VALUE CHAIN STUDY IN JASS INTERVENTION ZONES IN MALI'S KOULIKORO, SÉGOU, SAN, AND KOUTIALA REGIONS

Assessment of Non-Timber Forest Products, Climate Change Innovations, Beauty and Aesthetics, and Innovations Linked to Dairy Products Value Chains

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Executive Summary

Over the past ten years, Mali has been marked by a progressive deterioration in terms of security. Unprecedented levels of violence have been reported in the central areas of the North, driven by grievances between ethno-linguistic groups and affiliated militias. Whilst radical extremists play an important role, the inter-communal grievances that factor in most conflict-related deaths and civilian casualties are predominantly rooted in longstanding individual and group experiences of marginalization. Deep-rooted sentiments of exclusion tend to centre around inequitable access to, and control over, key natural resources like land and water.

It is against this backdrop that the UK Government, in support of initiatives championed by the Governments of Mali and Niger, launched the Justice and Stability in the Sahel (JASS) programme (pilot phase Sep. 2021 – Mar. 2023; implementation Apr. 2023 – Mar. 2026), which aims to 'improve equitable and inclusive outcomes in relation to land, natural resource governance, and justice'. JASS is implemented by Mercy Corps, in partnership with the national NGOs *Association Malienne d'eveil au développement durable* (AMEDD) in Mali and *Cercle de réflexion et d'action pour le développement local innovant* (Cercle Dev) in Niger. The programme covers the regions of Koulikoro, Ségou, Koutiala, and San in Mali and Tahoua and Maradi in Niger.

This report examines the beauty and aesthetics, Non-Timber Forest Products (NTFPs), climate change innovations, and innovations linked to dairy products value chains in these regions in Mali, focusing on Market Systems Development (MSD) approaches that maximise opportunities for marginalised populations to gain a better footing in the labour market. The report also maps pertinent national and international youth-oriented education, job training, and entrepreneurship programmes as well as public, private, INGO, and civil society stakeholders. It provides market-driven insights into how JASS can contribute to strengthening existing projects while simultaneously developing new ones to improve economic empowerment for targeted communities in Mali's Koulikoro, Koutiala, San, and Ségou regions.

Key Findings

Beauty and Aesthetics Value Chain: The most important link in this chain is the provision of beauty and sewing services, business activities which employ more women and youth than men. This value chain, according to study results, has the potential to accommodate the needs of all target groups. Even though acquiring the needed skills is not time-intensive, there is some level of training that target groups need to undergo to have the basic knowledge to effectively participate in this value chain. In addition, one skill particularly stressed by study participants is financial literacy, and this applies to all value chains and all regions.

Non-Timber Forest Products (NTFPs) Value Chain: The study showed significant investment in this value chain across all regions. In comparison to the other value chains, investment here is considered more affordable. However, it is important to note that seasonality, exacerbated by the effects of climate change, impacts the availability of raw materials. Their supply is the second most important link in the chain, employing predominantly women who pick and collect forest inputs. The processing link is the first, comprising agri-food product processing units predominantly ran by women's cooperatives.

Climate Change Innovations Value Chain: Findings from the study revealed that the most profitable link in this chain, across all regions under study, is the supply of raw materials, followed by distribution, service

provision, and processing. Service provision entails electrical and electronic installation and maintenance, whilst processing includes the manufacture of climate-friendly animal fodder and improved stoves. It is also worth noting that skills requirements to successfully engage in this value chain are high, translating into longer training periods compared to those required by other value chains.

Innovations Linked to Dairy Products Value Chain: This value chain offers ample Market Systems Development (MSD) opportunities due to its popularity, and accommodation of all actors including people living with disabilities (PLWD). Collection, processing, and production (breeding) are the most important links, and employ more youth and internally displaced persons (IDPs). While skills requirements for this chain are considered low, requiring short timelines for training, the value chain remains underdeveloped.

Constraints and Challenges: Across the four value chains, the study identified poor coordination with state technical services and insufficient oversight in terms of government policies and safety regulations. Notwithstanding the representation of women and youth in the labour force of these value chains, for the most part they still exclude IDPs and PLWD. The main challenges that these value chains face to their development, besides social inclusion, are difficulties accessing finance and credit; dilapidated infrastructure; inflation of input costs; and few and inadequate training opportunities. All four value chains would benefit from coordination mechanisms and structures to facilitate actors' collaboration in gaining financing, securing needed authorisations, and improving management and organisation between value chain links.

Key Recommendations

Structural investments and targeted interventions can drive innovation, create jobs, and promote sustainable development across the dairy products, NTFPs, climate change innovations, and beauty market sectors. Training and mentorship should be tailored to marginalised groups while remaining accessible to all eligible community members to prevent perceptions of favouritism. These efforts should be supported by awareness-raising activities to enhance integration and social cohesion. Specific investment recommendations are outlined below by value chain, as these sectors' needs are similar across the four regions studied.

Beauty and Aesthetics Value Chain:

- There is an increasing demand for beauty products and services in both rural and semi-urban areas, highlighting the need for stakeholders to consider establishing dedicated training centres, courses, mentorship schemes, or internship placements. Investing in specialized training programs for beauty and aesthetics vocations will cultivate skilled professionals who can create sustainable employment opportunities within their communities.
- Stakeholders should consider implementing incubators and financial subsidies to support the development and expansion of innovative entrepreneurial initiatives in the beauty and aesthetics sector. This support could foster activities such as spinning, weaving, dyeing, and the production and promotion of traditional crafts like Bògòlanfini – a handmade Malian cotton fabric traditionally dyed with fermented mud.
- Create an exchange network and coalition-building opportunities among actors from various localities to encourage investment in modernization and research into new technologies, fostering innovation and collaboration across the sector.

Non-Timber Forest Products (NTFPs) Value Chain:

- Emphasize sustainable development by promoting responsible forest management practices to secure the long-term availability of NTFPs. Incorporating community awareness into intervention strategies is essential, as many species face the challenges of overexploitation and the adverse impacts of climate change.
- Supporting initiatives that promote local resources is crucial for boosting production and expanding market opportunities. Strategic investments in exhibition fairs, dedicated vendor areas at weekly markets, and targeted communication on the nutritional, therapeutic, and economic benefits of these resources will enhance the visibility and value of local forest products, fostering the development of high-value-added goods.
- In collaboration with state technical services, establish or encourage the certification of NTFPs, which would serve as guarantee of their origin and high quality. Simultaneously, invest in research, development, and manufacturing to professionalise these processes, including adoption of formal packaging standards.
- Supporting the formation of cooperatives and associations through savings and loan groups can enhance social cohesion, boost income generation within communities, and create significant opportunities for marginalised groups to achieve self-employment. Since cooperatives and associations are the primary actors in this value chain, empowering these groups is vital for sustainable growth and inclusivity in the sector.

Climate Change Innovations Value Chain:

- Invest in dedicated workshops equipped with tools and resources that support climate-focused projects. Establish spaces specifically designed to foster innovations in climate change mitigation and adaptation, as well as exhibitions to showcase initiatives and talents in this field. Such investments could contribute to the growth of diverse micro-, small-, and medium-sized enterprises, creating new job opportunities and enhancing labour absorption within communities.
- Waste management has become a critical national priority. Providing funding for initiatives and stakeholders in this sector directly supports efforts to reduce, reuse, and recycle waste, contributing to the fight against climate change and greenhouse gas emissions. However, it is essential to train, equip, and educate actors on the dangers of frequently toxic products, ensuring they have proper protective measures and protocols in place.
- This value chain presents an opportunity to challenge gender norms in a traditionally male-dominated sector. With no cultural or religious barriers preventing women's participation, efforts should be made to actively encourage and support women in entering and thriving within this value chain, particularly in renewable energy business activities.

Innovations Linked to Dairy Products Value Chain:

- Investment should focus on equipment for collecting and transporting dairy products that align with Mali's environmental conditions. For example, leak-proof collection containers that maintain milk at the proper temperature in high heat are essential. Additionally, stakeholders should be trained in using lactometers and other key tools. These improvements will enhance product quality, increase income for participants, and strengthen the sector's capacity to create employment opportunities.

- Support the use of modern dairy processing technologies to improve the efficiency and quality of dairy products. Additionally, invest in advanced conservation and storage methods to extend product shelf life and reduce waste.
- Empower cooperatives, associations, and individual producers in the dairy sector to develop innovative marketing and distribution strategies that boost their market visibility and competitiveness.

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Introduction

Equitable access to land and justice by marginalised groups such as youth, women, internally displaced persons (IDPs), and people living with disabilities (PLWD) has historically been limited by factors related to social norms, beliefs, and the environment, in the Sahel and beyond. In this region, however, the same context has been marked by multidimensional crises since 2012.

The aggravating factors of these crises are mostly linked to problems of justice, security, social inequalities, management of natural resources, and economic prospects for young people and women, amongst other often under-represented groups. Conflicts have become recurrent across both Mali and Niger, underpinned by inter-related, complex causal processes, with extreme poverty levels characterizing both rural and urban or peri-urban communities. Unemployment among young people, women, and IDPs has increasingly worsened, with a virtual absence of opportunities. Also, the qualifications of young people and women do not correspond with the demands of the job market, which is also insufficiently oriented towards scale-up of inclusive value chains.

Against this backdrop, Mercy Corps is implementing the FCDO-funded Justice and Stability in the Sahel (JASS) programme in Mali and Niger, focusing on building the resilience of communities facing climate and conflict shocks. As part of the project's Market Systems Development (MSD) component, JASS conducted two studies of labour markets in its intervention sites in Mali and Niger to better understand and support promising value chains promoting youth and women's employment, amongst marginalised population subgroups like PLWD, IDPs, and others. This study is a follow-up of the labour market assessment conducted in the first phase of the programme; it is an in-depth assessment of viable employment and investment opportunities across four market chains identified in that earlier study.

This assessment aimed to better understand and support these promising value chains to promote inclusive employment and to examine the constraints and obstacles to doing so, to propose potential measures to mitigate those challenges. The study assesses four value chains including Non-Timber Forest Products (NTFPs); beauty and aesthetics, innovations linked to climate change, and innovations linked to dairy products. Furthermore, the study identifies and elaborates on key actors and opportunities in terms of environmental factors, standards, and infrastructure, as well as the prerequisites of supply and demand. This in-depth assessment was conducted in the regions of Koutiala, Koulikoro, San, and Ségou in Mali.

Value Chain Study Methodology

Mercy Corps commissioned CITRACO SARL to conduct a study on the value chains of Non-Timber Forest Products (NTFPs), innovations linked to climate change, beauty and aesthetics, and innovations linked to dairy products in the regions of Koulikoro, Ségou, San, and Koutiala in Mali. For this value chain assessment, qualitative research was adopted: Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), and in-depth interviews (IDIs), with data collection conducted from April through May 2024.

