Supply Chain and Value Chain Analysis under the RMTP Project

A Sectoral Study on Dairy (Thakurgaon), Vegetables Faridpur (North Channel Char& Dicrir Char), Fish and Horticulture (Jessore), Gold-Plated Jewelry (Moheshpur, Jhenaidah), and Flower Farming (Case study, Panisara, Jessore).

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Table of Contents

Supply Chain and Value Chain Analysis of RMTP Project: Dairy, Fish, vegetable, Horticulture, Gold-Plated Jewelry, and Flower Farming.

The Rural Microenterprise Transformation Project (RMTP), initiated by PKSF, aims to improve rural livelihoods by supporting small-scale enterprises in farming, production, and market integration. By promoting improved farming practices, product diversification, and better access to markets, RMTP seeks to create sustainable income opportunities for rural communities across Bangladesh.

This study focuses on the supply chain and value chain mechanisms within selected RMTP-supported sectors: dairy (Thakurgaon), fish and horticulture including floriculture (Jessore), vegetables in char areas (Faridpur), and gold-plated jewelry (Moheshpur, Jhenaidah). The research includes field visits and direct interactions with various stakeholders-farmers, small business owners, traders, middlemen (foria) arotdar, and staff from PKSF's Partner Organizations—to gain real-world insights into how these rural value chains operate.

A special case study is also included, highlighting the entrepreneurial journey of Sweety Akther, a rural woman from Panisara Jessore who has emerged as a leader in floriculture. Her story reflects the changing role of women in rural businesses and shows how determination and vision can drive local economic transformation.

During the fieldwork, several common bottlenecks were identified across different sectors and regions: inadequate transportation networks, lack of proper storage facilities, weak coordination among value chain actors, and heavy dependence on informal trading systems.

This study recommends simple yet effective solutions to improve rural supply and value chains. One key need is better coordination among all stakeholders-including producers, traders, and support organizations. Developing proper planning for production, transportation, and supply-demand matching is essential. These improvements can help reduce losses and increase efficiency. Support for these efforts can be provided by local NGOs or government agencies such as the Department of Agricultural Extension (DAE), which can play a vital role in building stronger, more connected rural microenterprise systems.

Methodology:

This report follows a qualitative case study approach to examine the progress and challenges of rural microenterprises under the RMTP project. The study is grounded in field visits across selected regions-Thakurgaon, Faridpur, and Jessore-covering key sectors such as dairy, vegetables, high-value fruits and flowers, fish, and imitation jewelry.

Data was collected through interviews with various stakeholders, including farmers, small entrepreneurs, middlemen, transporters, and arotdars. These interviews provided valuable insights into the performance, constraints, and operational mechanisms of the supply chain (SC) and value chain (VC) in rural contexts.

Additionally, on-ground observations were used to understand the local infrastructure, logistics arrangements, market linkages, and business practices. This helped identify key bottlenecks and areas needing improvement.

Based on the findings from field visits to Thakurgaon (Dairy), Jessore (High-value Fruits and Floriculture), and Faridpur (Vegetables in Char Areas), several practical recommendations have been made to strengthen microenterprise development in these specific sectors.

Supply Chain and Value Chain performance challenges in RMTP Dairy sector at Thakurgaon.

Observations:

The dairy supply chain in Thakurgaon operates through a structured micro-level system. Farmers, particularly in rural households, deliver milk to nearby designated collection booths. In some cases, milk collectors visit individual households to collect milk directly, which is then transported to semi-urban processing or marketing centers. This localized model significantly reduces individual transportation costs and time, creating a more efficient supply chain for small-scale producers.

Women play an essential role in this system. Their involvement spans from cow rearing and daily care to contributing during milk collection. Despite their ongoing responsibilities in domestic and agricultural tasks, many women actively support the dairy value chain. Their participation at various points in the process not only strengthens household income but also promotes greater economic empowerment for rural women.

Key aspects of the current dairy SCM include:

- **Milk Collection Booths:** Farmers deliver milk to collection points, reducing individual transportation costs and saving time.

Milk Collectors: Various types of milk collectors operate, including those with 500-liter reserve tanks installed on auto bikes. These tanks maintain milk quality for up to 72 hours through a safe food design and shower mechanism.

MILK COLLECTION POINT-PIRGANJ, THAKURGAON

Milk Transportation: Once the reserve tank is full, milk is transferred into smaller jars and transported to Thakurgaon city for further processing and distribution.

