (2025), EUDR Due Diligence Guidance Document, https://www.ecf-coffee.org/wp-content/uploads/2025/03/ECF-EUDR_Article-9-10-11_-30.01.25.pdf

most significant costs, covering due diligence systems and supporting other value chain actors to ensure compliance. Table 9 highlights potential questions for evaluating supplier compliance with EUDR across different stages of the value chain.

Table 9: EUDR Supplier Evaluation Template

	Question
Geolocation Quality Check & Data Verification	How were the geolocations created?
	When were the geolocations of the plots generated?
	Does your business have a protocol to check the geolocation quality?
Plot Traceability Details	Describe how the plot information is captured and maintained from the farm to shipment?
	What measures have been implemented at each step of the value chain to ensure EUDR compliance?
Deforestation Risk Assessment	How does your business check the deforestation status of provided plots?
	When deforestation risk is identified, what actions are in place to mitigate the risk or bring it back to zero deforestation?
Supplier Policy and Commitment	What internal management system is in place for EUDR compliance?
	Which IT tools designed for EUDR compliance does your business use?
	Does your business use a third-party verification for EUDR compliance?
Due Diligence Statement	Does your business provide a due diligence statement in full accordance with the EUDR requirements?

Source: European Coffee Federation (2025), EUDR Due Diligence Guidance Document

Box 7: Private Sector Support for Enhancing Climate Resilience

Olam, working together with the Institute of International Agriculture (IITA) in the Mt. Elgon region, is targeting climate resilience for 5,000 coffee farmers in Mt. Elgon. The project introduces a "Stepwise" approach tailored to specific farmer segments, enabling incremental adoption of Climate Smart Agriculture (CSA) practices. By segmenting farmers based on their resources and willingness to invest, Olam effectively matches CSA training and investments to farmers' capacity, improving adoption rates. Demonstration plots further support this by showcasing tangible impacts on yields, pest management, and soil health, building farmer confidence, and securing sustainable coffee supplies amidst climate change.

Farmers often know the types of practices needed but are unable to invest or unwilling to risk investment in CSA practices. Laying out specific practices in a way that factors in the resources and motivations of farmers helps to increase uptake and target company resources more effectively. Farmers are more likely to adopt recommendations of climate-smart practices when they can see their effects on yield, pest & disease pressure, and soil on established plots.

Source: Key Informant Interviews (A2F, 2024); https://sustainablefoodlab.org/olam-and-iita-join-forces-to-help-ugandan-coffee-farmers-build-long-term-climate-resilience/

4.3 COMPLIANCE CHALLENGES

Awareness of the EUDR remains low across Uganda's coffee value chain. Only 21% of survey respondents of the coffee value chain are aware of EUDR on an aggregate level (**Figure 17**). In contrast, they are aware of the national regulations, i.e., National Forestry and Tree Planting Act 2003 (33% of survey respondents of the coffee value chain), local regulations regarding grading of coffee, harvesting premature coffee beans, etc. The reason is that most of the survey respondents operate in the local market or sell to buyers and investors who then export the coffee after purchasing from them. A2F's survey found that 11% of the coffee value chain actors are aware of Fair Trade and EU organic certificates. While 5% are aware of the Rainforest Alliance certification which is also EUDR aligned.

Figure 17: Certification Awareness of Coffee Value Chain Actors

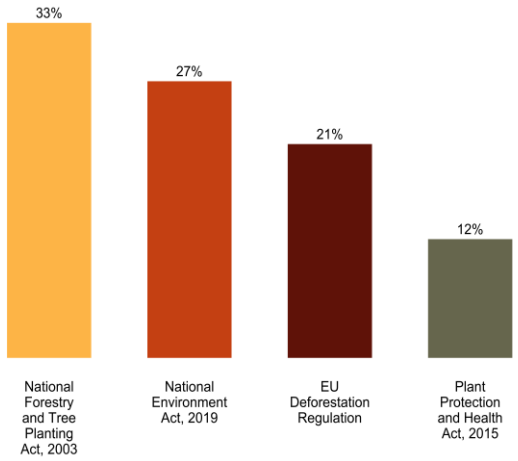
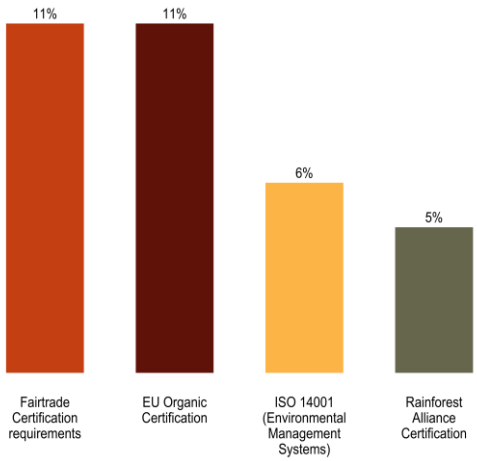


Figure 18: Regulation Awareness of Coffee Value Chain Actors



Source: A2F Survey (2024)

The registration requirement of EUDR is a challenge for Ugandan smallholder coffee farmers, especially for women. As part of EUDR compliance, formal registration for all farmers is a prerequisite for exporting to the EU. The registration process is based on national IDs, which many women lack making it difficult for them to get registered under the new EUDR requirements. The registration processes often list the male head of the household as the owner of the coffee farm, sidelining women's contributions and potentially pushing them out of the market. The regulation may reverse gender equality progress and risks marginalizing women further as many married women may be unable to comply with the new registration and documentation.

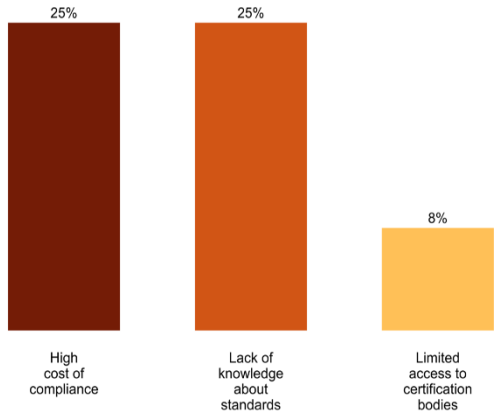
Box 8: EU TRACES Certification

TRACES is a centralized certification system of the EU that provides Sanitary and Phytosanitary (SPS) certificates for exporting fish and animal products to the EU upon successfully meeting the compliance requirements set by the EC. The majority of Ugandan fishermen and fish traders are not aware of the SPS requirement for exporting fish to the EU. EU banned fish imports from Uganda in the early 2000s over health safety concerns. The fishermen and fish trade require awareness and capacity-building activities to enhance their understanding of health and safety requirements to meet the EU compliance standards. The government can play a crucial role as the central body acting as a knowledge hub that provides testing and laboratory services.

Another major challenge is meeting the suppliers' obligations to demonstrate that coffee has not been produced on deforested land. This requires geo-mapping of coffee farms and full traceability throughout the value chain—from farm to export. While farmers are key contributors to the process, the burden of proof rests with suppliers, particularly exporters and EU importers, who must compile, verify, and submit the required data. Many suppliers face difficulties complying with these requirements due to limited access to digital infrastructure and the high costs associated with implementing traceability systems. Tools such as satellite mapping software, digital recordkeeping platforms, barcoding systems, and RFID scanners are critical, yet many value chain actors remain unfamiliar with their use or lack the capital to adopt them.

Lastly, the high cost of compliance is a significant concern. The EUDR requires due diligence as proof of the coffee being grown in non-deforested land. EUDR-aligned certificates, such as the Rainforest Alliance certificate, provide relevant information required for EUDR due diligence. In 2021-22, 12.2% of Uganda's coffee exports were verified or certified "sustainable."[27] High costs of compliance (Figure 19) including the Rainforest Alliance certificate, Fair Trade and Organic certifications remain a challenge for farmers, processors and exporters to meet the compliance requirements resulting in loss of income and smaller market share. Partnership with donor agencies to overcome such challenges can lead to growth of Ugandan coffee market.

Figure 19: Compliance Challenges of Coffee Value Chain Actors



[27] https://ugandacoffee.go.ug/resource-center/fact-sheet

Box 9: International Example - First EUDR-Ready Coffee of India

In May 2024, India's High Range Coffee Curing became the first farm verified by the Rainforest Alliance to ship EUDR-ready coffee beans to Europe. The farm partnered with the Rainforest Alliance to comply with the regulation's requirements. Rainforest Alliance certification enabled coffee farmers to opt-in to EUDR-aligned criteria. This allowed companies to source from these farms, track ingredients along their supply chains, and leverage farm data to demonstrate compliance with the regulation's deforestation risk assessment and mitigation requirements by the deadline, at no additional cost. **T**he farm supplies leading global coffee brands, roasters and traders including Nestlé, Unilever, E-Com Commodities, Olam, Continental Coffee, Louis Dreyfus Company, Vidya Coffee and Allanson's, among others in India.

Source: https://www.rainforest-alliance.org/press-releases/first-eudr-ready-coffee-bound-for-europe/

Regulatory compliance and challenges in the fisheries sector discussed in Annex 4.

5 GREEN FINANCE ECOSYSTEM & MARKET DYNAMICS

5.1 FINANCIAL SECTOR OVERVIEW

The financial sector comprises commercial banks, credit institutions, and microfinance institutions. The Bank of Uganda (BoU), the country's central bank, is the financial sector's main licensing and supervisory authority. It oversees and regulates financial institutions including 24 commercial banks (tier I), 4 credit institutions (tier II) and 4 microfinance deposit taking institutions (tier III) to ensure they operate soundly and protect depositors. Most Tier IV microfinance institutions (such as non-deposit taking MFIs, SACCOs and self-help groups) are supervised by the Uganda Microfinance Regulatory Authority (UMRA), a government regulatory agency. However, of recent, the BoU started licensing and supervising SACCOs with deposits exceeding 400,000 USD[28] (of which there are around 40). The first large SACCO was licensed in March 2025[29].