To uphold the integrity of the research process, a 4-phase approach was implemented: (1) scoping meeting/desk review, (2) data collection and analysis, (3) supplementary data collection and triangulation, and (4) report writing and presentation.

Scoping Meeting and Desk Review

This phase of the study included the inception meeting to introduce further the research methodology to the project teams, the proposed timeline for the research, and some of the data collection. The team also conducted a literature review of existing research documents on the value chains and job markets in Mali, particularly in the study's four regions. This literature review served as the secondary data that formed part of the results and key highlights for this study. Most importantly, the desk review aimed to identify the different key links in the value chains and key actors who would become study participants and key informants, contributing to the refinement of data collection tools and field data collection.

Data Collection

This phase of the study used a semi-structured tool for gathering information and relied on simple random sampling methodologies. For these interviews, both Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) were conducted. The FGDs targeted beneficiaries within the project sites, who are women, youth, people living with disabilities (PLWD), and internally displaced persons (IDPs). However, the KIIs were conducted with value chain actors in the different links to obtain first-hand information on their function and on other local and state government actors, who provided information on pertinent policies, regulations, and standard procedures across the value chains.

Furthermore, the mapping of value chains was conducted using the Emergency Market Mapping and Analysis (EMMA)[1] method. This mapping method places market stakeholders at the centre, supported and surrounded by the environment/standards, the system, and the infrastructure. According to the EMMA method, a market system is surrounded by factors, standards, policies, and an environment that can be favourable or unfavourable to its growth. Market actors that are found in primary, secondary, and tertiary sectors interact with one another, all driven by end-consumers. Support services such as suppliers and financial systems are made viable by an environment favourable to development.

Key Informant Interviews (KIIs): To garner insight into the environment and functioning of the value chains, we administered survey questionnaires to owners, leaders, and managers of Micro-, Small-, and Medium-sized Enterprises (MSMEs) operating in the value chains. Among other specific data collected from

[1] Emergency Market Mapping and Analysis Toolkit.pdf

them are financial transaction flows; strengths, weaknesses, opportunities, and threats (SWOT); and capacity-building needs. These data were triangulated with data obtained from government officials (technical and political); NGOs; private enterprises (financial institutions and vocational training centres); and area experts. Additionally, we collected data concerning specific challenges in terms of employment across the value chains.

***Table** 1: Key Informant Interview (KII) participant list by region and value chain*

Regions	MSMEs	Actors and Experts	Beauty and Aesthetics	NTFPs	Climate Change Innovations	Dairy Products Innovations
Koulikoro	9	9	4	7	4	3
Koutiala	34	11	16	34	19	16
San	17	9	9	19	9	8
Segou	16	7	8	15	8	6
Total	**76**	**36**	**37**	**75**	**40**	**33**

Focus Group Discussions (FGDs): To specifically inform programmatic decisions around improving the inclusion of marginalised groups, FGDs were conducted with target groups, including youth, women, IDPs, and PLWD. The data collected refined understanding of the specific challenges these individuals face in accessing employment and entrepreneurship in the value chains. Addressing their specific needs for training, mentorship, as well as investment proposals can help their inclusion in the value chains.

***Table** 2: Focus Group Discussion (FGD) participant list by region*

Regions	FGDs (8 people per group)
Koulikoro	6
Koutiala	34
San	17
Segou	16
Total	**73**

Supplementary Data Collection and Triangulation

Supplementary data collection was necessary to address the limitations of the dataset to properly inform the study questions. This data collection adopted a purposive sampling methodology. Thus, it focused on actors who are professionals in the value chains under examination. This data was triangulated with the already existing data and helped to solidify the recommendations and investment proposals for project decision-making. The table below provides further information on the additional interviews conducted with actors in the value chains across the four study locations.

***Table** 3: In-Depth Interview (IDI) participant list by region and value chain*

Value Chain	Koutiala	Ségou	San	Grand Total
Beauty and Aesthetics	4	4	2	11
Climate Change Innovations	4	4	2	11
Dairy Products Innovations	8	7	2	19
Non-Timber Forest Products (NTFPs)	4	3		9
Total	**20**	**18**	**6**	**50**

Data Analysis, Reporting, and Presentation

Once all data was compiled, they were extracted into an Excel file and classified per category for analysis. Also, the handwritten notes from all enumerators were digitized and included in the consultants' desk research data. Based on a thorough review of these materials in combination with additional desk research, CITRACO triangulated the findings to arrive at the results and conclusions of the study.

The study focuses on the main links in the value chains, those employed in them, the potential for economic growth, and the specific challenges for youth, women, IDPs, and PLWDs to join this workforce. The study also maps the existing training and support programs and institutions related to the value chains; provides SWOT analyses of the value chains; outlines the training and support needs for target groups' entrepreneurship; and includes investment proposals based on the findings and recommendations.

Study Limitations

This study offers recommendations for JASS concerning the function and potential for scaling up the identified four value chains, including designs for sustainable financial investment. As already noted, however, the available data does not adequately address all the aspects of the value chains holistically. For instance, we still lack specific data on the number and percentage of youth, women, IDPs, and PLWD in the different communes and regions under study. Moreover, we do not have overall or specific economic data for the communes, or employment created in the communes across economic sectors, as these figures are simply unavailable. Despite these limitations, the study does inform JASS and its partners about the specific needs of the target populations as they pertain to the market sectors and the four value chains under examination. Thus, the report is limited to the findings that increase awareness of these subjects.

Overview of the Value Chains

Non-Timber Forest Products (NTFPs), also referred to as non-wood forest products, are generally non-agronomically cultivated products such as African locust bean (also called 'néré'), baobab, zaban, balanitis, tamarind, fish from rivers and ponds, leaves of forest trees, etc. The fruits or leaves of these 'products' are picked and processed into foodstuffs for sale.

Beauty and Aesthetics is the name given to the value chain comprising services and products related to beauty, such as tailors' shops, cosmetics shops, women's beauty salons, hairdressers' shops, and any other related activities contributing to those services.

Innovations Linked to Dairy Products value chain refers to all activities related to the production, processing, and distribution of milk, including livestock breeding, production, and distribution of inputs or supplies for those activities.

Climate Change Innovations is the name given to the value chains of activities related to renewable energy systems such as devices powered by solar panels; products from recycled waste and mud; and any utilities manufactured from them (like improved stoves).

Value Chain Analysis

In a value chain, different actors play distinct roles that contribute to the creation and delivery of a product or service. Key actors include:

1. **Suppliers**: Provide raw materials or components needed for production
2. **Manufacturers**: Transform inputs into finished goods through various processes
3. **Distributors**: Manage the logistics of getting products to retailers or customers
4. **Retailers**: Sell products directly to consumers, often through physical stores or online platforms

The study was able to disaggregate these actors across different links of the value chains while providing substantial information regarding their roles and functions. In each of the links, each actor adds value at different stages and impacts the quality of goods/services and customer satisfaction throughout the chain.

Actors in the Beauty and Aesthetics Value Chain

The beauty and aesthetics value chain is full of job-creation opportunities in the target regions of the study. The value chain takes into account trades linked to sewing, beauty salons[2], hairdressing, and related activities. These represent several points of market entry for often marginalised groups. The table below shows the links involved in the beauty and aesthetics value chain. It is made up of 3 links with at least 18 activities, presented as follows:

***Table** 4: Mapping of links, actors, and activities in the beauty and aesthetics value chain*

Link	Link Description	Type of Actors	Activities of Actors
Supplier	Supply of raw materials	Cosmetics stores	Sale of beauty products
		Haberdasheries	Sale of cutting and sewing materials or tools
		Fabric and cloth sellers, ('bazin', etc.)	Sale or provision of fabric and cloth
Manufacturers Distributors	Artisanal processing	Processing units	Spinning and cotton weaving
Retailers	Provision of beauty and aesthetic services	Beauty salons	Hairdressing, manicure, pedicure, tattoo, Henna, scrubs, etc.
		Men's hair salons	Hairdressing and barbershop services
		Sewing and modern embroidery workshops	Sewing, embroidery, laundry and dry cleaning, and threshing
		Knitting and hand embroidery workshops	Hand embroidery and knitting

Furthermore, analysis from the study revealed that the 'provision of beauty services' drives the whole chain through beauty salons; men's hair salons; sewing and modern embroidery workshops; and knitting and hand embroidery workshops – with study participants both in FGDs and KIIs affirming this claim.

[2] '**Beauty salons**', also referred to as '**beauty parlours**' are establishments that provide cosmetic treatments for people, especially women, such as hairdressing, manicures, pedicures, facial treatments, wedding dress rental, etc.

Actors in the Non-Timber Forest Products (NTFPs) Value Chain

In the regions of Koulikoro, Koutiala, San, and Ségou, Non-Timber Forest Products (NTFPs) include harvested products such as shea, néré, tamarind, balanitis, zaban, monkey bread, etc., and aquaculture products such as fish. These sectors represent enormous potential for agri-food processing and facilitate women's and youth's inclusion across the value chain links. Furthermore, each of the products in this value chain is processed into multiple sub-products, offering further income-generating opportunities for these and other population subgroups. Additionally, the high availability of raw materials in this sector promotes equitable distribution of resources between individuals in the same locality. However, given the effects of climate change; financial pressures on women particularly; and insufficient processing infrastructure, raw materials are often directly sold. The table below presents the links, actors, and main activities in this value chain.

***Table** 5: Mapping of links, actors, and activities in the Non-Timber Forest Products (NTFPs) value chain*

Link	Link Description	Type of Actors	Activities of Actors
Suppliers	Production/Supply of raw materials	Women's groups for collecting local products	Picking local products (shea, néré, tamarind, balanites, zaban, fish, etc.) Collection, sorting, and resale of local products
		Individual producers of local products	Storage and resale of local products
		Honey producers	Bee breeding for honey production
		Pharmacopoeia	Collection of tree leaves for traditional medicine purposes Sale of tree leaves for traditional medicine purposes
		Plant producers	Horticulture
		Fairgrounds/buyers	Collection of local products and resale in urban areas (néré, shea nuts, etc.)
Manufacturers	Processing of local products	Local product processing groups	Product processing Storage and preservation of products
		Cooperatives promoting local products	Processing of products (shea butter, zaban juice, balanitis juice, tamarind syrup, soumbala, smoked fish, etc.) Storage and preservation of products
Distributors Retailers	Distribution of products	Food stores	Sale of locally processed edible products
		Shops selling local products	Sale of locally processed products (natural edible and non-edible products)
		Mobile distributors of local products	Delivery of processed products to food stores, restaurants, supermarkets, etc.