- **Operational Timing:** The collection process continues from early morning until 1 PM, ensuring that all farmers can contribute their milk based on their convenience.

Strengths of the Current System

Cost-Effective Model: The existing SCM model minimizes transportation costs for farmers though the service is not prompt.

- **Economic Inclusion:** The system creates employment opportunities for milk collectors, enabling income generation at the micro level.

- **Quality Control:** Reserve tanks with temperature control mechanisms help maintain milk quality and prevent contamination. (but not all, plastic Jarican also use a few milks collet

A VILLAGE MILK COLLECTOR-CARRY MILK JARICAN BY MOTORBIKE

- **Flexibility for Farmers:** Farmers can deliver milk at their convenience, allowing them to balance their other agricultural activities.

Challenges and Areas of Improvement

- **High Time Consumption:** The current system relies on individual milk collectors, leading to inefficiencies in time and resource utilization.
- **Challenges Identified: Mismatch in Demand Forecasting:** Cheese production often exceeds actual market demand. Resulting in higher holding time and storage costs.
- **Short Shelf Life of Liquid Dairy Products: :** Though cheese has a longer shelf life, planning errors increase waste.
- **Limited Scalability:** The fragmented nature of collection creates redundancy, as many individual collectors are engaged in the same process.
- **Lack of Coordination:** With approximately 60-70 individual milk collectors operating within a 10-kilometer radius, there is a lack of structured collaboration.

Recommendations for Supply Chain Optimization

To enhance efficiency while maintaining economic benefits for involved stakeholders, the following strategies can be implemented:

VAN WITH CHILLING FACILITY MILK COLLECTION SYSTEM

Cooperative Milk Collection System: Establishing a cooperative model where milk collectors work in groups rather than individually if a systemic chain can be developed that would reduce redundancies and improve coordination

- **Bulk Milk Collection Points:** Setting up larger collection hubs (the territory base) with milk collectors use small or big transportation system optimize transportation efficiency.
- **Time Management Improvements:** Implementing a structured time schedule for milk collection and transportation can enhance productivity and minimize human resource wastage.
- Introduce Pre-Order Discount System to Align Supply with Demand: Encourage wholesalers/retailers to pre-order cheese to help producers forecast better. Discounts to be offered based on **order lead time.**

Conclusion

The existing dairy supply chain in Thakurgaon demonstrates an effective grassroots-level SCM model. However, by transitioning towards a cooperative system and improving coordination, the efficiency of milk collection can be significantly enhanced. Implementing these improvements will not only optimize resource utilization but also sustain economic activities for local stakeholders while ensuring a more structured and scalable dairy supply chain.

Supply and Value Chain in Char(Shoal) Areas of Faridpur (North Channel Chor & Dicrir Chor)

NORTH CHANNEL CHAR-FARIDPUR-
ENGINE BOAT FOR VEGETABLE TRASPORT

Overview of the Informal Supply Chain Structure:

In the char areas of Faridpur, the supply chain (SC) of agricultural produce—particularly vegetables—operates mostly in an **informal, community-based structure**. The farmers grow crops that now function almost as **cash crops**, but they are **less concerned with the efficiency of supply chain operations**, especially in terms of cost and coordination.

The **SCM responsibility is largely managed by a few key actors**, primarily **middlemen (locally called Foria)**, who have evolved into central figures in the movement of goods from farms to markets

Role and Evolution of Middlemen (Foria)

NORTH CHANNEL CHOR-FARIDPUR, VEGETABLE FIELD.

- Many **middlemen were previously farmers** themselves.
- Their transition into this role was often motivated by their **personal struggles with SC disruptions** (e.g., arranging transport or labor during harvest).
- As middlemen, they now contribute actively to:

-Harvesting coordination

-Labor arrangement

-Transportation and river crossing

-Distribution to regional wholesale markets (arots)

Their experience as farmers allows them to understand the **pain points and bottlenecks** in the SC process and find creative solutions.

Key Supply Chain and Value Chain Issues in Chor Are

Issue	Description
Informal Coordination	No structured SCM systems or digital coordination mechanisms.
Transportation process	Multiple steps involved: field → riverbank → cross-river → market; increases logistics costs.
Dependence on Middlemen	Farmers rely heavily on Forias, who often act as harvest coordinators and transporters.
Storage & Time Management	Sometimes Vegetables harvested in bulk are mismanage and increase spoilage risk.