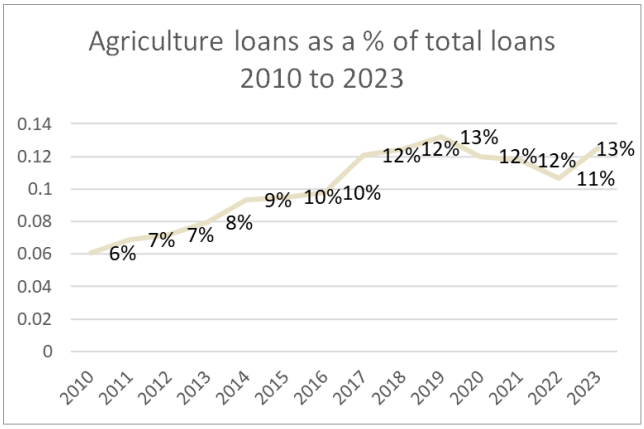
Uganda's financial sector is dominated by few banks and considered healthy. Total assets for the financial sector were valued at 13 billion USD (December 2023), with commercial banks dominating, holding 97% of the total assets. The banking sector remains highly concentrated, with the five largest commercial banks (out of 24) Absa Bank, Centenary Bank, DFCU Bank, Stanbic Bank and Standard Chartered Bank, holding a market share of 57% (June 2022). Over the past five years, commercial banks have consistently exceeded minimum capital adequacy levels. At the same time, while non-performing loan ratios remain the high side at 5.9% (2023), the banking sector reports risk coverage ratios of 90% upwards, indicating that non-performing loans are adequately provisioned. At the close of 2023, 28 out of the 32 supervised Financial Institutions (FIs) reported profits, while institutions (including 2 commercial banks and 2 Tier 2 and Tier 3 FIs) reported losses. The top 5 banks represented 74% of profits.

Financial service providers that cater to the agriculture sector include large banks and niche players. One of the leading institutions in agriculture finance is Centenary bank, with over 200 agriculture loan officers employed and 99.79 million USD outstanding in agriculture loans, of which 80% is dedicated to (50,000) smallholder farmers[16]. Other main banks that are involved in agriculture lending are Stanbic Bank, DFCU Bank and Equity Bank. Smaller, active players include Opportunity Bank, Postbank, Finca and Pride Microfinance.

The agriculture sector remains under financed. Loans to the agriculture sector only represent 12% of bank loans while agriculture contributes 24% to GDP and employs 73% of the workforce. Over time, the share of agriculture loans to total bank loans has increased from 6% in 2010 to 13% in 2023, i.e., agriculture lending expanded at twice the pace of the growth of the banks' aggregate loan portfolios. In value terms, agriculture lending increased ten-fold between 2010 and 2023, from 67.89 million USD in 2010 to 675.26 million USD in 2023.

[28] BoU (2023) The Micro Finance Deposit-Taking Institutions (Registered Societies) Regulations, 2023
[29] https://www.newvision.co.ug/category/business/bou-issues-first-sacco-license-NV_207095

Figure 20: Agriculture loans as a percentage of total loans



Source: Bank of Uganda Statistical Abstracts 2010 to 2022; Annual report 2023/24

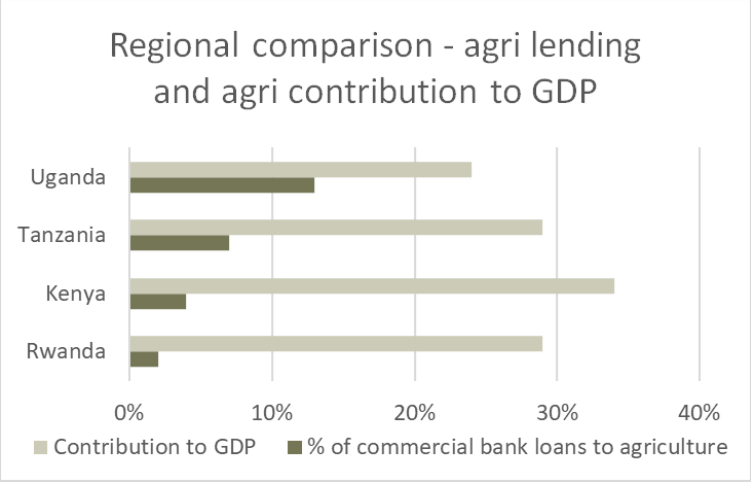
The Agricultural Credit Facility (ACF) is a special credit scheme that is managed by BoU to support agricultural financing in Uganda. The main goal of the facility is to provide affordable credit to agricultural enterprises, especially small and medium-sized businesses, to help them access the capital they need for growth, expansion, and improving productivity in the agricultural sector. The ACF is available to banks and MFIs that lend to farmers and agribusinesses. The ACF lends to banks at 0% interest and the banks on-lend these funds at 12% per annum (15% for grain trade finance). Banks blend ACF funding with on funds on a 50-50 basis while Microfinance Deposit-taking Institutions (MDIs) and credit institutions blend the funding on a 30-70 basis (thus a 70% contribution by ACF)[30]. Since inception in 2009, 258 million USD was disbursed under the scheme, representing 4,442 loans[31].

Access to agriculture finance is still a significant challenge for many agriculture VC actors. Reasons for low access to agriculture finance include limited institutional capacity in financial institutions, concerns over bankability of farmers, risk perception and operating costs. ACELI, a regional market enabler for agriculture finance, estimates that returns in agri-SME lending are on average 4% to 5% lower than returns in other sectors in East Africa. In ACELI's view, the high operating costs and low returns of serving agri-SMEs are as significant a driver of low levels of agricultural lending as the risks involved.

When compared to regional peers, Uganda is better at agriculture finance than others. Compared to neighboring countries, Uganda's operating environment is conducive, including support from BoU's ACF and development partners for agriculture finance, notably the Agribusiness Initiative (Abi). Also, the Ugandan agriculture sector is considered vibrant and creates bankable opportunities.

[30] https://www.bou.or.ug/bouwebsite/ACF/moreinfo.html
[31] BoU (2023): Promoting Socio-Economic Transformation Through The Administration Of The Agricultural Credit Facility And The Small Business Recovery Fund

Figure 21: Regional comparison of agriculture lending



Source: Aceli Africa (2023) :3-year learning report.

5.2 UNDERSTANDING THE GREEN FINANCE MARKET

Green finance is any structured financial activity (product or service) created to ensure a better environmental outcome[17]. Positive environmental outcomes include both mitigation of climate change, for example, reducing greenhouse gas emissions using renewable energy, and adapting to climate change's effects, for instance, drip irrigation to increase resilience against drought. In the context of value chains, green investments involve financial and technological interventions that enhance sustainability and efficiency. These investments focus on optimizing resource use, improving productivity through sustainable practices, facilitating the transition to environmentally friendly technologies, building resilience to climate change, and promoting circular economy principles. For instance, green finance in coffee value chains may include financing drip irrigation systems, solar-powered water pumps, climate-resilient coffee cultivars, shade trees, water-efficient coffee washing stations and solar powered drying facilities.

In 2024, the Uganda Bankers' Association, with support of BoU, launched an ESG Framework for its members. The Uganda Bankers' Association (UBA) ESG Framework is an initiative that guides financial institutions in Uganda to incorporate Environmental, Social, and Governance (ESG) principles into their operations. Its main goal is to promote sustainable business practices by encouraging banks to support projects that address climate change, financial inclusion, community development, and human rights. The framework emphasizes the importance of strong corporate governance, transparency, and ethical decision-making, while also advocating for responsible lending and investment in sectors that contribute to national development and align with global sustainability goals such as green finance[15].

Financial institutions may engage in green finance directly or indirectly. Direct engagement is through providing dedicated green finance products, such as offering specialized green finance products, such as biodiversity loans, WASH loans, loans for climate smart agriculture purposes, and renewable energy loans. Conversely, even when a financial institution does not have a specific green finance product, it may still finance sustainable initiatives through conventional loan

products. For instance, a bank may fund solar-powered drip irrigation under a standard SME or agriculture loan, achieving a green outcome without explicitly classifying it as green finance. Key banks that engage directly in green finance are Centenary Bank, Equity Bank, Opportunity Bank and Post Bank while the main MFIs that engage in this space are FINCA and Pride Microfinance (see Table 10).

Table 10: Key FIs that Engage in Green Finance (from Interviews)

Financial Institution (FI) Name	Market Share	% of SME in Total Portfolio	% of Agro in SME or Overall Portfolio	% of Green in SME or Agri Portfolio	Whether the FI Offers Green Finance Products
Name of the interviewed Financial Institution.	*Based on total assets*	*Percentage of the FI's total portfolio that is composed of SME loans.*	*Percentage of agricultural loans within the SME portfolio or overall portfolio*	*Percentage of green finance products within the SME portfolio or within the agricultural portfolio.*	*Direct vs. Indirect*
Equity Bank	7.4%	23%	30%	Not availabale	Direct
Finca Uganda Ltd	0.5%	99%	40.20%	Not availabale	Direct
Stanbic Bank	18.3%	Not available	10%	3%	Indirect
DFCU Bank	6.2%	60%	40%	23%	Indirect
Cairo Bank Uganda	0.8%	55%	11%	3%	None
PRIDE Microfinance Limited	0.9%	99%	21.40%	Not available	Direct
Opportunity Bank	0.5%	51%	32.20%	5.40%	Direct
Post Bank	2.1%	78%	55%	12%	Direct
Centenary Bank	12.5%	49%	11.5%*	Not availabale	Direct
Bank of Africa	2.1%	32%	5%	Not availabale	Indirect
Total	**51.2%**				

* *Based on 2022 Annual report: own calculation as % of overall portfolio*

Uganda Development Bank recently launched a Climate Finance Facility. The state-owned Uganda Development Bank (UDB) launched Climate Finance Facility (CFF) in 2023 with an initial capitalization of 13 million USD, aiming to mobilize external and internal resources for climate finance in Uganda. It is currently seeking accreditation as a Direct Access Entity by the Green Climate Fund, a major source of green finance. UDB plans to cater to both public and private sectors through a variety of instruments including advisory and project preparation services. In 2024[32], the bank approved 30 green projects, but it is unclear if these were financed through the CFF.

Uganda does not have a national Green Finance Taxonomy unlike some neighboring countries. While Rwanda has a green taxonomy for some time, Kenya's was issued in April 2025. Uganda does not have an official national green finance taxonomy; the ABi Trust has developed a green finance taxonomy that has been shared to the financial institutions. This taxonomy is used when financial institutions report to ABi on their green lending. ABi also provides technical assistance to support financial institutions in implementing green finance practices.