In the NTFPs value chain, the study found that 11 activities were organized under 3 value chain links: the production or supply of raw materials; processing of local products; and distribution of products. From the various FGDs, 68% of participants considered the 'processing of local products' link as the most important, and 29% believe that the 'production or supply of raw materials' is most important as these products can be sold directly at markets and generate quick revenue to actors like women's cooperatives who are responsible for collecting local products; honey producers' groups; pharmacopeia actors; plant producers; and fairgrounds/buyers. Only 3% of respondents reported the 'distribution of products' as the most important link in the chain, which involves food stores, shops selling local products, and mobile distributors of local products.

Study respondents suggest that self-employed women comprise the majority of labourers across all links of this value chain. Similarly, respondents suggested that PLWD can be integrated into many links of this value chain, including the distribution of processed products through sales in shops and food stores, as well as in the product processing groups. However, inclusion in the job market associated with this value chain depends on the recommendations of community leaders, and this mostly favours people who are long-term community members (and thus not recent migrants or IDPs).

Actors in the Climate Change Innovations Value Chain

Several activities constituting viable business prospects were initiated by young people involved in the climate change innovations value chain in the regions of Koulikoro, Koutiala, San, and Ségou. There are two main categories of activities in this value chain.

The first centres around waste, particularly its recovery and recycling to promote technologies adapted to climate change. These activities mainly involve the making of improved stoves, the production of nutritional blocks for livestock feed, and the production of other useful objects from solid waste (organic or plastic). The actors in this sector are Economic Interest Groups (*Groupes d'intérêt économique*, GIEs) and women's cooperatives that mainly focus on waste collection through monthly payment contracts with households and agencies.

The second category of activities in this value chain comprises those related to renewable energy sources, predominantly solar panels. Young people are active in this sector, engaged in the provision of installation services; maintenance of electrical and electronic systems and equipment; as well as the repair of electric components like light bulbs, batteries, solar panels, and inverters.

***Table** 6: Mapping of links, actors, and activities in the value chain of innovations linked to climate change*

Link	Link Description	Type of Actors	Activities of Actors
Suppliers	Collectors and suppliers of raw materials	GIEs, associations, and cooperatives for the collection of organic and plastic waste	Collection and sorting of organic and plastic waste Transport and supply of waste processing units
		Hardware stores	Supply of electrical insolation equipment
		Electronics stores	Supply of electronic equipment (decoders, TVs, cables, video cameras, etc.)
Manufacturers	Processing	Waste transformation and recycling units	Production of nutritional blocks Production of organic fertilizer
		Manufacturers of improved stoves	Making improved stoves Manufacture of improved coal from organic waste
Distributors	Service providers	Electrical and electronics workshops	Installation and maintenance of electrical installations based on solar panels and batteries Installation, maintenance of satellite dishes Upkeep and maintenance of TVs and radios Recovery and repair of light bulbs, converters, solar panels, etc.

Retailers	Distributors	Fertilizer distributors	Sale of fertilizer to market gardeners Sale of fertilizer to farmers
		Livestock feed distributors	Sale of livestock feed to breeders

Actors engaged in this value chain are numerous and strongly connected, indicating a high level of cooperation. In terms of growth, the most attractive link in this chain is the 'service providers' link; it requires qualifications in electrical work or equipment maintenance. However, individuals can be trained and obtain a professional certification from the Chamber of Trades[3].

Actors in the Innovations Linked to Dairy Products Value Chain

Livestock breeding is a key economic activity in rural and peri-urban areas in Mali. Especially in the Sahelian regions of Ségou and Koulikoro, and in regions with a Sudano-Sahelian climate like Koutiala and San, dairy cows are increasingly being raised for marketable milk production. This activity is of particular interest to young people and IDPs. As a value chain, it involves several types of actors and promotes a number of economic activities with the potential to improve the living conditions of various population subgroups.

Veterinarians and suppliers of animal inputs like livestock feed and veterinary products are among the actors involved in this value chain. The livestock feed sub-sector is an important link in this value chain and includes agricultural producers of diverse fodder crops like cowpeas, peanuts, voandzou[4], and bracharia[5], considering the rising popularity of ruminant breeding. Notably, this activity involves more young people. This same chain comprises resellers of inputs such as concentrates, cakes, and other improved inputs for dairy cows.

Breeders are at the centre of this value chain. They obtain their supplies from input suppliers and are in turn responsible for supplying milk to collectors. Milk collectors also provide transport, which must be done under the appropriate conditions, to collection centres (processing units) and to women milk sellers around the major roads. However, the dominant activity in this chain is milk production, focused on breeders. Animal husbandry does not require any professional qualifications and demands less financial investment than other activities in this value chain. Although there are regulations on processing provided under Law No. 06-40/AN-RM of 16 August 2006 (Agricultural Orientation Law), the fact remains that the value chain of dairy products is still less constraining on the regulatory level in comparison to the three other chains assessed in this study.

***Table** 7: Mapping of links, actors, and activities in the value chain of innovations linked to dairy products*

Link	Link Description	Type of Actors	Activities of Actors
Suppliers	Input suppliers	Livestock feed distributors	Sale of livestock feed
		Veterinary pharmacies and cabinets	Sale of veterinary products Treatment and insemination of cows

[3] **The Permanent Assembly of Chambers of Trades (APCM, *Assemblée permanente des chambres de métiers***), defends the interests of artisans who practice craft trades such as sewing, hairdressing, carpentry, electricity, mechanics, etc. It is represented at regional and communal levels as Chamber of Trades**.** It is different from the Chamber of Industry and Commerce which focuses on industries and merchants.

[4] **Voandzou** from its scientific name '***Vigna subterranean***', also known as **Bambara groundnut**, **Bambara nut**, **Bambara bean**, **Congo goober, earth pea**, **ground-bean**, or **hog-peanut**, is a member of the family cultivated for animal feeding. It is reproduced through seeds (Heller, 1997).

[5] **Bracharia, also known as 'bread grass', 'bracharia brizanthan'** or **'Brachiaria plantaginea'**, is an annual plant, herbaceous, tillered, upright, and 50–80 cm in height cultivated for its leaves used as animal feed. Reproduction occurs through seeds (Lorenzi, 2000).

		Fodder producers	Production of fodder plants (cowpea, voandzou, bracaria, peanuts, etc.)
Manufacturers	Production	Breeders	Raising cows for dairy production Regular supply of milk to collectors and units
Distributors	Milk collection	Milk collectors Milk collection centres	Collection of milk from producers to supply processing units
Retailers	Distribution or sale	Milk collectors	Collection of milk from producers for supply to sellers and milk units
		Dairy product distributors	Sale of fresh milk, curdled milk, etc. Distribution of processed milk (fresh milk, yogurt, etc.) to food stores, restaurants, supermarkets, etc.

Value Chain Analysis

Financial Analysis

Transaction flows represent the monetary value of raw materials and purchasing operations carried out by actors as part of their activities and the turnover they make. Above all, the evaluation of these transactions allows us to understand the extent to which different links contribute to the local economy in the target areas. The figures given in the transaction flows are the average monthly values in the first quarter of 2024.

The demand for raw materials is very high across all value chains under study; according to the same estimates, it is capped at a maximum of 60%. For instance, the study of the beauty and aesthetics value chain revealed a great demand for raw materials like cosmetics and products used in the treatment of nails, eyebrows, and hair.

'I have invested around XOF 700,000 to establish this salon in 2019. During the first two months, I had difficulties. But later, six months into the business, I recovered all my investments. Now I have three employees in addition to myself.'

Women's salon A in Mpessoba, Koutiala region

'Per month, based on the demand, we can invest XOF 150,000 in raw materials and XOF 135,000 in employees that we pay daily. At present, I can make a turnover of around XOF 450,000 per month on average.'

Women's salon B in Mpessoba, Koutiala region

Tailors' shops likewise present high demand for raw materials or inputs, like fabric and haberdashery products. Study participants engaged in this sector estimated that such demand is being met at about 85%. These service providers, beauty salons, and tailor shops are then obliged to travel to urban centres to get needed materials to maintain quality services, which impacts supply and client satisfaction.

In the NTFPs (Non-Timber Forest Products) value chain, we found that shea butter producers' needs for raw materials are capped at about 70%. With this, they meet about 60% of the demand of actors engaged in the transformation of shea butter into cosmetics and soaps. In the same chain, the processors of balanitis and zaban into syrup are constantly in shortage of raw materials, estimating that their demand is met at 60%, in consideration of suppliers' demand for their products. The latter supply food stores with finished products like syrups and juices.

'Our cooperative has 35 members, only women, and was founded in 2017. We process shea nuts into butter, tamarin, zaban, and balanitis into syrups and juices, and dry mango. We supply to food stores and restaurants. […] We can invest up to XOF 450,000 per month in goods and services and gain at least XOF 850,000 in sales.'

Women's cooperative in Bla, Ségou region

Similarly, in the climate change innovations value chain, service providers estimated that their demand for raw materials like wires was met at 70% due to the scarcity of hardware stores. In terms of raw materials, since demand for them outstrips supply, service providers find those available locally to be very expensive. As in the other value chains, securing these raw materials entails travel to cities like Ségou, Koutiala, San, or Koulikoro.

In the innovations linked to dairy products value chain, milk processors evaluate their need for milk as being met at 40%. They relate the low supply to insufficient production per cow (because their feeding requirements are poorly met), the cost of livestock feed, the old age of some of the cows, and the limited number of cows per breeder. As a result, milk processors are only able to supply about 60% of the demand of food stores and restaurants for yogurts, curds, and other dairy products for which consumer demand is continuously rising.

Financial Analysis of Beauty and Aesthetics Value Chain

Purchase of Goods and Services in the Beauty and Aesthetics Value Chain

Monthly, the total average value of transactions related to the purchases of raw materials or other services by actors in the beauty and aesthetics value chain represents XOF 44,308,000. The 'beauty and aesthetics services providers' link accounts for XOF 33,858,000 of that transaction value, followed by the supply of raw materials (XOF 7,106,000), and artisanal processing (XOF 3,344,000) links.