Issue	Description
Harvesting & Transport Scheduling	Lack of optimized planning between harvesting time and transportation departure.

Observed Transportation Practices

- Farmers use **Horse carts (Ghorar Gari)** or **farm trolleys** to move produce to the riverbank.
- At morning, vegetables are **loaded onto launches** or boats to cross the river.
- Once across, goods are taken to **Faridpur city arot (whole sale market)**, where they enter the broader supply chain.

Suggestions for Improved SCM in Chor Areas:

Harvesting & Transport Timing Optimization:

- For **bulk vegetables**, harvesting should begin in the **early morning**, allowing transport to the riverbank within morning. This minimizes the need for laborers to wait all day and ensures freshness of vegetables.
- For **small-scale or local market supply**, **morning harvests** are advisable to calculate transportation and other cost.

Enhance Coordination Between Farmers and Middlemen

- Middlemen should coordinate with multiple farmers to **pool harvests** and minimize per-unit transportation cost.
- Introduce a **simple local schedule or calendar system** for shared harvest planning and river crossing timing.

Consider Cooperative Transport Systems

- Farmers could **form cooperatives** to share the cost of transportation (trolleys, carts, boat fare).
- This collective approach would reduce dependency on individual middlemen and promote equitable cost distribution.

Post-Harvest Handling and Packaging

- Use of **low-cost, breathable crates or sacks** can reduce spoilage.
- Encourage middlemen to invest in **basic packaging or temporary storage** solutions while waiting for transport.

Long-Term Recommendations

- **Capacity building** for both farmers and middlemen on SCM basics, market access, and demand forecasting.
- Explore partnerships with **NGOs or local agricultural extension offices** to introduce:

  Solar cold storage units.

Affordable digital tools for scheduling and pricing.

- Encourage for a suitable **river transportation pattern** to optimize loading/unloading times for boat/launch services.

Conclusion:

The char areas of Faridpur demonstrate a strong, self-adaptive supply chain, built by necessity and resilience. However, without formal coordination, market linkages, and cost-effective logistics planning, farmers and middlemen face consistent losses or reduced profits. A hybrid model of **community-driven SCM practices with minimal formal interventions** (e.g., training, coordination, cooperatives) can significantly improve the **value chain performance** in these regions.

Fruit Cultivation in Chowgacha, Jessore: A insight of supply chain and value chain.

Introduction : Chowgacha, Jessore, is witnessing a remarkable shift in its agricultural landscape as farmers increasingly turn to high-value fruit cultivation. This transformation is driven by the adoption of modern farming techniques, improved seedling varieties, and a focus on cash crops that offer higher yields and greater market demand. Among these, seedless lemon has emerged as a particularly lucrative crop, gaining immense popularity due to its high yield, profitability, and growing consumer demand.

Value Chain and SCM Fruit cultivation in Chowgacha, Jessore.

CHOWGACHE-JESSORE-FRUITS FIELD WITH FARMER

The RMTP (Rural Microenterprise Transformation Project) has significantly contributed to the development of high-value fruit cultivation in the Chowgacha area of Jessore district. Farmers are now growing a diverse range of premium fruits such as seedless lemon, dragon fruit, apricot, avocado, Thai mango, pomelo, guava, jujube, strawberry, and Malta, reflecting a strong shift toward commercial horticulture.

However, despite the positive transformation, several supply chain management (SCM) challenges remain. One of the key issues is the collection and procurement of high-value fruit breeds, which are often rare and not systematically available in the local market. In many cases, farmers rely on small, irregular piecemeal Buying from neighboring country like India or even as far as Thailand. These small-scale, uncoordinated purchases lead to high costs for both procurement and delivery, affecting the profitability and sustainability of production.

To address this, local farmers need to shift toward **strategic procurement** by consolidating their seedling demands and coordinating with reliable nurseries. This collective approach can help reduce costs, ensure quality, and build stronger relationships with seedling suppliers.

CHOWGACHA -FRUITS FIELD WITH FARMER & PO STAFF

Another critical area for improvement is post-harvest handling, particularly **fruit grading**. Implementing a standardized grading system at the farm or group level would help sort fruits based on size, ripeness, and variety before delivery to the collection centers. This would not only improve the quality and market value of the produce but also reduce the operational workload and labor costs for collection center business owners.