Establishing a Green Finance Taxonomy for Uganda has several advantages for the financial sector. First, the taxonomy would give banks and other FIs a standardized reference to determine which projects qualify as green and reduce ambiguity and the potential for greenwashing. Second,

[32] https://udbankl.wordpress.com/

a taxonomy may encourage banks to innovate around their green finance offerings. Third, adopting the taxonomy can enhance a bank's environmental, social, and governance (ESG) profile, increasing access to international green finance credit lines.

5.3 CURRENT DEMAND & SUPPLY OF GREEN FINANCE

5.3.1 Supply Side Assessment

The portfolio of SME and agriculture loans is significant across financial institutions (FIs); however, green finance loans remain a smaller segment. On average, approximately 61% of total loans across the sampled FIs are dedicated to SMEs without accounting for market share. Of these, about 27% are within the agricultural lending portfolio. Green finance loans, in contrast, constitute an estimated 10% of SME and agricultural lending.[33] If aggregated and accounted for market share, about 15.5% of the loans are dedicated SMEs, about 8.2% are agri-loans and about 2.25% can be categorized as green finance. Despite the relatively small allocation to green finance, some institutions offer products supporting investments in sustainability, such as renewable energy adoption, energy-efficient equipment, and climate-resilient agribusiness practices. However, green finance remains largely supply-driven, with limited active demand from SMEs, contributing to financial institutions' cautious engagement.[34] One point of note was that financial institutions did not classify fisheries as a priority sector for lending, making it difficult to assess the extent of financing available for fisheries-related businesses.

The FIs provide a range of financial products catering to MSMEs and agribusinesses. Loans supporting working capital financing make up most of the SME financial products. Many institutions also provide loans for fixed asset acquisition, enabling businesses to invest in machinery, vehicles, office equipment, or production tools that enhance productivity. For agribusinesses, loans can be directed towards agricultural production activities, including crop farming, livestock rearing, and agribusiness value chain development. While all banks finance the coffee value chain as part of their agribusiness finance offering, financing to the fisheries sector, especially fishermen, is much rarer. FIs do not offer specific products for coffee or agriculture. Expansion financing is another key area, where businesses can use loans to scale their operations, open new locations, or invest in infrastructure improvements.

Green finance practices include renewable energy loans in support of mitigation and agri-loans in support of adaptation. Without a national taxonomy, green finance is self-reported by FIs. Most interviewed FIs offer renewable energy loans, mostly solar loans, biogas, clean cooking stoves, and ethanol-based energy solutions. These renewable loans mitigate Greenhouse Gas (GHG) emissions. While not all agriculture loans qualify as green loans, an increasing share of agriculture loans assist farmers to adapt to the effects of climate change, through the financing of irrigation (adaptation to drought), agroforestry (adaptation to increasing temperatures, soil conservation) and other types of CSA measures such as financing drought-resistant seeds and

[33] It should be noted that some Fis were not able to provide information on their green finance portfolio, which may create a downward bias on the estimate. The FIs were instructed to utilize the definition stated in section 4.1 to identify the green finance portfolio.

[34] This topic is explored in further details on the demand side assessment

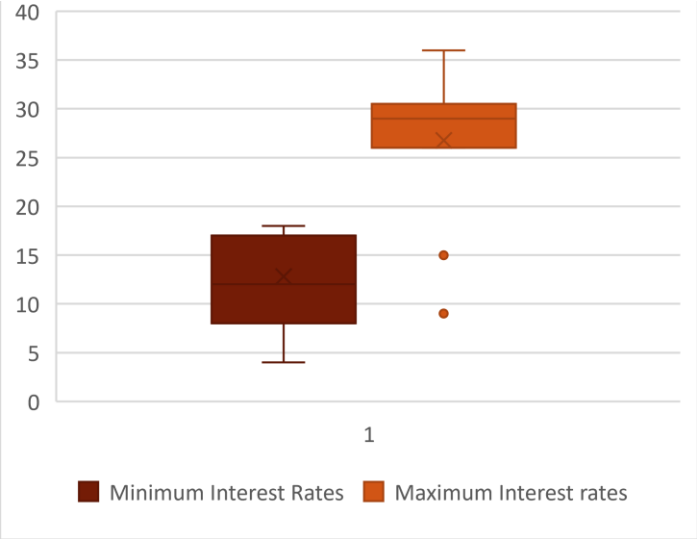
measures to reduce food losses. In addition, two FIs feature biodiversity loans which finances businesses or projects that actively contribute to the conservation and sustainable use of biodiversity, e.g., organic agriculture or eco-tourism. Finally, three FIs offer Water, Health and Sanitation (WASH) loans that are also generally regarded as green loans.

Table 11: Green finance product categories at interviewed FIs

	Renewable energy loan	Agri-loans with green aspects (e.g., Irrigation, Agroforestry, CSA)	Biodiversity loan	WASH loan
Equity Bank	✓	✓		
Finca	✓	✓		
Stanbic	✓	✓		
DFCU Bank		✓		
Cairo Int Bank				
Pride	✓	✓		
Opportunity Bank	✓	✓	✓	✓
Post Bank	✓	✓	✓	✓
Centenary Bank	✓	✓		✓

Interest rates for SME loans vary widely, with an average minimum rate of 12.8% and an average maximum of 26.8%.[35] Lower rates typically reserved for priority sectors such as agribusiness and green finance**.** The rates are also often determined on a case-by-case basis based on perceived risks (i.e., business size, past history, sector). In addition to interest rates, other fees, such as loan processing or arrangement fees**,** ranging between 0.5% and 3% of the loan amount**,** is often added on top of interests. Access to partial loan guarantee facilities through donor organizations or financial partners, generally reduced both interest rates and collateral requirements for the SMEs.

Figure 22: Standard Interest Rates Charged



Loan amounts vary, with some institutions offering microloans as low as 27 USD and others extending financing up to 1.35 million USD or more for larger investments. Similarly, collateral requirements vary significantly across financial institutions and loan products. While smaller loans may require minimal or no collateral, larger loans often necessitate property, equipment, or financial guarantees**.** Some institutions provide special consideration for women entrepreneurs and priority sectors**.** Financial institutions also offer flexible repayment options for their loan products, accommodating the diverse cash flows of businesses. While many loans follow a monthly repayment structure**,** several institutions permit seasonal or quarterly payments**,** particularly for agribusinesses and enterprises with fluctuating incomes

Overall, there is cautious optimism for green finance in Uganda. As noted, leading Ugandan banks and MFIs already offering green finance products or apply green finance through their existing products, while others are planning to engage soon. ABi, an agribusiness lending enabler, is supporting banks and MFIs in rolling out green finance through capacity building and the recent launch of its own green finance taxonomy framework, enabling financial institutions to classify their loans as green based on objective criteria. This initiative could enhance transparency, encourage financial institutions to expand their green lending portfolios, and increase investor confidence in sustainable finance but at the same time it lacks the stature of a national taxonomy, and it is not enforceable. However, key barriers remain, particularly the lack of SME demand for green finance products. Without greater awareness and understanding among SMEs, financial institutions may hesitate to increase green lending.

[35] As the FIs provided interest rates in ranges, the average minimum interest rate and average maximum interest rate was calculated by taking the mean of the respective minimum and maximum rates reported across FIs.

Table 12: Key highlights of SME products offered by Interviewed FIs for financing green investments

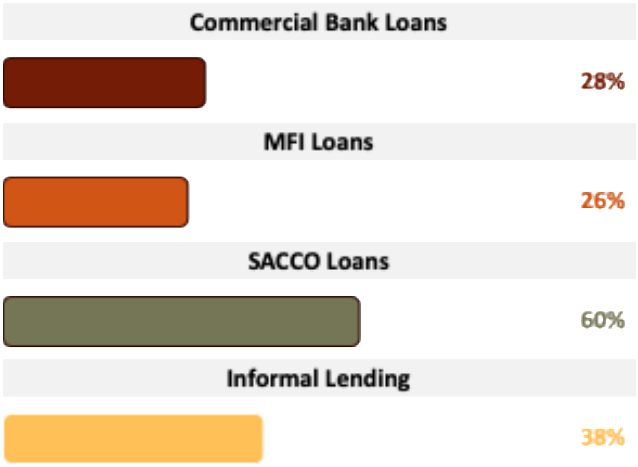
Name FI	Product Type	Green Status	Target Group	Target Sectors	Gender Focus	Interest Rate per Annum (%)	Minimum Loan Amount	Maximum Loan Amount
Equity Bank	Loan	Offers green products	MSMEs	Agriculture and related value chains, mining, general trade	Yes	Between 4%-9% per month	UGX. 100,000 (USD 27)	UGX. 5 billion (USD 1,350,000)
Finca Uganda Ltd	Loan	One or more products have a green feature	MSMEs	Agriculture and related value chains, business owners/ traders, individuals, corporates and others.	Yes	Varies between 18% and 33% p.a.	UGX. 100,000 (USD 27)	UGX 800 million (USD 216,000)
Stanbic Bank	Loan	One or more products have a green feature	MSMEs	Agribusinesses, manufacturing, renewable energy,	Yes	Varies between 17% and 28% p.a.	No minimum loan amount	USD 80 million
DFCU Bank	Loan	One or more products have a green feature	Smallholder farmers and other SMEs along the value chain.	Agribusiness, manufacturing	Yes	Varies between 17% and 28% p.a.	UGX. 2,000,000 (USD 540)	UGX. 500 million (USD 135,000)
Cairo Bank Uganda	Loan	Does not offer green products	MSMEs	Agribusiness	No	Varies between 17% and 26% p.a.,	UGX. 50,000 (USD 13.50)	UGX. 5 billion (USD 1,350,000)

PRIDE Microfinance Limited	Loan	Offers green products	Smallholder farmers, SMEs, Women and youth.	Agriculture, renewable energy, business and general trade	Yes	Varies between 18% and 30.5%. p.a.	UGX. 150,000 (USD 40.50)	UGX. 1 billion (USD 270,000)
Opportunity Bank	Loan	One or more products have a green feature	Farmers, businessmen and women, youth and women entrepreneurs	Agriculture, water harvesting and management, clean energy, tourism	No	Varies between 6% and 36% p.a.	UGX. 100,000 (USD 27)	UGX. 2 billion (USD 540,000)
Post Bank	Loan	One of more products have a green feature	Smallholder farmers, SMEs, Women and youth.	Agriculture, water management and harvesting, clean energy, tourism	No	Varies between 12% and 30% p.a.	UGX. 100,000 (USD 27)	UGX. 30 billion (USD 8,100,000)
Centenary Bank	Loan	Offers green product	Farmers, businessmen and women, youth and women entrepreneurs	Agriculture, renewable energy	Yes	Varies between 12% and 29% p.a.	UGX. 100,000 (USD 27)	UGX. 50 billion (USD 13,500,000)