Graph 1: Value of purchase of goods and services in the beauty and aesthetics value chain in XOF

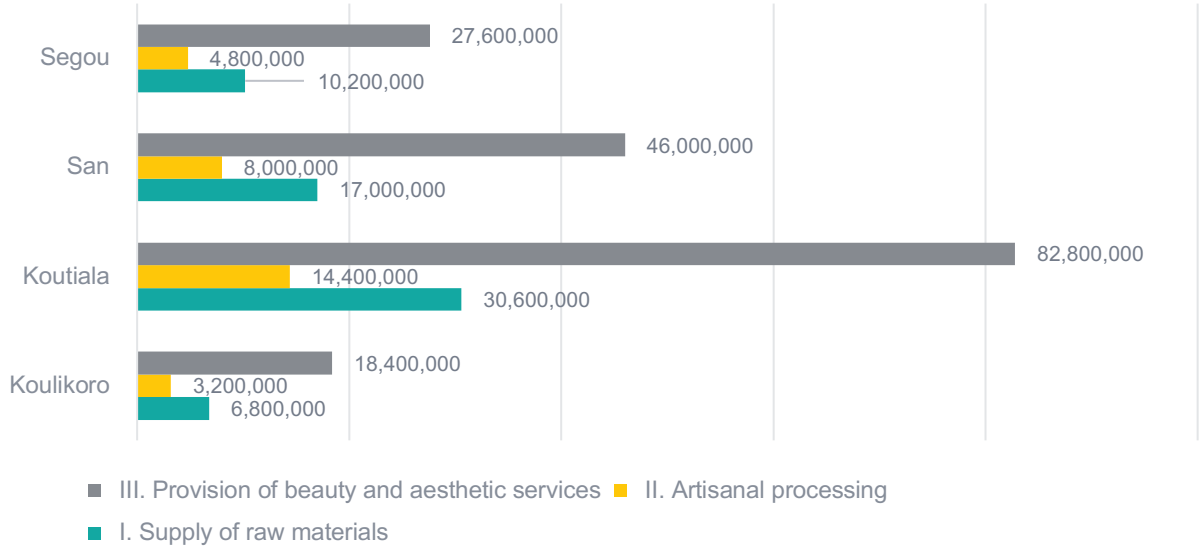
On average, a tailor's shop or a beauty salon spends XOF 200,000 monthly for goods and services (inputs). As the graph above shows, the beauty and aesthetics market sector in Koutiala – across all its links – purchases the most goods and services when compared to the beauty and aesthetics market sectors in Ségou, San, and Koulikoro.

In terms of these four regions, the beauty and aesthetics market sector in San (across all its links) is second in terms of expenditure on goods and services, followed by that in Ségou, then Koulikoro. The purchase of goods and services can also be viewed as these sectors' contribution to each region's overall economic market, sustaining the suppliers of these inputs.

Income Generation in the Beauty and Aesthetics Value Chain

According to data provided by study participants engaged in the beauty and aesthetics value chain and market experts, the total average income generated by these businesses is estimated at XOF 269,800,000 per month. Analysis of the same data shows clearly that the service provision link in this chain is considered to be the most profitable, with a turnover of XOF 174,800,000. The next profitable is the supply of raw materials, generating an average of XOF 7,106,000 monthly, followed by artisanal processing, estimated to generate XOF 3,344,000 per month. In terms of regional differences, incomes generated by this sector across Ségou, San, Koutiala, and Koulikoro map onto the values of goods and services purchased by them – the more they spend, the more they make.

Graph 2: Income generated by actors in the beauty and aesthetics value chain in XOF



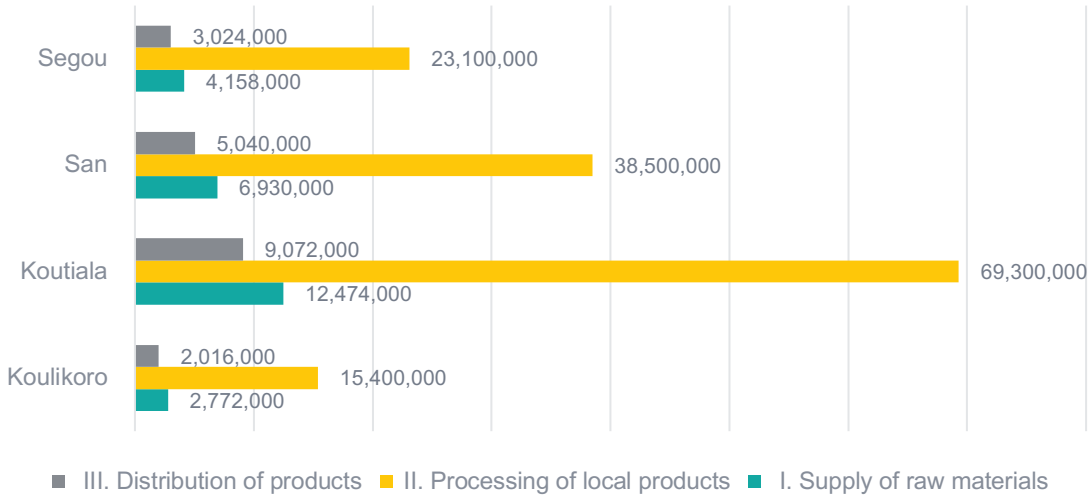
Financial Analysis of Non-Timber and Forest Products (NTFPs) Value Chain

Purchase of Goods and Services in the NTFPs Value Chain

In the NTFPs value chain, the cumulative total of the purchase of goods and services is estimated at XOF 191,786,000, on average, monthly. Notably, the processing link in this value chain accounts for XOF

146,300,000 of that total. Purchased goods in this value chain are mostly raw materials and packaging. Amongst the most procured services are support services like transportation, storage, loading and unloading, and daily casual labour for processing activities. Just like with the beauty and aesthetics value chain, the NTFPs value chain in Koutiala spends the most on goods and services across all links, in comparison to that in San, Ségou, and Koulikoro, respectively.

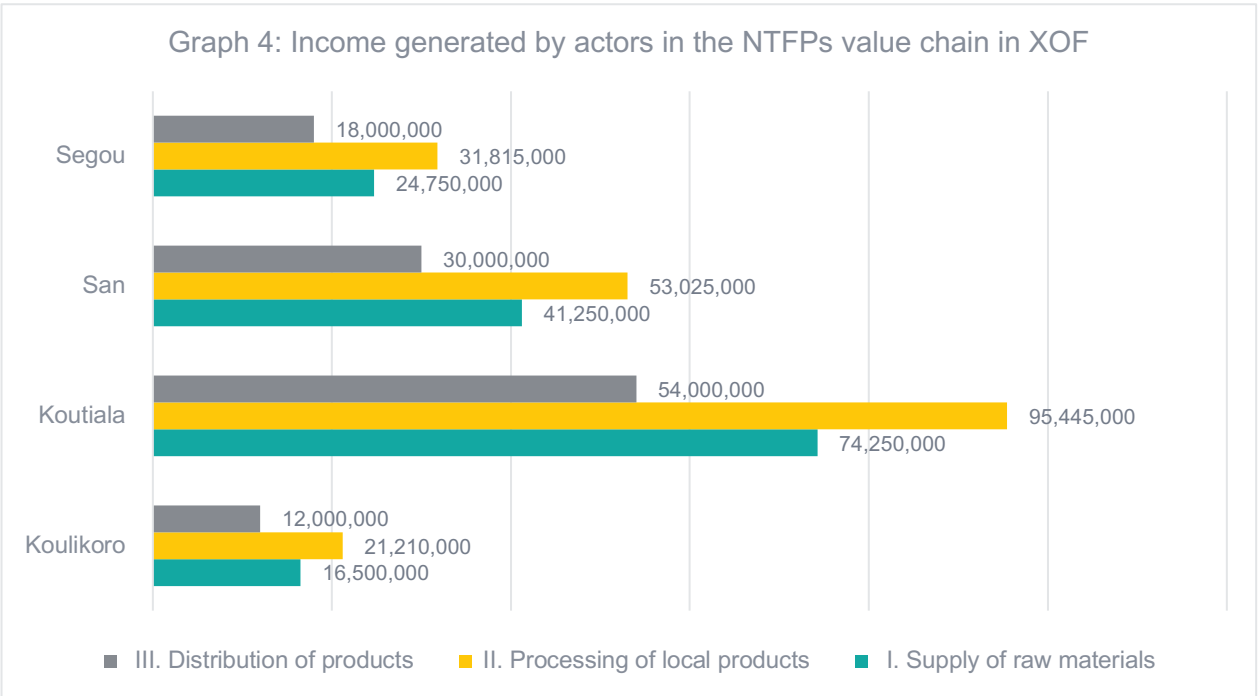
Graph 3: Value of purchase of goods and services in the NTFPs value chain in XOF



Income Generation in the NTFPs Value Chain

The processing link of the NTFPs value chain was found to generate the most income, according to data provided by actors in this value chain. The total income generated by this link is estimated at a monthly average of XOF 201,495,000, followed by the supply of raw materials link (XOF 156,750,000). However, this differs across the four regions of interest, as presented in the graph below. At the same time, regionally, the trends in income generated through NTFPs value chains mirror those identified in the beauty and aesthetics value chain.

Graph 4: Income generated by actors in the NTFPs value chain in XOF



The assessment of the transaction flow through a random profit and loss analysis confirmed that profitability is high in the processing link in this value chain. For instance, on average, a unit in the processing link can make a profit of XOF 208,000 monthly, while a distributor can make XOF 132,045, and a supplier of raw materials can generate a revenue of XOF 180,000.

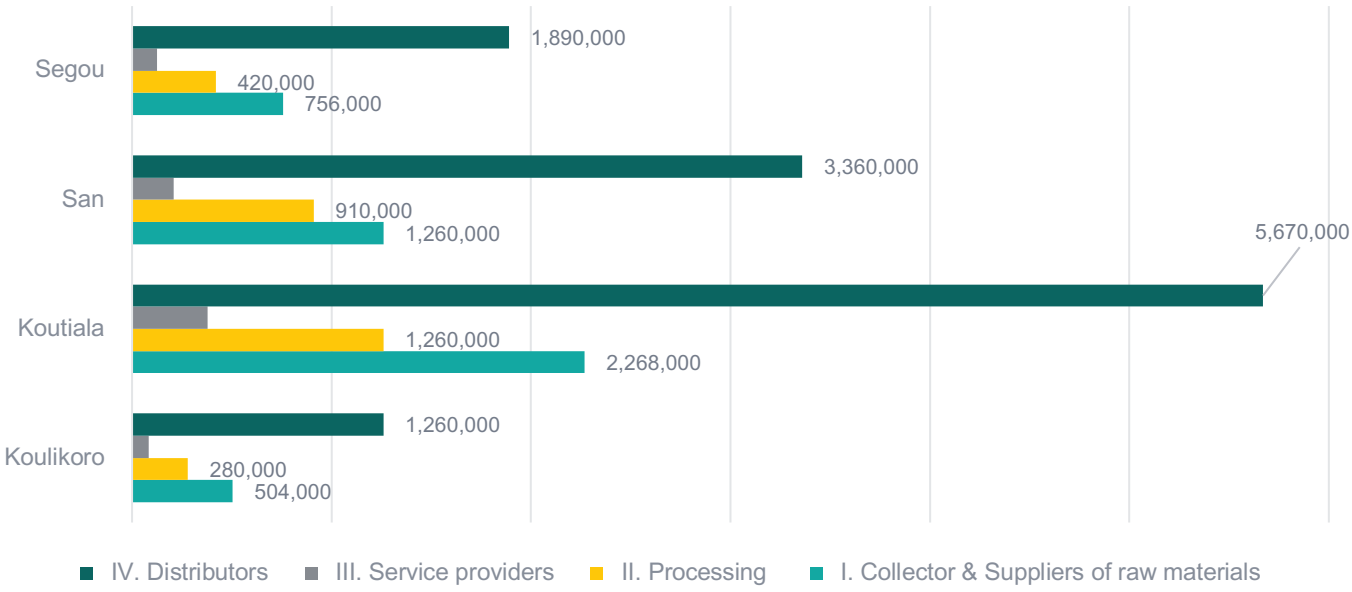
Notably, the NTFPs value chain attracts more women than the others; women are the dominant actors in the first two links of the chain, supply of raw materials and processing. Distribution, on the other hand, is dominated by youth. This value chain is likewise receptive to the involvement of IDPs and PLWD. The main obstacle to accessing this value chain as an employee is the substantial financial investment that NTFPs-related businesses require, which is prohibitive for most. To confront this challenge, many have engaged in the NTFPs value chain as cooperatives and associations, which are the predominant actors in it.