By strengthening both the upstream (input sourcing) and downstream (harvesting, grading, and delivery) components of the value chain, Chowgacha farmers can improve efficiency, reduce costs, and enhance their overall competitiveness in the high-value horticulture market.

Achieving Economies of Scale in Truckload Transportation of Fruits.

Efficient supply chain management (SCM) in the agricultural sector, especially for perishable goods like fruits, relies heavily on the optimization of transportation. A significant challenge arises when fruit collectors are unable to fill a truck to full capacity. Partial truckloads result in higher per-unit transportation costs, undermining overall profitability and efficiency.

CHOWGACHA -JESSORE-VISITING HIGH VALUE FRUITS FIELD

To overcome this, **coordinated efforts between farmers and fruit collectors are essential**. Ensuring that trucks are fully loaded before dispatch can significantly reduce transportation costs through economies of scale. A well-coordinated collection process maximizes truck utilization, minimizes fuel and labor costs, and reduces the environmental impact per unit transported.

However, achieving full truckloads consistently requires strategic planning. **Fruit collectors often need to anticipate harvest periods** and may need to consolidate produce from multiple locations to fill a truck. This is where **local microbusiness entrepreneurs and POs** can play a critical functional role.

POs can act as intermediaries by:

- **Facilitating communication** between farmers and collectors.
- **Predicting harvest periods** through field-level data collection and crop monitoring.
- **Organizing aggregation points** or hubs where produce from nearby farms can be collected efficiently.
- **Coordinating schedules** to ensure that trucks are filled promptly with minimal delay.

By leveraging the local knowledge and organizational capacity of POs, fruit collectors can better **pre-plan truckloads**, reduce idle time, and lower operational costs. This collaborative approach not only benefits the collectors but also enhances the income stability of farmers by ensuring timely and efficient movement of their produce to the market.

In conclusion, **achieving full truckloads through coordinated planning and local Pos/actors involvement** is a key strategy for reducing transportation costs and improving supply chain efficiency in the fruit sector.

City Gold Industry Moheshpur a cottage industry Supply Chain Performance Demand Forecasting (Customer-Driven Production)

Primary Demand Centers:

- **Dhaka** (major hub)
- **Narayanganj**
- **Mymensingh**

GOLD PLATED JEWELRY-COTTAGE FACTORY LABOR RESHAPING METAL

How Demand is Forecated:

- **Experience-Based Forecasting:** Local manufacturers now have several years of experience, allowing them to predict demand more accurately.

Historical Sales Data: Weekly/monthly demand from past years is used to estimate current needs.

- **Wholesaler Input:** Regular communication with wholesalers in Dhaka helps adjust forecasts, especially for market trends and occasional spikes (e.g., Eid,Puja, Pohela Boishakh, weddings).

Exclusive and designer pieces are now in demand among upper-middle class customers.

Forecasting Strategy:

Hybrid Method: Combination of:

Quantitative: Past sales and seasonality

Qualitative: Feedback from wholesalers and market observation

Flexible: Adjusts quickly to occasional or seasonal spikes.

Production Management

Location: Small manufacturing units in **Moheshpur**, Jhenaidah (primary production hub).

Production Schedule:

- Based on **weekly and monthly demand forecasts**.

style: No excess inventory – products are made close to delivery time.

- Focus on **customization and variety** (traditional, modern, and luxury designs).

GOLD PLATED JEWELRY-WOMEN S CLEANING POLISHING METAL

Raw Material Procurement:

Sources:

- **Dhaka:** Main hub for raw materials like metal base, plating chemicals, stones, polish, etc.
- **India:** Some specialized materials still are being sourced informally from across the border of India (e.g., certain stones or high-quality plating tools).

Challenges:

- **High Cost:** sometimes
- **Price Volatility:** Imported materials fluctuate with currency rates and border policies.

Distribution (Logistics & Delivery)

Method:

- **Passenger Bus Service:** Finished goods are sent to Dhaka, Narayanganj, and Mymensingh using local/public buses.
- Goods packed in **sacks or small bags**.
- Carried as **hand-luggage** or **cargo with passenger transport**.

Advantages:

- **Very Cost-Effective.**
- **Easily Accessible.**

FINISHED PRODUCT-GOLD PLATED CITY GOLD-MOHESHPUR

- No need for private logistics or courier.