5.3.2 Demand-Side Assessment

Limited use and awareness of financial products among SMEs could be a major constraint to green finance adoption. Only 32% of surveyed SMEs have accessed financial products. Usage also varies across the value chain, with the exporting sector (64%) having the highest financial product usage, while producing businesses (25%) having the lowest. Even among those who have accessed finance products, many SMEs depend on personal savings and rely on informal borrowing from family and friends to fund their operations. The main reasons behind this lack of financial product use are fear of debt (58%), lack of trust in financial institutions (32%) and lack of awareness. On green finance, 97% are unaware of the concept of the financial product.[36]

Figure 24: SME Usage of Financial Products



Source: A2F Survey (2024)

Figure 23: Survey Responses Regarding Financial Awareness

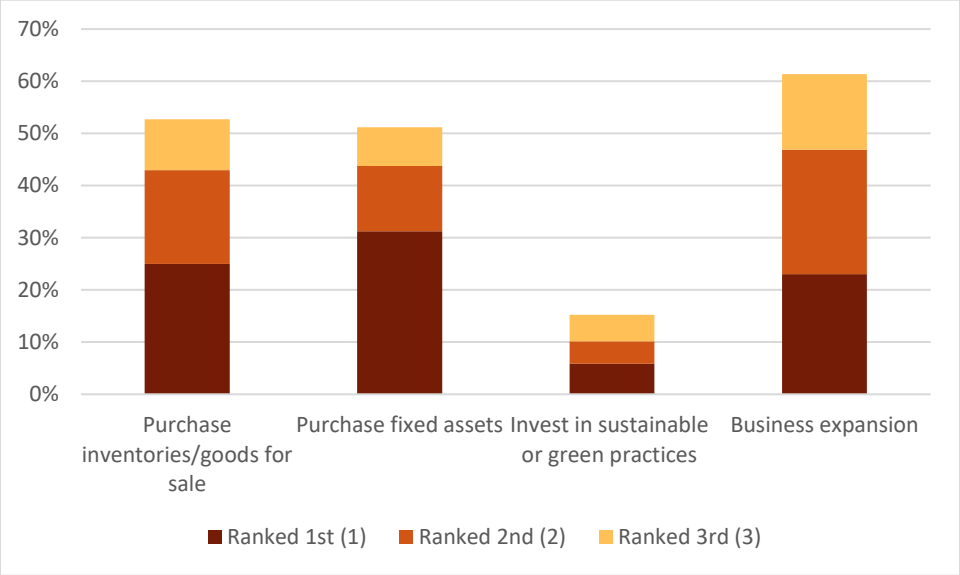
Source: A2F Survey (2024)

"The small scale, medium scale, large scale farmers and even the village aggregators do not have a clear understanding of the opportunities of sustainable finance or green finance in the banks, even when they are there."

Despite the low usage, there is clear need and interest for financing, including green finance, among the SMEs. SMEs have reported to seeking finance for core business functions—growth, asset acquisition, and working capital—but they might not recognize how these needs align with formal financial products. Most SMEs prioritize business expansion, working capital, and fixed asset purchases and, albeit lower than the rest, invest in sustainable practices. There is also broad interest in using green finance products (over 50%) and green investments for their businesses.

[36] Respondents were given definition of green finance before asking the question.

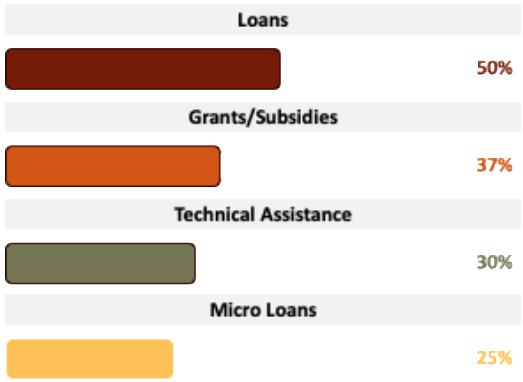
Figure 25: SMEs Need for Financing



Source: A2F Survey (2024)

Green finance could gain traction among SMEs if positioned as a business enabler rather than an environmental initiative. The SMEs recognize the potential tangible benefits of green finance[37] About 50% sees potential for improved business performance, 36% on cost savings, and 29% valuing environmental sustainability. About 55% percent of the SMEs mentioned they would be willing to adopt green finance if it offers lower interest rates and better financial incentives (54%), which would alleviate concerns about high borrowing costs and about 50% would adopt green finance if it provided easier access to finance. This suggests that adoption could hinge on making green finance financially attractive and operationally beneficial[38].

Figure 26: Type of Green Financing Demanded by SMEs



Large coffee exporters have already recognized the importance of sustainable farming practices due to rising export requirements and the need for long-term resilience. Larger companies (exporters) acknowledge the necessity of green finance, investments, especially as the demand for green finance has grown over the years due to increased regulations and export requirements from international markets. However, they have noted the concept of green finance is still new to many stakeholders, particularly small-scale coffee growers. Additionally, the high

[37] Green finance was defined to the respondents whether they were aware or unaware of it.
[38] Approximately 10% demanded equity finance, yet when cross checking data, it was found that these were mostly unregistered coffee producers. Therefore, the equity being mentioned could more be in the form of business partnership among small businesses or individuals, rather than equity from commercial entities.

capital costs of adopting eco-friendly practices, such as organic certification and energy-efficient processing, create further barriers for broader adoption. For instance, one large exporter highlighted that green finance is needed at all levels—production, community projects, and trade—but high-interest rates discourage borrowing**.**

A few of large exporters have benefited from international grants, development programs, and partnerships with global buyers that support sustainability efforts. These financial mechanisms have helped fund climate-smart agriculture, renewable energy solutions, and organic certification processes. Some have reported to seek external funding but encountered challenges related to bureaucratic processes, collateral requirements, and a lack of tailored financial products. For instance, the European Union's UGEFA program has provided funding to support sustainable coffee production, but accessing these funds remains difficult for smaller enterprises. Among other examples, one large exporter has reportedly successfully leveraged international grants to support farmers, aggregators, and middle traders in sustainability projects.

Box 10: Uganda Green Enterprise Finance Accelerator (UGEFA)

UGEFA is crucial in fostering sustainable economic growth by supporting green enterprises through tailored financial and capacity-building initiatives. UGEFA provides structured support to improve financial readiness, enhance investment opportunities, and facilitate green business growth.

UGANDA
GREEN ENTERPRISE
FINANCE ACCELERATOR

Key Areas of Support:

- **Capacity Building for Green Enterprises:** UGEFA strengthens SMEs through group and one-on-one coaching, helping them refine business models, improve financial planning, and become investment ready.
- **Green Finance Trainings:** UGEFA trains banks and financial institutions to navigate green, climate, and SME finance.
- **Catalytic Blended Finance:** UGEFA offers blended finance solutions that are tailored to the needs of green SMEs. This innovative financing mechanism is aimed at reducing barriers to green finance, making sustainable business investments more feasible.

Training of Trainers: UGEFA also strengthens the ecosystem of business development service providers and enterprise support organizations, ensuring they can effectively guide green businesses toward long-term sustainability and financial success.

In the fisheries value chain, green finance is still in the early stages of adoption, as most stakeholders lack the necessary knowledge and information to access and utilize it. Only the large-scale processors and main export players show demand for green financing, which is mostly driven by the requirements for compliance with international environmental standards. Given that the sector largely employs traditional methods, most value chain actors associate sustainable practices with increased water reuse, reduced wood usage for smoking fish and species catch

limits. As such, many actors are unaware of green finance products and their potential to acquire new advanced technologies and sustainable aquaculture equipment.

5.4 MARKET GAPS & OPPORTUNITIES

Knowledge gaps, perceived risks, and limited institutional hinder the expansion of green finance, particularly to SMEs. SMEs lack awareness and understanding of green finance products, affecting supply and demand. Additionally, SMEs often remain unaware of available green finance options and question the credibility of green solutions, especially in clean energy, due to concerns over product quality. These factors may contribute to limited management buy-in, and skepticism persist, particularly in evolving industries like green manufacturing and primary agriculture, leading some banks to hesitate in allocating resources. Complex reporting requirements further strain financial institutions, forcing system modifications that add to operational challenges.

It has been reported that the bank staff often struggle to identify, appraise, and monitor green projects, making it difficult to expand green finance. Several banks have reported offering green finance products for years but failed to classify or track it due to inadequate reporting mechanisms. A key challenge could have been the lack of standardized assessment frameworks and reporting mechanisms in the form of a National Green Finance Taxonomy, which prevents financial institutions from clearly differentiating green investments from conventional loans. Some institutions are now modifying their systems with support of ABi Trust to better capture and report green finance, yet challenges remain due to a lack of expertise and risk assessment tools. Financial institutions also struggle to secure affordable finance mechanisms, such as guarantees and training budgets, to support SMEs and other green-sector actors.

Box 11: Pride Microfinance's Green Financing

Pride Microfinance has been a key player in Uganda's microfinance sector. Price actively targets smallholder farmers, women, and youth-led businesses, ensuring that marginalized groups have access to financial services. Its products predominantly support agriculture, renewable energy, and general business sectors

Pride offers a range of loan products catering to MSMEs, including**:**

- Agricultural Loan – Designed for smallholder farmers and agribusinesses.
- Clean Energy Loan – Supports SMEs investing in renewable energy solutions and is specifically structured to promote green investments
- Business Loan – General business financing for small enterprises**.**

These products are structured as traditional loan offerings, allowing businesses to secure funds for working capital, expansion, and sustainability initiatives.

Key Features:

- No minimum loan amount: however, most of the smallest loans start at UGX 150,000 (USD 40.50). The maximum loan amount is UGX 1 billion (USD 270,000).
- 23% of the institution's total loan portfolio is allocated to agriculture financing.
- Pride provides specialized training on green finance and agribusiness financing, enhancing loan officers' capacity to assess and promote these products effectively.