Climate Change Innovations Value Chain

Purchase of Goods and Services in the Climate Change Innovations Value Chain

The volume of transactions in terms of the purchase of goods and services across the links of the climate change innovations value chain is lower than that of the NTFPs value chain. However, this sector presents significant potential for youth, women, and IDPs, as each link offers a certain point of attraction for at least one of these population subgroups. Furthermore, climate change innovations value chain actors invest an average of XOF 20,636,000 per month. The costliest flow of transactions in this value chain is associated with the distribution link (XOF 12,180,000), followed by the collectors and suppliers of raw materials link (XOF 4,788,000), and the processing link (XOF 2,870,000). Regional differences, presented in the graph below, are characterized by the same trends identified above. Likewise, in each region, the most is spent on distribution, then supply of raw materials, followed by processing and distribution, respectively.

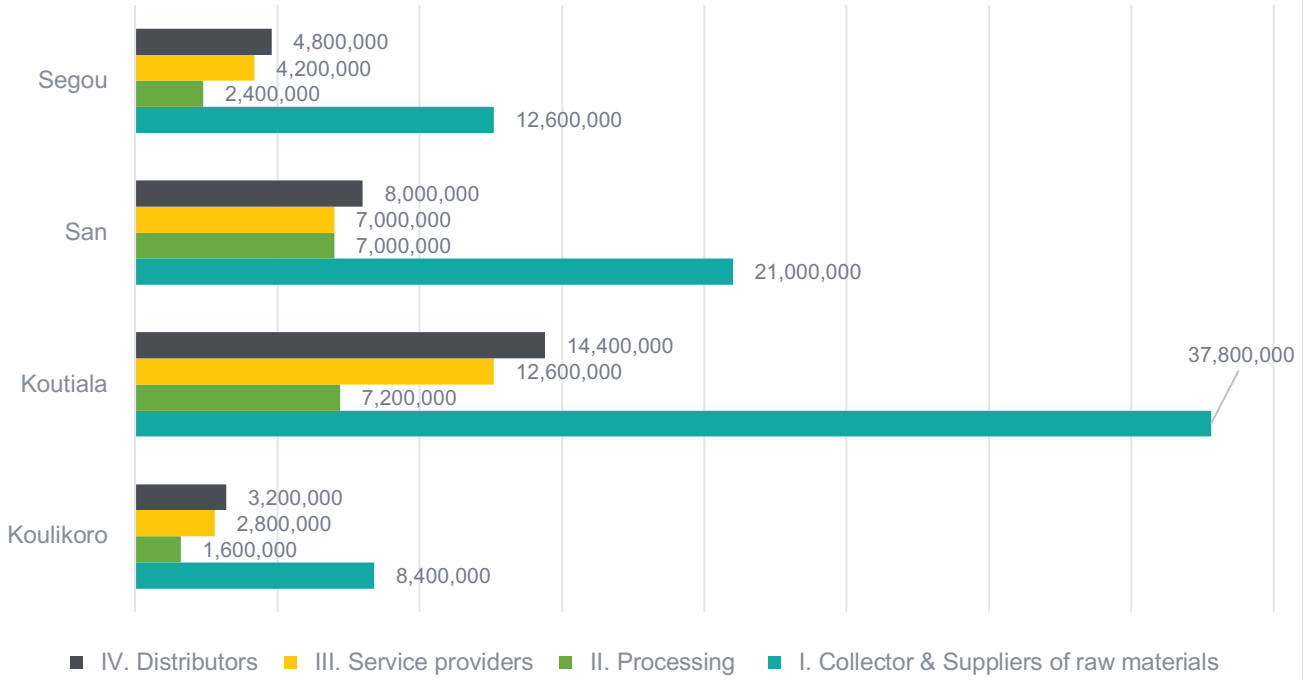
Graph 5: Value of purchase of goods and services in the climate change innovations value chain in XOF



Income Generation in the Climate Change Innovations Value Chain

One of the motivations for actors in this value chain is the income they generate while supporting the environment. However, some climate change-related innovations are extremely expensive, like solar panels; yet these products remain popular. The most profitable link in this chain, across all regions under study, is the supply of raw materials, followed by distribution, service provision, and processing, respectively. These trends characterise income generated through the climate change innovations value chain in Koutiala, Ségou, and Koulikoro. In San, however, the service provision and processing links are equally profitable.

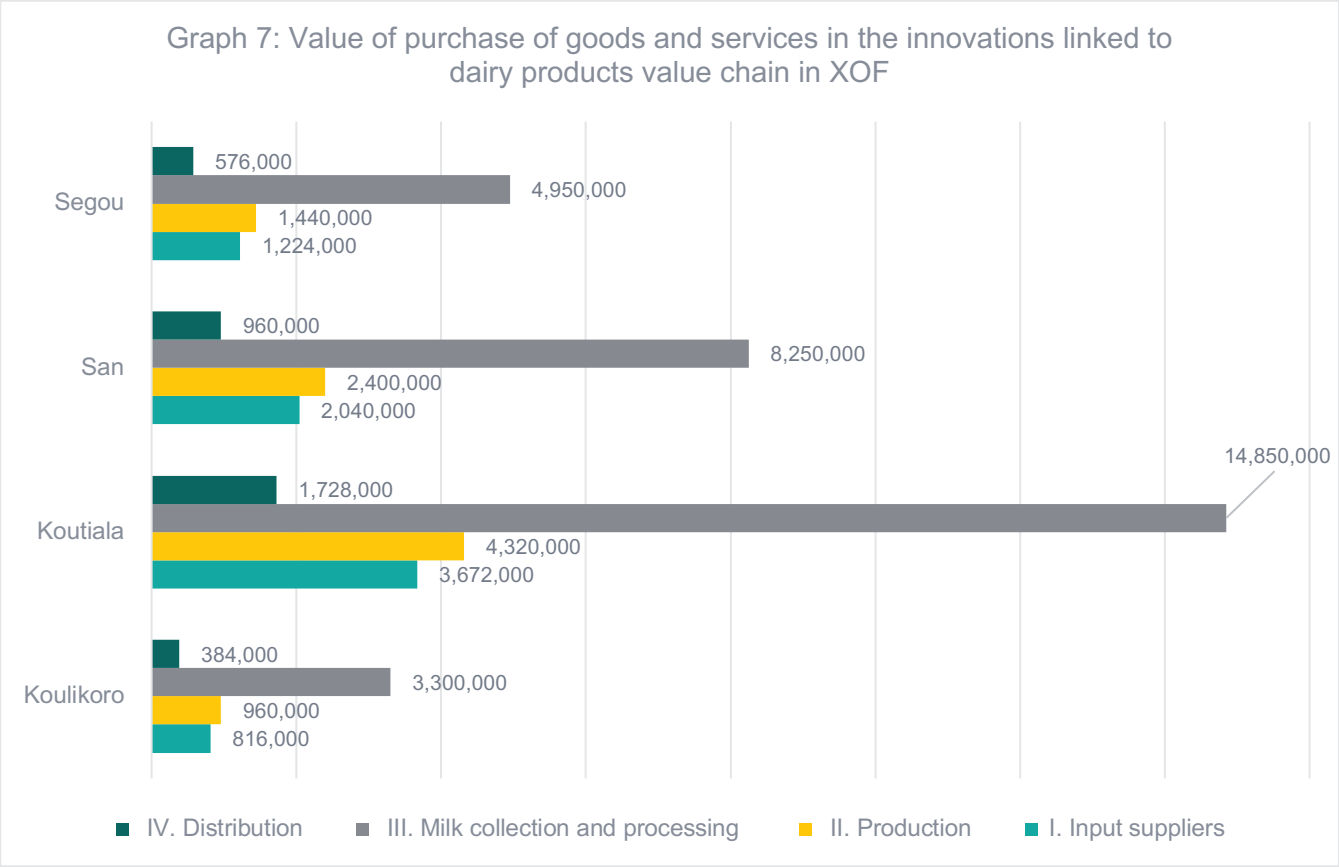
Graph 6: Income generated by actors in the climate change innovations value chain in XOF



Innovations Linked to Dairy Products Value Chain

Purchase of Goods and Services in the Innovations Linked to Dairy Products Value Chain

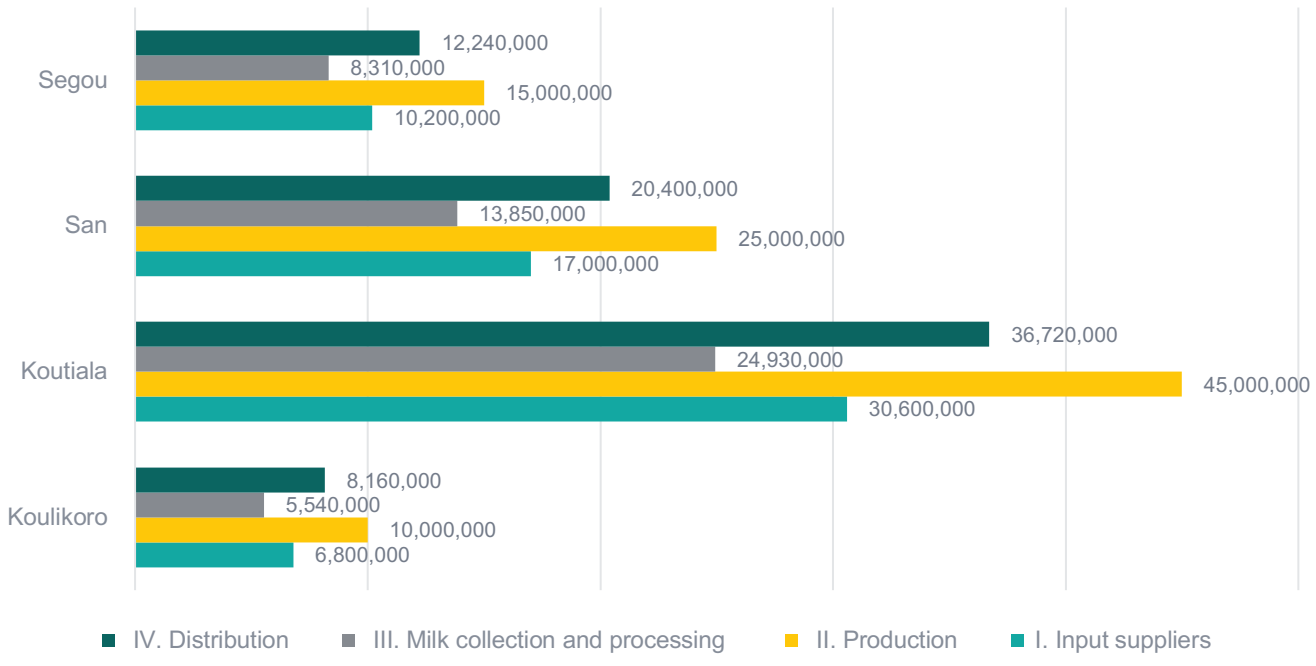
According to data from interviews and focus groups conducted with actors engaged in the dairy products innovations value chain, the average monthly purchase of goods and services across all regions is estimated at XOF 23,712,000 for all links of the value chains**.** The milk collection and processing link accounts for XOF 31,350,000 of that, while transport cost remains the main support service expense for this value chain. Regional trends in terms of purchases of goods and services by actors in dairy products innovations value chains mirror those of the other three value chains, with actors in Koutiala spending the most, followed by those in San, then Ségou, and lastly, Koulikoro. In each region, the highest expenditure is associated with the milk processing link, followed by production, inputs, and lastly distribution.