Challenges:

- Risk of damage or theft (though minimal due to compact packaging).
- Informal system—no tracking or logistics monitoring tools.

Recommendations to Improve Supply Chain Management (SCM):

- Demand Tracking and Customer Feedback: Introduce a simple system to track orders and collect customer feedback from wholesalers. Identifying which jewelry designs are in demand can help manufacturers plan future production more effectively.
- Cooperative Bulk Procurement: Encourage jewelry manufacturers to form cooperatives for bulk purchasing of raw materials from Dhaka. This collective approach can significantly reduce procurement costs and improve consistency in material quality.

- Enhanced Packaging and Branding: Adopt more attractive and professional packaging, as recommended by wholesalers. Improved branding can increase product appeal and build stronger recognition in the market.
- Alternative Formal Delivery Services: Reduce dependency on passenger bus services for product delivery. During strikes, accidents, or other disruptions, this can cause serious delays—especially risky for high-value exclusive items. Exploring formal courier or logistics services can ensure safer and more reliable delivery.

Supply chain value chain perspective of fish farming in grassroot level opportunities and challenges.:

Fish Farming in Abhaynagar, Jessore. Fish Sector – Jessore Aquaculture (Hatchery and Small Suppliers).

Transportation System and Challenges of Small Business Owners: A Case Study of Fish Fry Traders in Jessore

In the expanding aquaculture industry, small-scale fish fry traders play a vital role in connecting hatcheries with fish farmers across various regions. These entrepreneurs, often operating with limited resources, have adopted innovative and cost-effective techniques for transporting and selling fish fry.

Use of Oxygenated Vans for Short-Distance Delivery: Small business operators who supply fry within nearby districts often use specially adapted oxygenated vans. These vans are equipped to maintain oxygen levels and control temperature, ensuring the safe and healthy transport of fry over short distances.

OXYGENATED VAN FOR FISH FRY TRANSPORTATION

Oxygenated Polythene Bags for Flexible Transport.

For both short and long-distance deliveries, traders commonly use oxygenated polythene bags:

- For nearby districts, these bags are directly transported by van, Nosiman (locally shallow engine made vehicle), or motorbike.
- For farther districts, especially major cities like Dhaka, Sylhet, and Comilla, the traders use local AC buses that operate on those routes. The bags are securely packed and loaded with proper labeling to ensure they reach the correct recipients.

Cost and Profit Considerations:

- Interestingly, the profit margin remains similar whether the fry is sold in a nearby district or a distant one.
- In long-distance transportation cases, the transportation cost is usually borne by the receiver (fish farmer or local distributor), making the trade financially viable for the small-scale transporter.

This flexible and resourceful approach by local fish fry traders not only supports the hatchery sector but also plays a significant role in meeting the growing demand for quality fry across Bangladesh. Their contribution is crucial in bridging production and farming, sustaining the rural aquaculture economy.

FISH/FRY FARMING POND -ABHAYNAGAR-JESSORE

Challenges: One of the **main obstacles** faced by small-scale fish fry transporters—particularly during the **peak fry production season**—is the **high cost of oxygen-generating transportation facilities**.

Due to the surge in demand from hatcheries during this season, access to oxygen cylinders, oxygen-generating vans, or properly equipped transport setups becomes limited. As a result, the rental or operational cost of these facilities increases significantly.

Value Chain Flow:

-**Hatchery Owners** produce and sell hatchlings.

-Nursery Owners rear hatchlings to fry/fingerlings.

-Wholesalers & Retailers handle market distribution.

Fish Farmers buy fingerlings and cultivate for market.

Innovative Practices:

Truck bodies converted into **mobile pools**.

Temperature maintained using **wet cloths and gunny sacks**.

Hand agitation for water aeration in metallic/earthen pots.

Mortality Risks & Recommendations:

- **Transportation-Related Mortality**:
- Poor oxygenation, temperature rise, and rough handling increase fry mortality.
- Lack of aeration in long trips is critical.

Recommendations:

- Develop **mobile oxygenation units** with better insulation to extend travel time.
- Conduct **training for small suppliers** on fry handling and live fish transport.
- Encourage **real-time market research and forecasting** to match demand with supply.
- Explore **cost-effective transport alternatives** or shared logistics for multiple small suppliers.