Pride employs a structured Environmental and Social Assessment Tool that loan officers must complete when appraising loans classified as green. This tool helps evaluate potential environmental risks and ensures compliance with sustainability standards:

- Loans below UGX 30 million (USD 8,100) are classified as microloans and primarily rely on trust-based reporting from the field.
- Loans above UGX 30 million are classified as SME loans and undergo greater scrutiny, including Environmental Impact Assessment (EIA) and compliance with National Environmental Management Authority (NEMA) regulations is mandatory

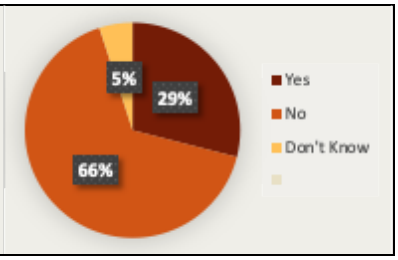
Regulatory challenges do not currently pose significant barriers to green finance. No law requires financial institutions to comply with environmental standards. Some banks have already established ESG strategies and sustainability managers to align operations with environmental, social, and governance (ESG) goals. While no major regulatory obstacles exist aside from the absence of a Green Financing Taxonomy, occasional policy misalignments, such as tax incentives that fail to fully support green finance initiatives, create inconsistencies. Despite these concerns, stakeholders do not view current regulations as a major barrier, though future compliance requirements may introduce new challenges.

One of the most common requirements to access finance is formal business registration. In addition to registration, certain banks specify a minimum number of years in operation, ensuring

Box 12: Low Business Formality in Uganda

that only businesses with some level of stability and track record qualify. Some institutions are flexible and only require the National Identification Card (ID) of the business owner, especially for smaller loan amounts. Larger loans, such as those exceeding UGX 50 million, often come with stricter financial requirements, including the need for audited financial statements or proof of financial viability. Collateral is also frequently required for higher loan amounts, though some financial institutions offer alternative forms of security, such as guarantees. In sector-specific loans, particularly for agribusinesses or sustainable enterprises, additional eligibility criteria may include compliance with environmental or industry-specific standards, ensuring that funds are directed toward businesses with growth potential and sustainability impact.

Among the businesses surveyed within the coffee and fisheries sectors, only 29% reported to be formally registered. This could have potential implication for MSMEs seeking formal financial products from the banks and non-bank FIs.



Box 13: FINCA UGANDA

FINCA Uganda Ltd offers a suite of products designed to support agricultural value chains, green investments, and small business expansion**.**

FINCA offers multiple loan products aimed at supporting MSMEs:

- Agriculture Loan – Designed for farmers and agribusinesses.
- Small Business Loan – Tailored to MSMEs across various sectors.

FINCA integrates sustainability features into its lending by embedding green components into its financial products. While not exclusively a green lender, it ensures that its loan products support environmentally friendly initiatives.

Key Features:

- Minimum loan amount of UGX 100,000 (USD 27), with a maximum loan amount of UGX 800 million (USD 216,000).
- Interest Rates: Varies between 18% and 33% annually; Fees: Varies between 0.5% and 3% depending on the loan amount.
- FINCA provides training focused on Environmental, Social, and Governance (ESG) principles, equipping loan officers to evaluate sustainability-linked investments**.**

FINCA has developed an internal ESG framework to assess the environmental and social impact of loan applications. This framework ensures that loan officers evaluate projects based on their sustainability credentials. Key elements of the appraisal process include:

- Screening for ESG compliance as part of the loan application process.
- Assessing environmental risks and sustainability benefits of funded projects.
- Integrating environmental and social considerations into credit decision-making.

5.5 POTENTIAL MARKET FOR GREEN FINANCE

Table 13: Summary of Potential Untapped Green Finance Market

Category	Total Count	Eligible for Green Finance	Estimated Loan Size (USD)	Market Size (USD)
Very Small Enterprises (VSEs)	1,500,000	112,500	550	61,938,000
SMEs & Large Enterprises	3,500	3,500	165,000	577,500,000
Total Market Potential				**639,438,000**
Current Market Supply				**136,100,000**
Market Supply Gap				**503,338,000**

The market sizing and supply gap analysis was conducted by segmenting the green finance market into two key categories: very small enterprises (VSEs), and SMEs & large Enterprises. The first segment includes farmers, traders, and small processors, while the second consists of exporters, large processors, aggregators, and cooperatives. The demand for green finance was estimated using survey data on firm interest and eligibility for loans, combined with industry insights on loan sizes and revenue assumptions. The supply side analysis was based on banking sector data, specifically total customer deposits and the proportion allocated to SME, agricultural, and green finance loans. This approach provided a comprehensive assessment of the market potential and the extent of the financing gap that needs to be addressed to support green initiatives across enterprise segments. The detailed calculations are included in Annex 1.

The estimated market size for the VSE segment is approximately 61.94 million USD. VSEs in Uganda represent a significant market for green finance, with an estimated total of 1.5 million firms, of which 88% are micro and 12% are small businesses. Based on survey data, 50% of these firms express interest in green finance, but only 15% meet the formal registration criteria for loan eligibility. This means that approximately 99,000 micro enterprises and 13,500 small enterprises are both interested and eligible for green finance. Assuming the enterprises can borrow up to 30% of their annual revenue, the market size for micro enterprises is approximately 21.68 million USD, while small enterprises represent a market of 40.26 million USD.

The estimated market size for the medium and large enterprise segment is approximately 577.5 million USD. Medium and large enterprises in Uganda, including exporters, grading plants, hullers, buying stores, and coffee cooperatives, demonstrate a strong demand for green finance, with nearly all surveyed firms expressing interest. These businesses are well-structured and formally registered, making them fully eligible for bank financing. The total number of such enterprises is estimated at 3,500. Loan demand varies across this segment, with firms engaging in

innovative green initiatives, such as setting up briquetting plants from coffee husks, requiring approximately 100,000 USD, while those investing in large-scale sustainable projects need an average of 750,000 USD. Based on industry interviews, it is assumed that 90% of firms would require financing for innovative green initiatives, while 10% would need funding for large-scale projects. This results in an estimated average loan size of 165,000 USD per enterprise.

The estimated supply gap is around 503.3 million USD. Despite the considerable demand for green finance, there remains a significant supply gap, as the current level of financing is far below the estimated market potential. While the estimated total market size for green finance in Uganda is approximately 639.4 million USD (combine for the two groups), financial institutions currently allocate only a small fraction of total portfolio toward green finance. Total customer deposits in the banking sector amount to 6.05 billion USD,[39] with approximately 15.5% (937.75 million USD) allocated to SME loans and 8.2% (496.1 million USD) allocated to agricultural loans and only 2.25% of total deposits, or approximately 136.1 million USD, are directed toward green finance. This results in a supply gap of 503.3 million USD, indicating untapped market potential that the current financial ecosystem may not be adequately targeting.

VSEs require green finance primarily for business expansion, asset acquisition, and the adoption of climate-smart agricultural practices. Farmers and small processors seek funding mainly for climate change adaptation measures. As rainfall becomes more irregular due to climate change, the top adaptation is for coffee farmers to acquire solar-powered drip irrigation systems. Following is the rejuvenation and replanting of aged coffee trees with drought and disease-resistant varieties and planting shade trees to protect crops against heat stress. Access to finance for organic fertilizers, and sustainable farming practices can help smallholder farmers adapt to changing climatic conditions and improve resilience. On the mitigation side, the top investments include renewable energy solutions such as solar powered coffee washing and drying, and water conservation technologies. Green loans tailored to these adaptation and mitigation needs can support the transition to environmentally sustainable business operations.

Table 14: Top Priorities for Adaptation and Mitigation Investments for VSEs

Priority	Investment	Indicative USD per hectare/ unit	Climate concern
Climate Change Adaptation Measures			
1	Solar-powered drip irrigation	3,000	Irregular rainfall/ drought
2	Replanting of coffee trees	4,000	Irregular rainfall/ drought and prevalence of climate-induced disease
3	Shade trees	80	Heat stress, soil erosion
Climate Change Mitigation Measures			
1	Renewable energy	5,000-20,000	Emissions reduction/ energy savings
2	Water conservation technologies	2,000-10,000	Water scarcity

[39] Uganda Deposit Protection Fund, 2019

SMEs and large enterprises have more specialized green finance requirements, often related to sustainability certifications, regulatory compliance, and investment in green technologies. For climate change adaptation, cooperatives primarily require funding to obtain certifications such as Rainforest Alliance or Fairtrade, which improve market access and ensure adherence to sustainable production standards. Large exporters working directly with farmers may need financing for high-tech traceability solutions, like GIS mapping or drone technology, allowing them to comply with international regulations like the EUDR. For instance, a supplier could map identify and map its suppliers (at a cost of say USD 100 per farmer)[40] and then the supplier could contract a digital service for ongoing monitoring of coffee farms (at a cost of 1,000 USD per month for up to 3,000 locations)[41]. On the climate change mitigation front, processors and aggregators mainly seek capital to invest in innovative green technologies, such as converting coffee husks into briquettes, reducing waste, and improving energy efficiency. These financing needs highlight the importance of developing tailored green financial products that address both the operational and sustainability goals of enterprises across the value chain.

Table 15: Top Priorities for Adaptation and Mitigation Investments for SMEs and Large Enterprises

Priority	Investment	Indicative USD per unit	Climate concern
Climate Change Adaptation Measures			
1	Certification (Rainforest Alliance, Fairtrade, etc.)	Varies depending on certification	Deforestation/ Sustainable land use
2	GIS mapping and traceability systems	100 per farmer; 1,000/month for up to 3,000 locations	Deforestation
Climate Change Mitigation Measures			
1	Green technologies (Converting coffee husks into briquettes)	3,500/machine	Waste management/ emission reduction/ energy savings

[40] A2F own estimate. The number of smallholder farmers in Uganda is approximately 1.5 million as detailed in the calculations in Annex 1, section C.1.