Income Generation in the Innovations Linked to Dairy Products Value Chain

In terms of average monthly income generated by activities in the different links of the innovations linked to dairy products value chain, each link holds potential. The most profitable link, across all four regions, is production (XOF 95,000,000 on average monthly), followed by the distribution link (XOF 94,050,000), then input (XOF 64,600,000), and lastly milk processing (XOF 36,100,000). Milk processing generates the least income in terms of value chain links, whilst requiring the most expenditure, on average monthly, across the four regions. Production is the most profitable and requires the second highest expenditure, in the same vein. The second most profitable link in this value chain across all four regions is distribution, which requires the least in terms of purchase of goods and services. General trends in terms of overall purchase of goods and services and generated income, across the four regions, are the same across the four value chains. This consistency indicates that the overall market is largest in Koutiala, followed by San, Ségou, and Koulikoro.

Graph 8: Income generated by actors in the innovations linked to dairy products value chain in XOF

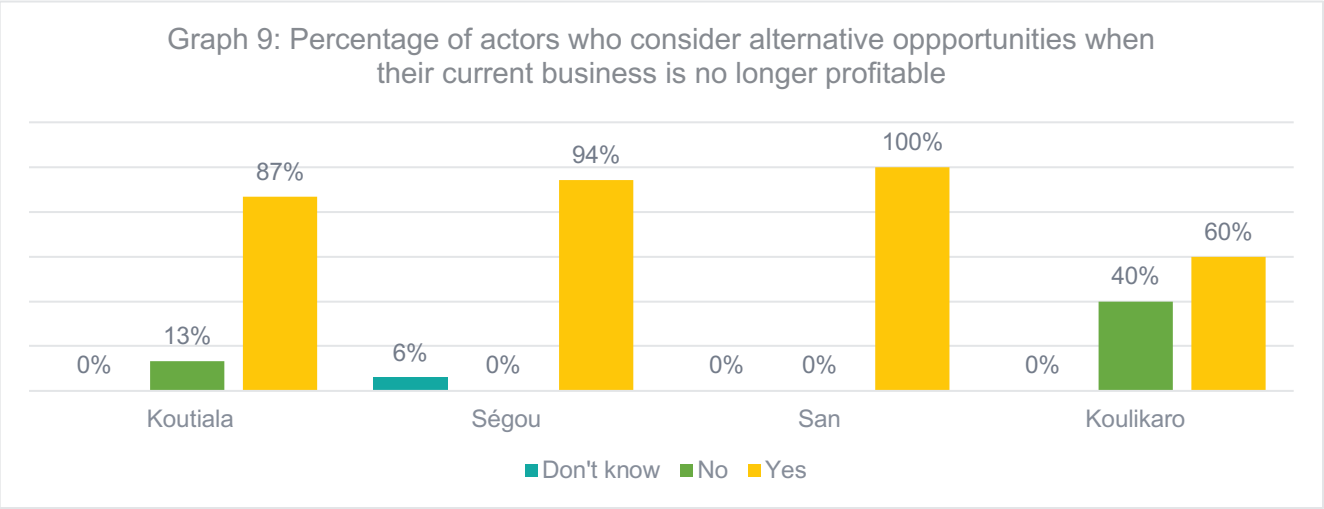


Resilience Approach

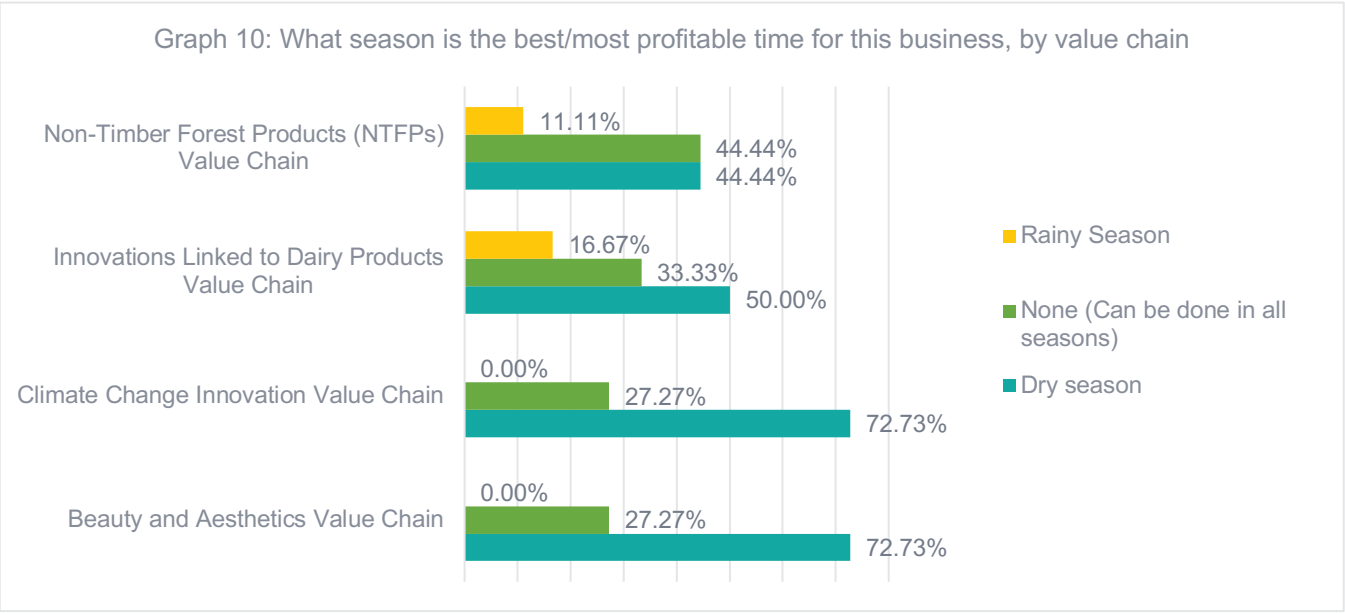
Having an alternative means of livelihood, or diversifying livelihoods, has been an important component of entrepreneurs' approach to increasing their resilience against climate- and conflict-related shocks, especially in the context of Mali. Part of this approach is understanding when, in terms of seasons, business is most profitable, so that actors can save enough income to get through the slow business season whilst being prepared for potential shocks and stressors because of climate change or economic hardship.

When actors in the value chains under examination were asked if there were other business ventures they could fall back on in case of necessity, as alternative means of livelihood, they referenced potential opportunities related to other links in their respective value chains. Study participants mentioned engaging in laundering services; selling used fabric materials and clothes; selling agri-food products (orange juice, bananas, etc.); and market gardening.

Graph 9 below shows that 94% of respondents in Ségou suggested that they had alternative livelihood opportunities. In Koutiala, about 91% reported having considered alternative opportunities, and in San region, 100% of participants reported considering alternative opportunities. In Koulikoro, only 60% reported having alternative livelihood opportunities to cope with shocks. Across all regions, however, study participants seem to have at least considered if not adopted diversified livelihood strategies to increase their resilience in the face of climate shocks and related economic hardship.



As part of the study, actors were asked what season they considered to be the best, or most profitable, for their business activities. From the analysis visualised in Graph 10 below, it is evident that all value chains suffer seasonal challenges. However, according to participants, activities across the four value chains under examination can all be conducted year-round. Despite this, seasonal challenges vary from one value chain to another. During the rainy season, some actors engaged in the innovations linked to dairy products and NTFPs value chains reported continued business activity (about 17% and 11%, respectively). In terms of the climate change innovations and beauty and aesthetics value chains, the dry season shows the greatest level of business engagement, with about 73% of surveyed actors in each value chain reporting it is the best season for business.



Overall, approximately 59% of actors reported that the dry season is the best time for their business activities, while about 33% suggested that their business activities are not affected by seasonal changes. Only about 8% reported that the rainy season favours their business activities; these actors are engaged in the NTFPs and innovations linked to dairy products value chains. The statements below provide examples of actors' explanations concerning seasonality and business profitability.

'It's an activity that can be done at any time [any season], but the best is often [over] the festive seasons.'

Male tailor in Ségou region

'At any time except during the winter, because we need the sun to dry the products. And before the winter, the price of raw materials is affordable.'