Conclusion: Small-scale fish fry traders are essential connectors in the aquaculture value chain, enabling the movement of quality fry from hatcheries to fish farmers through low-cost transport solutions. Despite their resilience and adaptability, challenges such as high oxygen transport costs and fry mortality risks persist, especially during peak seasons. Addressing these issues through improved technologies, training, and shared logistics can enhance sustainability and profitability in grassroots fish farming.

The Story of Sweety Akther and the Rise of Women Entrepreneur.

Floriculture has emerged as a profitable and sustainable agricultural practice in Bangladesh, with Jessore district—particularly **Jhikargacha upazila**—recognized as a hub for commercial flower cultivation. This report presents the inspiring case of **Sweety Akther**, a young female entrepreneur who successfully transitioned into full-time flower farming, specializing in **Gerbera (Gerbera jamesonii)** and other cut flower varieties. Her journey reflects not only economic empowerment but also a shift in traditional gender roles in agriculture.

Sweety Akther: A Village Woman with an Entrepreneurial Dream

Sweety Akther began her journey in floriculture after marrying into a family in Panisara, Jhikargacha, Jessore, in 2023. Her family already had deep roots in flower farming-her uncle, Sher Ali, was one of the early pioneers in growing flowers in the region. From the beginning, Sweety showed strong leadership, an entrepreneurial mindset, and a clear vision to take the family business to the next level.

PANISARA-JESSORE-FLOWER MARKET

She quickly realized that flower farming-especially growing Gerbera-offered great opportunities. The market demand for fresh flowers was high, and the land in her village, Panisara, was well-suited for floriculture. With her husband's emotional and financial support (he works abroad in Portugal), and the family's experience in farming, Sweety decided to take a bold step.

She convinced her husband and father-in-law to invest more into the flower business. Together, they applied for a loan of BDT 1.5 million to expand their operations. It was a serious financial commitment-the monthly loan repayment was BDT 87,500-but Sweety had confidence in their plan and believed in the future of floriculture.

SWEETY AKTHER-IN HER GERBERA FIELD-PANISARA, JESSORE.

Since then, her business has grown steadily. She has paid every loan installment on time, improved farming practices, and expanded the flower fields. Her success has not only increased her family's income but also inspired other women in the village. Sweety's story shows how rural women can become successful entrepreneurs with the right mindset, support, and opportunities.

One of the most significant impacts of Sweety Akther's floriculture venture has been in the area of rural employment generation. Her flower farm has created

INTERVIEW WITH SWEET AKTHER, PANISARA

several local job opportunities. She has hired permanent laborers who work on a regular basis and also employs seasonal or daily wage laborers depending on the farming needs, such as planting, weeding, harvesting, and packaging flowers for sale. This employment model supports the livelihoods of multiple families in the area and contributes to the local rural economy.

Floriculture is now more than just a seasonal activity in Panisara. It is becoming a sustainable and profitable business that is changing the lives of many families. Sweety Akther's journey is a strong example of how determination, planning, and teamwork can lead to meaningful socio-economic change in rural communities.

Conclusion: This study highlights key challenges and opportunities within the supply chain and value chain dynamics of rural microenterprises under the Rural Microenterprise Transformation Project (RMTP) in regions like Thakurgaon, Jessore, Jhenaidah, and Faridpur. Despite differences in the products and areas-dairy, fish, floriculture, and vegetables-the core issues faced by entrepreneurs were strikingly similar. A major concern was the lack of collaboration and trust among stakeholders, which hindered the sharing of business strategies, experiences, and market knowledge. This individualistic approach often restricted collective growth and limited business development.

Additionally, practical barriers such as inadequate transportation, limited storage facilities, lack of supply chain planning, and reliance on informal trading systems were found to hinder the efficiency of rural supply chains. Even minor issues, like delayed transport or poor packaging, contributed to reduced income and limited business opportunities.

The findings suggest that simple, cost-effective solutions-along with fostering greater collaboration-could significantly improve the functioning of rural value chains and enhance the sustainability of microenterprises. Although the study did not involve statistical analysis, the insights gained from fieldwork provide valuable guidance on addressing key bottlenecks and supporting rural entrepreneurs.

Future efforts should prioritize extended engagement with all active stakeholders and key actors within the value chain. By fostering stronger collaboration and trust across all levels, along with thorough data analysis, these efforts can lead to a more accurate understanding of challenges and opportunities. This holistic approach will provide actionable insights, ultimately enhancing the outcomes and impact of the research.