[41] E.g., https://farmonaut.com/remote-sensing/eudr-compliance-how-coffee-farms-can-meet-eu-deforestation-regulations-with-geolocation-data/

6 CONCLUSION & RECOMMENDATIONS

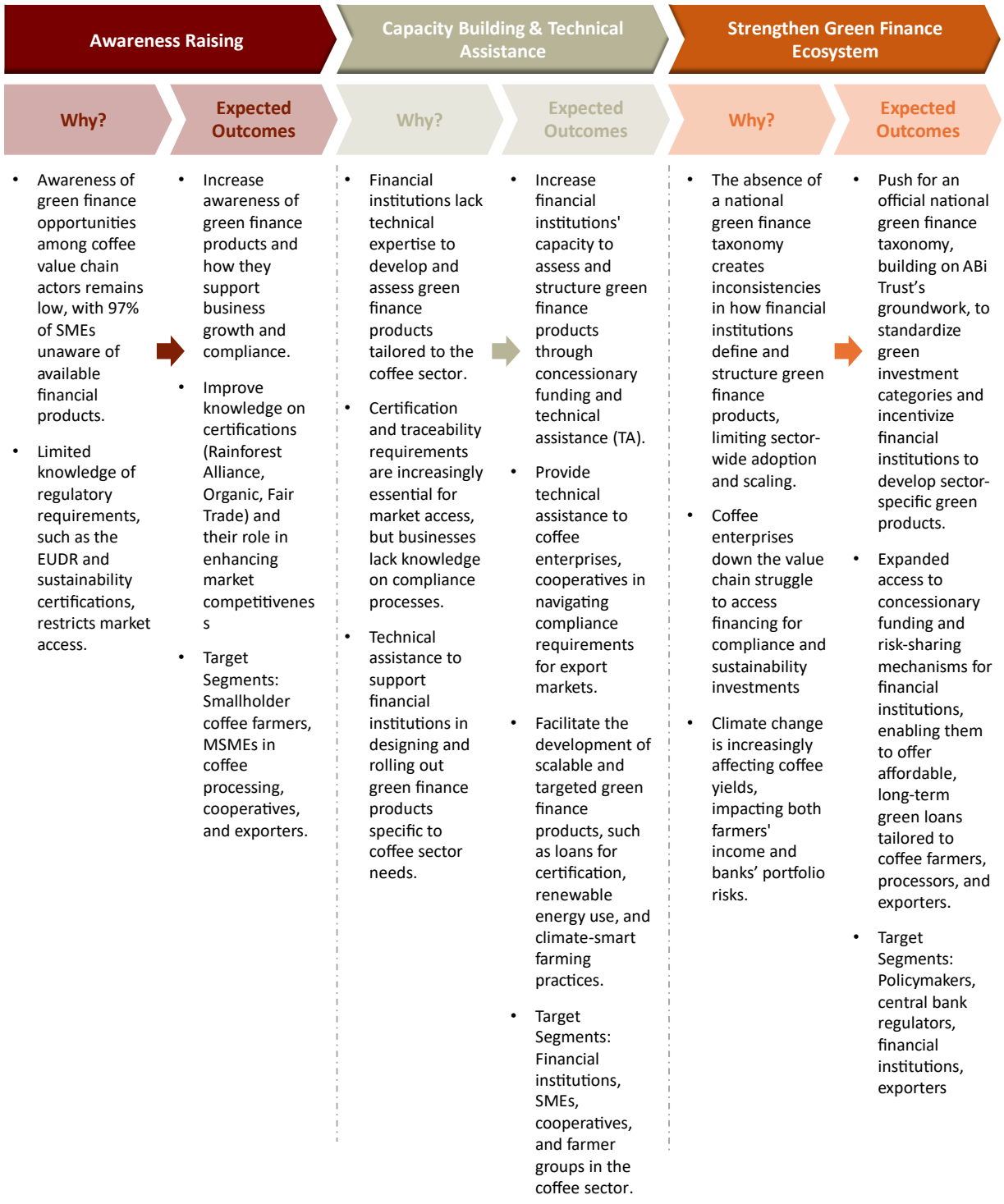
6.1 KEY TAKEAWAYS

Market Landscape	
	The coffee sector is critical for the country's economy, providing livelihoods to millions and contributing significantly to export revenues. The fisheries sector is particularly relevant in supporting livelihoods on the shores of Lake Victoria and smaller lakes.
	Smallholder farmers play a key role in coffee production but face limited bargaining power as intermediaries and exporters dictate the market terms, with a small number of exporters controlling the majority of the market
	Many farmers are part of cooperatives, which are active throughout the value chain, from production to exporting.
	Sustainability practices, including certifications and traceability systems, are increasingly being adopted, but uptake remains uneven due to limited awareness and financial constraints.
Green Finance Landscape	
	Evolving regulatory requirements—particularly the EUDR—are reshaping Uganda's export-oriented sectors, especially the coffee sector.
	While some large exporters are adopting traceability and sustainability certifications, smaller producers struggle with compliance, with only 21% aware of relevant regulations.
	Strengthening compliance mechanisms and supporting value chain actors in meeting these requirements can enhance Uganda's market positioning and competitiveness.
Regulatory Compliance	
	Green finance is gaining traction in Uganda, with financial institutions beginning to offer tailored products**.** However, its uptake remains relatively low**,** including among SMEs and smallholder farmers.
	Financial institutions often face challenges in identifying and assessing green projects, to a large extent due to the lack of a National Green Finance Taxonomy, and some have been engaged in green finance without categorizing it as such; broad buy-in among the management remains tentative due to perceived risks.
	Awareness of green finance remains low among micro and small businesses**,** with 97% of surveyed being unaware of available green financial products; however, medium and large businesses are aware of green finance, as reported in interviews.
	Despite these challenges, there is a clear market opportunity**.** Uganda's green finance market **is** estimated at 639.4 million USD**,** yet the financing currently available is significantly lower, creating a supply gap of over 500 million USD.

6.2 MAPPING THE WAY FORWARD

6.2.1 Recommendations

Figure 27: Focus Areas for Driving Progress



Awareness Raising

A top-down awareness raising strategy could be implemented. Under this strategy the market player who dictate terms, such as exporters, cooperatives, and export-oriented traders, are the primary entry points for disseminating knowledge on green finance and compliance to the broader value chain. These key actors already engage with farmers, processors, and SMEs, making them well-positioned to cascade information on sustainability requirements and financing opportunities. Structured training-of-trainers programs could be developed, equipping exporters and cooperatives with technical knowledge on green finance options, certification processes, and regulatory compliance so they can effectively pass this information to smallholder farmers and SMEs.

Awareness initiatives could also leverage trade associations, sector regulators, and financial institutions to ensure widespread reach. The Uganda Coffee Development Authority (UCDA) and financial institutions could play an active role in coordinating awareness campaigns, ensuring that exporters and cooperatives have access to up-to-date information on green finance opportunities and compliance requirements. This coordinated approach will help align incentives across the value chain, ensuring that sustainability and green finance adoption become key priorities at all levels.

Box 14: Nespresso's Farmer Academy in Ethiopia

Since 2013, Nespresso has had a coffee sourcing program that aims to empower farmers with sustainable agricultural practices via an academy, which trains farmers on yield-enhancing techniques and skills for the sustainability of their farming businesses. The techniques include mulching, pruning and plant rejuvenation practices, as well as managing pests with low-cost locally available materials in Ethiopia. Such techniques can increase yields from older crops without uprooting and replanting. The program has expanded to engage more than 37,000 farmers in Ethiopia, increasing the percentage of trained households that are implementing at least half of the identified best practices from 10 to 43% in 2018. The promotion of regenerative agricultural practices has resulted in a two- to three-fold increase in yields, generating approximately $4.3 million additional coffee income per year across 36,700 farmers. In 2020, incomes nearly tripled under high adoption compared to baseline in 2013. The program is now expanding beyond Ethiopia, being deployed in Kenya, Uganda, Zimbabwe and the Democratic Republic of Congo.

Source: Regenerative Agriculture Report: An Opportunity for Business and Society to Restore Degraded Land in Africa, Africa Regenerative Agriculture Study Group

Capacity Building & Technical Assistance

Financial institutions would benefit from technical assistance, i.e., capacity building, strategic advisory, and product development tailored to the two key segments: VSEs and SMEs & large businesses. This should focus on enhancing the technical capacity of financial institutions to design scalable, climate-smart financial products while integrating risk mitigation strategies and innovative digital solutions to expand outreach and reduce operational costs. Technical assistance, hands-on training, and sector-specific product co-design workshops could be implemented to support the development of impact-driven green finance products.

For VSEs, financial product development should focus on affordable, digitally enabled financing solutions that support business expansion, asset acquisition, and integration of sustainability measures. This includes working capital loans, financing for energy-efficient processing equipment, small-scale solar-powered irrigation, and organic farming initiatives. Given the challenges of serving smallholder farmers and micro-enterprises at scale, digital lending solutions should be explored, including mobile-based credit products, AI-driven credit scoring, and digital wallets for loan disbursement and repayments.

For SMEs and large enterprises, financial products should focus on funding larger-scale green investments and sustainability-linked infrastructure projects. This may include financing for high-end traceability solutions, GIS mapping technologies, climate-smart processing facilities, and supply chain transparency systems to comply with EUDR and international market requirements. Loan products should also be developed to support investments in renewable energy, agroforestry programs, circular economy initiatives (such as coffee waste-to-bioenergy solutions), and large-scale climate adaptation projects. Specialized training modules should cover integrating sustainability-linked performance indicators into loan contracts, allowing lenders to tie financing terms to measurable environmental outcomes. Additionally, financial institutions should be equipped with sector-specific green finance risk assessment tools to differentiate between truly sustainable investments and projects with limited environmental impact.

Strengthening Green Finance Ecosystem

There is a need to develop and operationalize a national green finance taxonomy to provide a clear and standardized classification of economic activities that qualify as environmentally sustainable. The taxonomy will serve as a foundational tool to guide financial institutions, investors, and enterprises in identifying, tracking, and reporting green investments. By defining what constitutes a "green" activity across key sectors—such as agriculture, energy, water, and waste—the taxonomy aims to eliminate ambiguity, align Uganda with international sustainability frameworks, and build market confidence in green financial products. This is particularly important in the current context, where the absence of a common reference point has led to fragmentation in green finance practices, limited access to concessional and climate-aligned capital, and slowed the growth of green financial instruments. The existing green finance taxonomy developed under the ABi Trust can be utilized as a starting point to fast-track this process.