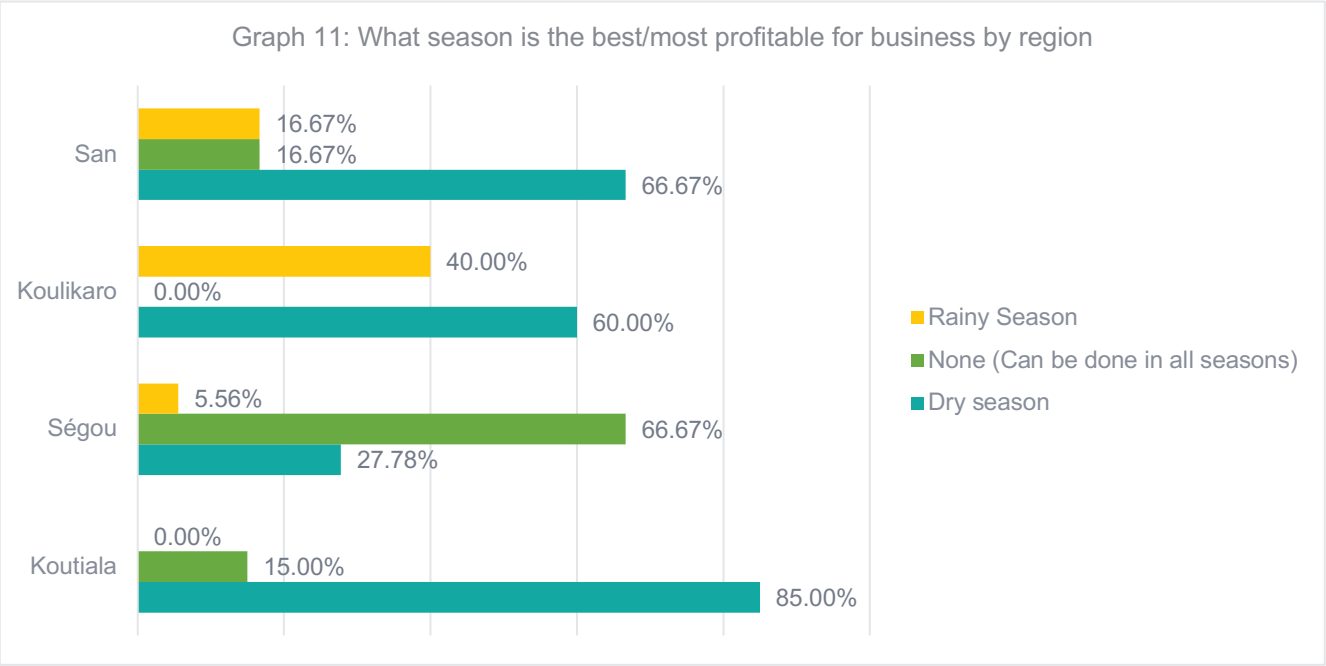
Male producer of improved animal feed and fodder in Ségou region

'At the moment, it's the best season because there are constant blackouts, so it's working well.'

Male solar panel installer in Ségou region

As these statements show, the impacts of seasonality on the profitability of businesses in the different value chains also entails consideration of the specific activities themselves.

When comparing which seasons are most conducive to business activities regionally, Graph 11 shows that in San, Ségou, and Koutiala regions activities across all four value chains are conducted year-round. In San, Koulikoro, and Koutiala, the most profitable season for business, according to study participants, is the dry season (about 67%, 60%, and 85%, respectively). It is only in Ségou that the majority of respondents (about 67%) reported that business activities are stable year-round, mostly unaffected by seasonality. The rainy season was gauged as least profitable across the four value chains in all regions aside from Koulikoro, where 40% of respondents cited the rainy season as best for business. These results are difficult to read because different links in the value chains, and related activities, are impacted by seasonality to different degrees, and many people pursue multiple income-generating activities simultaneously.

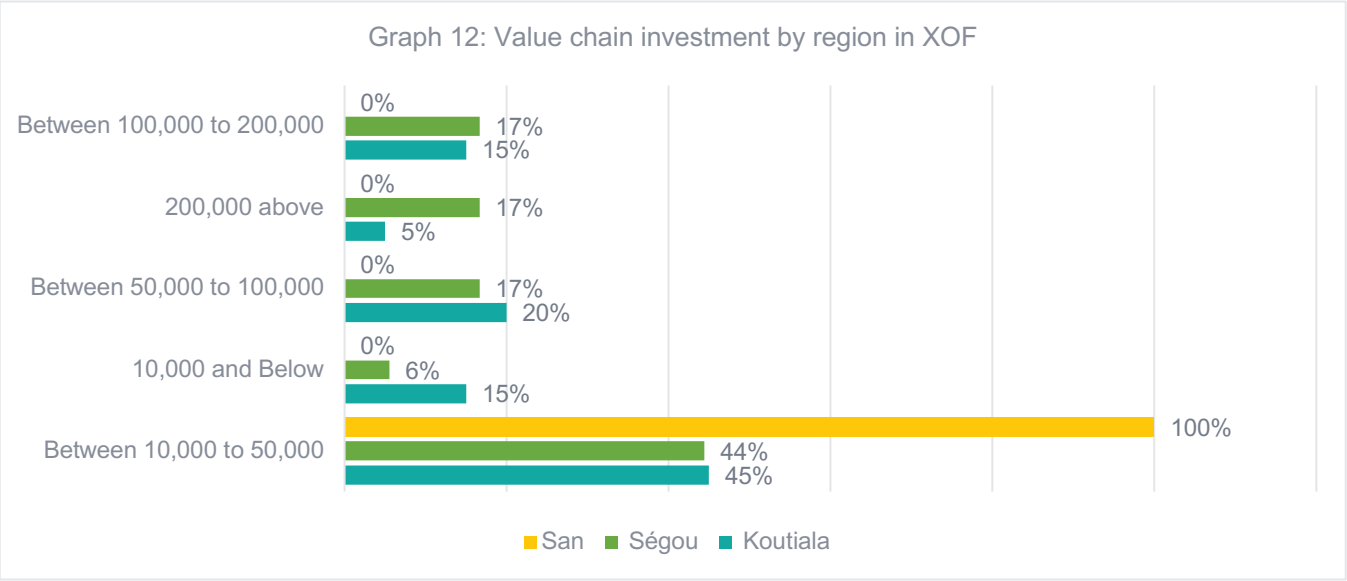


Access to Credit

Regardless of whether one pursues a single or diversified livelihood strategy, an understanding of basic financial literacy and the ability to access credit are essential to the viability of Micro-, Small-, and Medium-sized Enterprises (MSMEs). To better understand access to credit across the four regions, the study first investigated how much has been invested in the different value chains and, thereafter, how actors could access credit to launch or sustain their businesses.

Value Chain Investment

Based on data from the first quarter of 2024, Graph 12 indicates that much of the cost of investment in these four value chains is capped at XOF 10,000 to XOF 50,000, with San having 100% of surveyed actors investing such an amount in their businesses, Ségou 44%, and Koutiala 45%. Interestingly, there were fewer investments of XOF 10,000 and below across the regions, represented only in Ségou and Koutiala and accounting for 6% and 15% of investment in these regions, respectively.



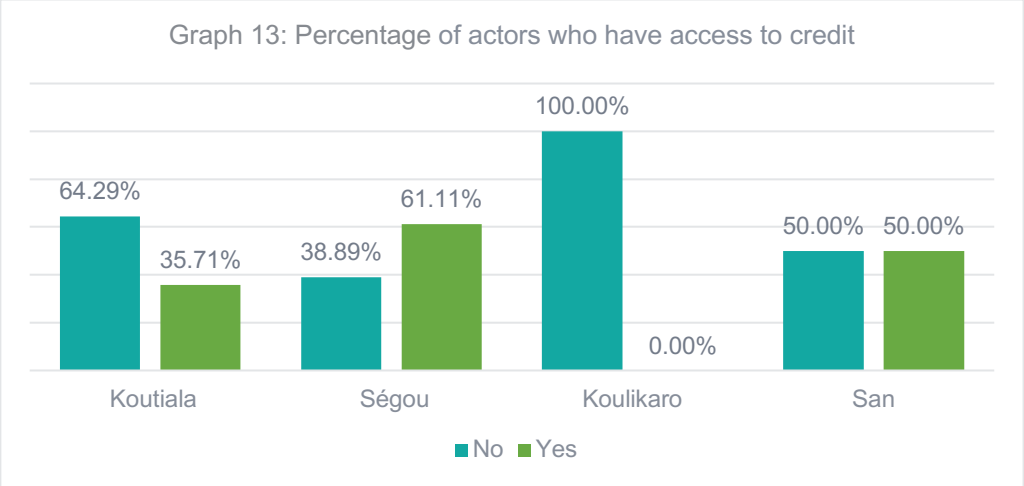
Looking closely at the distribution of investment cost made by all actors across all regions, the table below illustrates that overall, 38% of investment was channelled to the innovations linked to dairy products value chain; 18% of investment was made in the NTFPs value chain; and 22% of investment was made in each value chain of climate change innovations and beauty and aesthetics.

***Table** 8: Investment by value chain (in XOF)*

Investment Cost	Beauty and Aesthetics Value Chain	Climate Change Innovations Value Chain	Innovations Linked to Dairy Products Value Chain	NTFPs Value Chain
Between 10,000 to 50,000	36%	16%	44%	4%
10,000 and Below	25%	25%	0%	50%
Between 50,000 to 100,000	0%	25%	25%	50%
200,000 above	0%	43%	43%	14%
Between 100,000 to 200,000	17%	17%	50%	17%
Grand Total	**22%**	**22%**	**38%**	**18%**

Access to Credit by Value Chain Actors

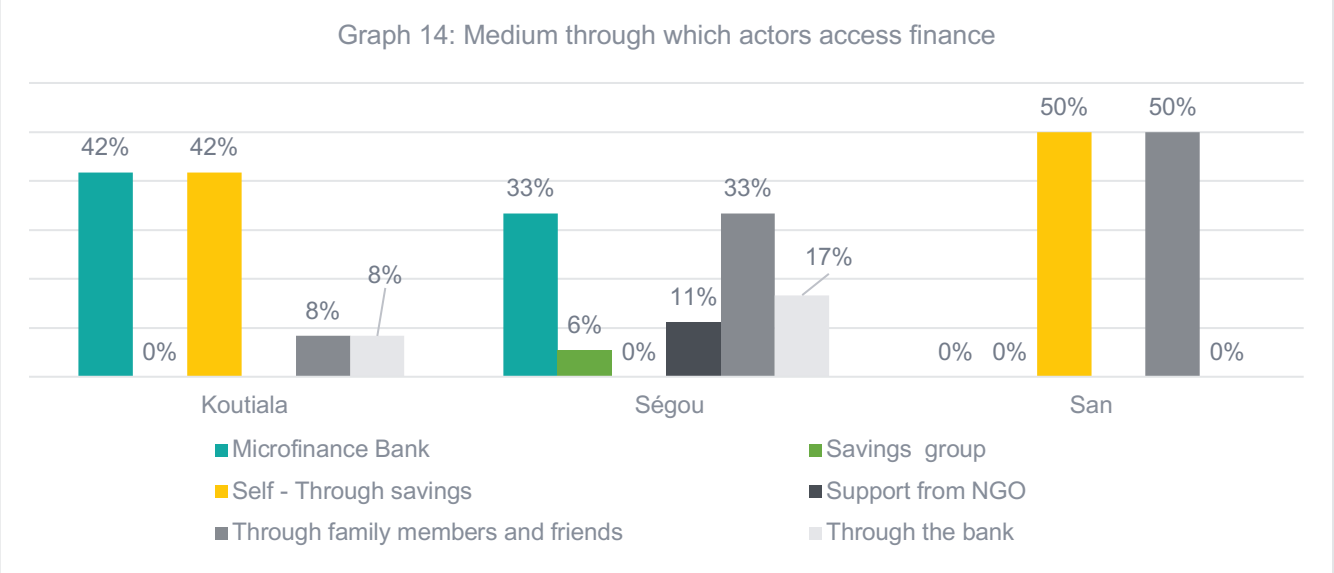
During interviews, study participants were asked if they ever had access to finance when starting up and sustaining their businesses. Across the four regions, a higher percentage of respondents never had access to credit (about 57%). In Koulikoro, all actors reported not having access to credit (100%); in Koutiala it was roughly 64%; in San 50%; and in Ségou about 39%. However, study participants who reported having access to credit (about 43%) cited accessing it through various financing schemes, including rotating savings cooperatives, microfinance institutions, bank loans, NGOs, savings, and monetary gifts from friends and family. Meanwhile, only San (50%) and Ségou (about 61%) regions fall above average in terms of access to credit when compared to the two other regions, Koulikoro and Koutiala.



'No, I don't have access to credit; I can't get money from my family and friends, and microfinance requires material guarantees.'

Male livestock feed producer in Koutiala region

Study participants reported that when they could not secure financial support for their businesses through family members or through a bank, due to the bureaucratic processes involved, they resorted to using their savings, where possible. The graph below shows that in San and Koutiala regions, the majority of the actors that access finance do so through self-sustained efforts from savings (50% and 42%, respectively). Others in Koutiala and Ségou rely on microfinance banks (42% and 33%, respectively). Furthermore, other actors reported that financing of their business was done through family members and friends: in San, 50%; in Ségou, 33%; and in Koutiala, 8%.



'I started my business with my own funds and with the help of my family.'

Male solar panel installer in Ségou region

SWOT Analysis

SWOT Analysis of the Beauty and Aesthetics Value Chain

Strengths	Weaknesses
Consistently strong demand for beauty and aesthetics products and services. Evolution of consumption trends and consumer preferences for derivatives from local products. Possibility of adapting products and services to meet specific customer needs.	Over-reliance on products sourced from abroad. Volatility of price of local products, which are often more expensive compared to imported products. Risk of dependence on unregularly available products whose market presence is not yet established.
Opportunities	**Threats**
Development of the value chain and links, creation of jobs and economic growth. Expansion into new markets via distribution channels. Development of natural, local products that are environmentally friendly and sustainable. Use of innovative technologies to improve yield, increase production volume, and strengthen quality.	Risk of competition considering the number of actors and activities in this value chain, thus decreasing prices and revenue. Risk of negative business impacts of counterfeit or sporadically available products. Fluctuating raw material (inputs) costs pose a threat to operators in this sector.

SWOT Analysis of the NTFPs Value Chain

Strengths	Weaknesses
What constitutes strength in this area is first and foremost the diversity of non-timber forest products (fruits, medicinal plants, etc.). Products entail minimal waste when inputs and raw materials are well exploited and used wisely. Strong potential for sustainable development considering growing demand for natural and sustainable products.	Underdeveloped storage and packaging capacities. Lack of storage facilities. Underdeveloped marketing and distribution services. Tendency to sell raw materials instead of processed products during economic shocks (also leads to fluctuating prices and impacts supply and demand).
Opportunities	**Threats**

Existence of wild and varied fruit trees which increases diversity and quantity of inputs and raw materials. Abundance of natural, ecological and certified products. Preservation and promotion of traditional knowledge of local communities Existence of growing international markets for organic, sustainably sourced NTFPs. Labour sector conducive to employment of women and youth.	Degradation of the environment and forest ecosystems and competition with other economic sectors for the use of forest resources constitute threat factors for NTFPs value chain. Risk of overexploitation of resources, further land degradation. Availability of cheaper alternatives. Loss of raw materials and processed products due to improper storage.

SWOT Analysis of the Climate Change Innovations Value Chain

Strengths	**Weakness**
Growing need for innovative solutions to combat climate change. Potential for innovation and development of techniques to help communities adapt to climate shocks. Opportunities for discovery, support, international collaboration for financing to meet climate challenges.	Lack of support and high cost of developing and implementing technologies related to climate change. Resistance of communities in traditional industries to climate-friendly alternative methods. Political and regulatory uncertainties.
Opportunities	**Threats**
Growing market for green and sustainable technologies. Availability of financing for climate-related projects. Growing recognised need for adaptation and mitigation of the effects of climate change. Conducive to entrepreneurship. Labour sector conducive to employment of youth.	Political reluctance to take significant pro-climate policy measures. Competition, saturation of the climate technology market. Lack of regulations concerning safety equipment use, negative health effects for labour sector.

SWOT Analysis of the Innovations Linked to Dairy Products Value Chain

Strengths	**Weaknesses**
Stable demand for dairy products. Innovations in production and processing processes. Diversification of dairy products to meet consumer preferences. Previous investments in milk collection and processing centres can help scale up this value chain.	Growing concerns about animal welfare, competition with plant substitutes, and food allergies. Vulnerability to fluctuations in raw material prices. Demand for inputs and raw materials outstrips supply. Insufficient milk collection and processing infrastructure to not only meet market demand, but also drive production. Epizootic animal diseases.
Opportunities	**Threats**
Reinforce collection and processing infrastructure. Modernise distribution link. Labour sector conducive to employment of women and youth. Training needs for skills to enter the value chain are minimal.	Growing concerns about the sustainability and environmental impact of the dairy industry. Competition for grazing land with agriculturalists. Poorly demarcated transhumant corridors.

Employment Barriers for Marginalised Groups

Several constraints are noted, particularly concerning the integration of young people, women, IDPs, and PLWD into these value chains, both in terms of salaried employment and self-employment. The types of constraints are fairly specific to the combined features of the individual, the value chain, the link, and the targeted activity in it. For example, young men will be more readily accepted for employment in tailor's shops and sewing and embroidery workshops than in women's beauty salons, but not all men have the same access for a host of specific, interconnected reasons. A discussion of the specificity of such constraints – firmly rooted in intersectionality and social and market sector norms – is outside the scope of this study. Here, we focus on the main cross-cutting challenges most often raised by study participants during interviews and focus groups.

According to 86% of study participants, the main barrier to accessing any employment for IDPs is general mistrust of them. They lack an established status in their host communities. An arguably difficult obstacle, which may reinforce general mistrust, is IDPs' lack of documentation. Nearly all study participants who are IDPs (96%) stated they had either lost their documents or forgotten them in their primary place of residence, from which they had to flee. They are thus unable to provide important proof like birth certificates, family attestations, or other relevant documents for their identification, eligibility to own assets, and right to employment.

For young people, like IDPs, distrust was also noted as a main barrier to securing employment. Unlike in the case of IDPs, distrust of youth is related to their age and contribution to the household. Generally, they are considered incapable of responsibility, especially when it comes to managerial or supervisory positions. These perceptions are slightly different for young men versus women, who are further constrained by social norms on gender.

For PLWD, barriers to securing employment centre around physical capacity, and thus, individuals with different types of disability will face different challenges. According to study participants, those with motor disabilities face the greatest obstacles in finding employment. These obstacles are lessened or intensified depending on the types of employment they are seeking. For example, those with motor disabilities find it exceptionally difficult to secure work in professions like electrical installation or the processing of NTFPs.

Traditionally, in terms of social norms, women are not seen – and do not see themselves – as capable of working as electricians or mechanics, which are considered to be men's professions, amongst many others. When asked specifically about barriers to women's entrepreneurship in the four value chains that are the focus of this research, study participants noted insufficient access to financing, especially bank loans; lack of professional qualifications and certifications; poor knowledge of how businesses function; risk aversion; and the high cost of raw materials, which includes at times considerable distance that must be travelled to access them. Some of these constraints are arguably equally pertinent to youth, IDPs, and PLWD, and even to most community members generally. Of all study participants, 68% cited the lack of professional qualifications or certification; the lack of an entrepreneurial culture and know-how; and the lack of experience in the sector of activity as obstacles to securing available positions.

Combinations of these general and subgroup- or individual-specific barriers to securing employment are at times aggravated by features of the value chains themselves. This study revealed that the climate change

innovations and innovations linked to dairy products value chains remain small economic sectors despite efforts to stimulate their development. The climate change innovations sector, however, is one dominated by young people and presents great potential. But in this value chain, most actors are in the sorting and collection of plastic and electronic waste value chain links. These actors, predominantly youth and women, have no protective or safety equipment and do not know the dangers involved in exposure to and inhalation of toxic gases or chemical substances. Many actors engaged in the manufacture of improved stoves, tyre recycling, and production of improved organic fertilizers lamented the lack of adequate equipment for their activities. In the field of installation and maintenance, production of nutritional blocks, sale of fertilizers, supply of materials, etc., constraints are attributed to lack of financing, difficulties in accessing raw materials, and the increase in the price of fuel, which negatively affects production.

The innovations linked to dairy products value chain, on the other hand, poses different challenges. It has long been the prerogative of certain socio-cultural groups who are traditionally livestock breeders. They have specialised over time and in several localities in this activity. Despite the various initiatives at the local level by partners (NGOs) and decentralized state services, this sector is struggling to grow and develop. There are several challenges to address to achieve the full potential of this value chain. It is necessary to revitalize the activities of milk collection centres, milk producer cooperatives, and milk collection and transport agents – which currently do not even exist in several areas and would need to be established.

The NTFPs and beauty and aesthetics value chains are marked by much more dynamism and stable market sector growth in comparison to the climate change innovations and innovations linked to dairy products value chains. The beauty and aesthetics value chain, as discussed above, is fairly open to the inclusion of marginalised groups, if in specific activities associated with specific value chain links. In terms of the NTFPs value chain, the immense contribution of women is significant, particularly as they engage in the sector as cooperatives. In JASS intervention zones across the four regions, they actively participate in the sustainable collection, processing, and marketing of NTFPs.

Several cooperatives, groups, and associations have been established and formalized in the NTFPs value chain. They are associated with locally known specialties such as Benkadi1 and Benkadi2 in N'gloniasso, and ‘fo te mogo ban’ in M'pessoba. These organisations benefit from the support of village authorities and communes but have not been able to fully exploit the potential of raw material collection and processing. Most processing methods in rural areas have remained unchanged. Furthermore, some cooperatives are semi-modernized but suffer great challenges related to electricity cuts, which impact their economic performance. Additional constraints are posed by insufficient knowledge of regulatory laws relating to the processing of agri-food products, hygiene standards, and the low capacity of processing and storage infrastructure – all contributing to the underdevelopment of this sector. In addition, 83% of study participants raised the seasonality of NTFPs activities as an issue – especially for certain products such as zaban, baobab, néré, and shea, whose activities often do not exceed six months of the year, despite the availability of substitution products that have a longer period of utilisation.

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About Mercy Corps

Mercy Corps is a leading global organization powered by the belief that a better world is possible. In disaster, in hardship, in more than 40 countries around the world, we partner to put bold solutions into action — helping people triumph over adversity and build stronger communities from within. Now, and for the future.

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