A well-structured concessionary finance mechanism could be introduced to scale green finance adoption and reduce the perceived risks of lending to sustainability-focused investments. Such a strategy will outline clear short, medium, and long-term financing needs. This mechanism would leverage existing guarantee schemes where feasible, rather than creating new structures, to minimize complexity and maximize efficiency. A structured approach could include:

- **Providing Credit Lines for on-lending:** In the short term, a certain fund could be allocated to establish concessional lending windows for financial institutions, allowing them to provide low-interest loans to enterprises engaging in sustainability initiatives. In the medium to long term, this amount could help reduce the be expanded to finance up to a certain percentage of the estimated green finance gap in the sector. As an example, a 100

million USD credit facility could reduce the green finance gap by 20%. This could be structured through a World Bank-facilitated blended finance vehicle, where DFIs and institutional investors contribute mezzanine or senior debt. At the same time, the World Bank or Donors local financial institutions take a junior debt position to de-risk participation.

- **Utilization of Existing Credit Guarantee Schemes:** Existing guarantee schemes such as those provided by ABI, SIDA, AGF, DFC, or other financial intermediaries, could be leveraged to de-risk lending to smallholder farmers, cooperatives, and SMEs. The World Bank could act as an intermediary to align financial institutions with these guaranteed providers, ensuring efficient deployment of risk-sharing facilities.

Box 15: Funding Sustainable Agriculture

Sida
SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

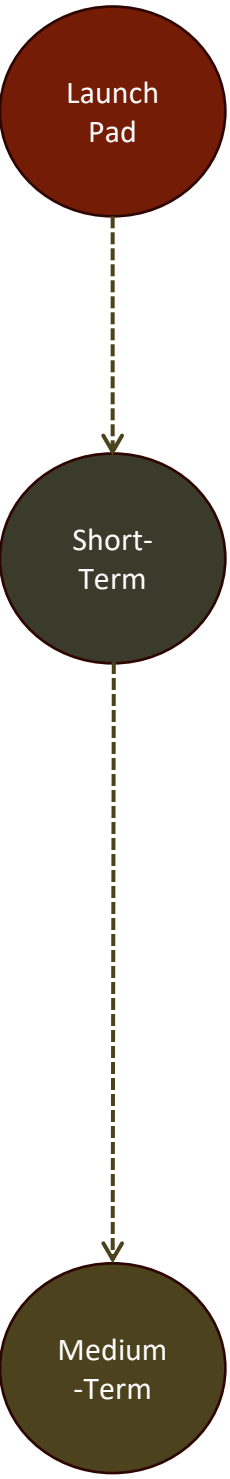
The Swedish International Development Cooperation Agency (Sida) aims to strengthen Rwanda's democracy and the environment. Sida has signed an innovative portfolio guarantee agreement in collaboration with I&M Bank Rwanda to strengthen MSMEs in Rwanda and ensure a financial safety net. This initiative encourages green MSMEs, builds the financial infrastructure for green financing and improves climate resistance. Moreover, in cooperation with the Rwandan Development Bank, Sida supports the establishment of green energy. Sida has mobilized over SEK 76 million to solar energy companies to support the country's transition to green energy and promote low-carbon development. The continuous support and collaborative efforts by Sida with financial institutions in Rwanda demonstrate an opportunity for increased commitment from organization to integrate climate action with economic development, increasing the availability of credit, strengthening institutional capacities and advancing green transition and climate resilience.

eco.business Fund

The eco.business Fund has made its first investment in Kenya through a 10 million USD loan to the Co-operative Bank of Kenya, a leading financier of agricultural cooperative societies. This strategic investment is designed to expand access to credit for agribusinesses adopting sustainable practices, particularly within key export sectors such as coffee, tea, and horticulture. The financing aims to support certified producers in implementing green technologies—such as solar and hydroelectric installations—that improve resource efficiency and environmental stewardship. In doing so, the fund advances its mission of conserving biodiversity, promoting sustainable resource use, and strengthening resilience to climate change.

Source: https://www.sida.se/en/sidas-international-work/countries-and-regions/rwanda; https://www.ecobusiness.fund/es/press/ecobusiness-fund-joins-forces-with-co-operative-bank-of-kenya-to-finance-sustainable-agriculture

6.2.2 Implementation Guide



Develop a Green Finance Public-Private Dialogue (PPD) Platform

A public-private dialogue (PPD) platform would be established to coordinate developing and implementing the three recommendations. This platform, which the World Bank Uganda Office could lead, would bring together policymakers, financial institutions, exporters, cooperatives, and regulatory bodies to coordinate and implement the policy recommendations around (1) awareness raising, (2) capacity building & technical assistance and (3) strengthening a green finance ecosystem. It should also serve as a mechanism to bridge the gap between financial institutions and the coffee and fisheries sectors, ensuring that green finance solutions are well-integrated into the value chain.

Establish the Green Finance Taxonomy

As a first short-term priority, the green finance taxonomy should be established. The taxonomy, which could be built on the existing ABi green finance taxonomy, is an important prerequisite for other measures. The Ministry of Finance, Planning and Economic Development (MoFPED) could lead in developing the taxonomy in close coordination with the Bank of Uganda, the Uganda Bankers Association, and relevant sector actors. Engagement with financial institutions, agri-exporters, and cooperatives will also be critical to ensure ownership and usability of the framework. The taxonomy should align with Uganda's climate and green growth policy frameworks and reflect international best practices such as the EU and ASEAN taxonomies.

Initiate Awareness Raising & Capacity Building

The platform would help initiate targeted awareness-raising and capacity-building efforts. These activities would focus on enhancing the understanding of green finance among value chain actors, especially financial institutions and agribusinesses in the coffee and fisheries sectors. The taxonomy will enable more structured messaging and targeted training materials around climate risk assessment, green investment screening, and sustainability-linked product design. The exporters, cooperatives, Uganda Bankers Association, working closely with MoFPED and development partners, can coordinate the rollout of training programs and awareness campaigns.

Establishment of a Blended Green Finance Vehicle

The platform should coordinate the establishment of a blended green finance vehicle. The green finance vehicle, in which the World Bank's proposed junior debt position can leverage DFIs and institutional investor funding, can bring green finance in Uganda to scale. The vehicle can also coordinate utilizing various credit guarantee schemes to de-risk investments. A special wing of the PPD platform, ideally led by the World Bank Uganda Office, would bring together financial institutions, policymakers, sector regulators, exporters, and cooperatives. The platform would provide strategic oversight, facilitate structured engagement across stakeholders, and ensure that green finance solutions are responsive to the needs of the sectors**.**

Potential value chain solutions for each key value actor and their possible financing solution

discussed below. Table 16 outlines specific, actionable examples of green investment solutions for each segment of the coffee and fisheries value chain. These illustrative green solutions align directly with the strategic roadmap presented in the Implementation Guide above, enhancing its practicality by explicitly matching sector-specific solutions with tailored financing mechanisms, such as concessional loans, blended finance, and credit guarantees. The table below serves to help stakeholders in both value chains, particularly MSMEs, to understand the green solutions they could finance. These green solution examples facilitate informed decision-making and accelerating sustainable investment adoption. This practical approach also offers a concrete reference point for PPD groups to discuss, refine, and expand green innovations collaboratively.

Table 16: Illustrative Green Solutions for the Coffee and Fisheries Value Chain

Value Chain Segment	Possible Practical Green Solutions	Possible Financing Solutions
Coffee Farmers & Fishermen	• Solar-powered drip irrigation systems • Tree planting/agroforestry programs • Rejuvenation and replanting of trees (these have higher yields and/or are more disease/drought resistant) • Replanting of coffee trees at higher altitudes to adjust to climate change • Organic and comport-based fertilizers (financed with concessional credit lines for SMEs) • Soil conservation techniques (e.g., terracing, mulching) • Rainwater harvesting • Electricity-powered boat engines • Pay-as-you-go solar energy systems	• Concessional loans with credit guarantee • Blended finance (junior debt by donors) • Concessional credit lines for SMEs • Concessional loans with partial guarantees • Pay-as-you-go
Traders & Aggregators	• Renewable-powered storage facilities (solar-powered warehouses, cold storage units) • Digital tools for traceability • Energy-efficient, renewable-powered processing equipment (e.g., solar dryers) • Small electric (EV) trucks	• Concessional credit lines and credit with guarantees • Asset financing under blended financing structure
Processors	• Waste-to-energy processing units (converting coffee husks into biofuel briquettes) • Water-efficient processing solutions • Eco-friendly packaging and logistics solutions • Renewable-powered machinery (e.g., solar roasters, fish dryers)	• Blended financing with concessional credit • Credit lines partial risk guarantee
Exporters	• Digital traceability systems (geo-mapping, blockchain solutions) • Carbon footprint tracking and offsetting • Sustainable transport partnerships (green freight or logistics)	• Structured blended finance (DFIs, institutional investors) • Donor-supported junior debt

ANNEX 1: MARKET SIZING CALCULATION

A. Defining the Market Scope

Two main market segments:

- Micro & Small Enterprises, comprising of farmers, traders, small processors
- Medium & Large Enterprises, comprising of exporters, large processors, aggregators and cooperatives

B. Data Utilized for Calculation

- Survey Data collect for this study
- Interviews with Banks and medium/medium large exporters
- Secondary information for extrapolation

C. Data Setup

C.1. Micro & Small Enterprises

- Total number: 1.5 million (Based on reported 1.6 million to 1.7 million people basing livelihoods on coffee sector)
- Breakdown: 88% micro (1,320,000), 12% small (180,000), this is based on the survey data
- Interest in green finance: approx. 50% (from survey)
- Formal registration (bank requirement): approx. 15% of SMEs are registered according to survey data
- Available loan sizes as per the financial institutions:
  - Avg. minimum: 27 USD
  - Avg. maximum: 1.35 million USD
- Mean annual revenue as per survey data:
  - Micro businesses - 730 USD
  - Small businesses - 9,940 USD
  - Assumption: Banks may provide loans as 30% of annual revenue

C.2. Medium & Large Enterprises

- Total number: 3,500 (derived from UCDA data on exporters, plants, hullers, medium size traders and Uganda Coffee Alliance data on coffee cooperatives)
- Interest in green finance: 100%, based on interviews
- Formal registration: 100%
- Loan size:
  - Avg. minimum: 27 USD
  - Avg. maximum: = 1.35 million USD
- From interviews, it was revealed that about 100,000 USD is needed for innovative green initiatives and an average of 750,000 USD is required for large-scale sustainable projects

D. Market Sizing Calculation

D.1. Very Small Enterprises (VSEs)

Micro Enterprises:

- Eligible firms = total firms x percentage shown interest x percentage registered = 1,320,000 × 50% × 15% = 99,000

- Loan size estimation (using revenue-based assumption) = mean revenue x 30% of annual revenue = 730 x 30% = 219 USD

- Market size = eligible firms x estimated loan size = 99,000 × 219 = 21,681,000 USD

Small Enterprises:

- Eligible firms = 180,000 × 50% × 15% = 13,500

- Loan size estimation (using revenue-based assumption) = 30% × 9,940 = 2,982 USD

- Market size = 13,500 × 2,982 = 40,257,000 USD

Total Market Size (Micro & Small Enterprises) = 21,681,000 USD + 40,257,000 USD = 61,938,000 USD

D.2. SMEs & Large Enterprises

Eligible firms = 3,500 × 100% × 100% = 3,500

Loan size estimation, assuming 90% will small scale green initiatives and 10% large scale sustainable projects = (90% × 100,000) + (10% × 750,000) = 90,000 + 75,000 = 165,000 USD

Market size = 3,500 × 165,000 = 577,500,000 USD

D.3. Total Market Size

Total Market Size = VSE Market + Medium & Large Enterprises Market

Total Market Size = 639,438,000 USD (639 million USD)

E. Green Finance Supply Gap Analysis

- **Total Customer Deposits (USD)**: 6,050,000,000 USD (June 2019, Uganda Deposit Protection Fund)
- **Total SME Loans (USD) (15.5% of total portfolio)**: 937,750,000 USD
- **Total Agricultural Loans (USD) (8.2% of total portfolio)**: 496,100,000 USD
- **Total Green Finance Loans (USD) (2.25% of total portfolio)**: 136,125,000 USD

ANNEX 2: SUMMARY OF KII INSIGHTS FROM KIIS

Table 17: Key Insights from Key Informative Interviews (KIIs)

Themes	Key Insights
Coffee Sector	• High vulnerability to climate change (e.g., droughts, erratic rainfall); low awareness of and access to green finance; sustainability initiatives include agroforestry, intercropping, organic farming, and solar-powered processing.
Fisheries Sector	• Focused on sustainable fishing, aquaculture, and ecosystem restoration; challenges include overfishing, pollution, and limited access to green finance and technical training.
Women's Participation in the Two Sectors	• Women face land ownership barriers, social norms limiting access to finance, and exclusion from decision-making roles. • However, women-led enterprises show high demand for tailored green finance and are increasingly involved through cooperatives and targeted training.
Cross-sectoral Bottlenecks and Challenges	• Limited awareness of green finance; high collateral requirements; fragmented value chains; lack of tailored financial products; and high costs of sustainability certifications. • Increased vulnerability to climate change, including heatwaves, floods, droughts, and shifting seasons. These impacts directly affect productivity, quality, and income stability for smallholders. • Widespread lack of modern, climate-resilient infrastructure (e.g., solar dryers, water harvesting systems, eco-pulpers), especially in rural areas. High upfront costs and lack of financing limit adoption of these technologies.
Regulatory Context	• Absence of comprehensive green finance regulations; weak enforcement of environmental standards; policies do not adequately support smallholder inclusion. • Failure to deliver on sustainability promises (greenwashing), environmental degradation, and non-compliance with international regulations expose organizations to reputational and financial risks.
Status of Regulatory Compliance	• Overall low compliance with international sustainability standards (e.g., EUDR); costly certifications limit market access; some actors have begun preparatory mapping and awareness-building. • Access to premium and specialty export markets is heavily tied to compliance with sustainability certifications. Many smallholders are excluded due to cost and capacity barriers.
Compliance Challenges in the Two Sectors	• Cost of certifications; lack of awareness; insufficient government support; limited institutional capacity among cooperatives and financial institutions; social barriers to women's participation. • Limited use of digital tools and weak data tracking systems hinder effective green finance delivery and compliance monitoring. Digital

	platforms for record-keeping, loan management, and farmer training are seen as opportunities.
Financial Sector Overview	• Banks and MFIs have begun integrating ESG strategies; green finance still embedded in existing products rather than stand-alone offerings. • Awareness and technical capacity for green finance among the financial sector is small but growing.
Green Finance Market Gaps	• Limited standalone green products; high interest rates; lack of tailored financing for agriculture and women-led enterprises; underdeveloped tracking systems; poor outreach in rural areas. • There is low financial literacy among target clients, which hinders effective loan utilization and repayment capacity for green finance. • Green finance eligibility criteria are unclear and inconsistent, there is no national green taxonomy, creating confusion about what qualifies as a green investment and limiting policy coherence.
Green Finance Market Opportunities	• High demand for climate-smart technologies (solar irrigation, eco-pulpers); potential in renewable energy, sustainable packaging, biogas, and certification financing; group-based and women-targeted lending models are promising. • Cooperatives and farmer associations are key enablers for scaling green finance, improving creditworthiness, and delivering training. Strengthening their governance and technical capacity is crucial.
Key Takeaways from the Two Sectors	• There is strong but unmet demand for green finance across both sectors; coordinated multi-stakeholder efforts are needed; simplifying loan processes, increasing awareness, and tailoring products can significantly improve green finance uptake and impact. • There is a critical need for ongoing training and capacity-building in sustainable practices, financial literacy, green technologies, and ESG compliance—targeting both value chain actors and financial institution staff.

ANNEX 3: NOTE ON LAND ISSUES

Land regulations and restrictions may pose an additional barrier to sustainable practices in the coffee sector, although the survey findings showcase that most are not facing restrictions on land use. Land restrictions limit smallholder farmers from adopting soil conservation measures or diversify crops which can improve long-term fertility and climate resilience[42]. According to the survey results, most respondents own land without a formal title, via customary or traditional rights and state not having any restrictions on how to use their land. These findings are not in accordance with land restrictions and regulations being a significant barrier, especially for smallholder farmers, in the coffee sector in Uganda.

Coffee farming is comprised of a mix of informal, customary land allocation practices and formal land tenure system where farmers have full ownership rights over land. Traditional land management is governed by local customs and may differ from region to region. As such, land rights are informally based on verbal agreements or longstanding traditions for which land is passed down from generations. A customary land tenure system known as Kibanja, allows tenants to cultivate land owned by a landlord, king or chief, referred to as the Mailo owner[43]. While Kibanja holders have rights, can pass their land to descendants and can be mortgaged, they lack formal ownership – having only intermediate ownership – which limits their access to credit and investment opportunities.

Women's access to land is extremely limited in Uganda because it is traditionally seen as a man's asset that is inherited and passed down by only males in the family[44]. Consequently, women are not involved in the coffee plant planning and input supply segment of the value chain as men are the ones who make decisions on what land to use and which inputs to engage. As discussed in interviews, land ownership enables men to access institutions and greater opportunities such as cooperatives which create links with the market and buyers. Meanwhile, women tend to have responsibilities over the household and childcare activities which further hampers their ability to own land and the economic opportunities that come along with it. These barriers are customary and strongly rooted in Uganda's traditional norms, despite some recent initiatives to increase women's access to land.

As women do not typically own land, they face limitations in accessing inputs, controlling production processes and making decisions on the revenues from coffee sales. In such manner, according to discussions with key stakeholders, women are seen as laborers in the value chains for their strong contribution in more tedious and time-consuming tasks such as land preparation, pesticide application, pruning and marketing. The business owners in the coffee value chain in Uganda are men since they have the power to make financial decisions and coffee production

[42] Café Africa (2022), Review & Analysis of policies, strategies, practices and institutions for strengthening coffee agroforestry in Uganda

[43] Republic of Uganda (2019), Resettlement Action Plan for Kabuyanda Irrigation Development and Climate Resilience Project, https://www.mwe.go.ug/sites/default/files/RAP%20Kabuyanda%20Uganda%20IDCRP%2014Feb2019_0.pdf

[44] Farm Africa (2024), Gender and the Coffee Value Chain in Kanungu Uganda

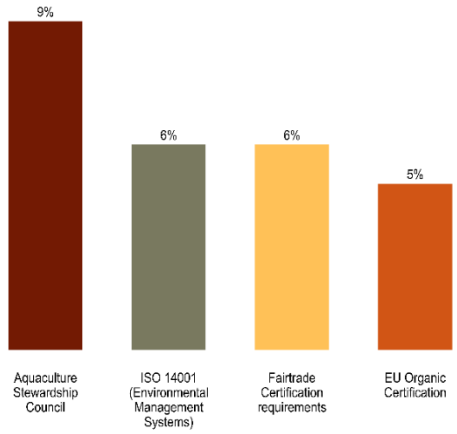
decisions, such as which processes to implement, ultimately giving men complete decisive control over the coffee plantations. In the fisheries sector, although women have crucial roles in local market trading, they are also seen as laborers while men are seen as businessowners.

"One of the issues that women have is lack of ownership of the coffee. They lose their ownership at the point of sale. They do a lot of farming work but once the coffee reaches the farm gate, they lose their ownership completely."

ANNEX 4: NOTE ON FISHERIES SECTOR REGULATION

The value chain actors starting of Ugandan Fisheries sector from the fishing to exporters are more aware of local and national regulations compared to the coffee value chain players. According to the survey, 39% of the fisheries value chain actors are aware of the Fisheries and Aquaculture Act 2022. The actors are also aware of the certification requirements for the fisheries sector. The survey found, the highest awareness being for the Aquaculture Stewardship Council (Figure 28), the lowest being the EU Organic Certification. One rationale behind such representation is that only a small percentage of Ugandan fish is exported, majority of the fish and fisheries products are consumed by the local consumer base. This is also in line with the study survey findings.

Figure 28: Certification Awareness of Fisheries Value Chain Actors



The high cost of compliance (Figure 29) is the leading factor for compliance challenges for the fisheries value chain actors. The cost of compliance which includes government issued certificates and bureaucracy bottlenecks prevent fish value from entering the export market. Fishermen and fish traders face numerous hurdles in obtaining government issued fishing licenses due to complex nature of the bureaucracy. As a separate license is required to catch different kinds of fish, to switch or obtain a second license one has to go through the same time consuming and costly process. The study found, there have been cases where the export licenses had been issued to traders with strong connection within the government entities. This adds to the cost of doing business and discourage players to enter into the export market.

Figure 29: Compliance Challenges of Fisheries Value Chain Actors