



Ambasáid na hÉireann
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BOOSTING DAIRY SECTOR GROWTH

THROUGH STRATEGIC COLLABORATIONS
AND IMPACT INVESTMENT



Lessons from the Catalytic Impact for Dairy Sector Growth Project

JULY-2024

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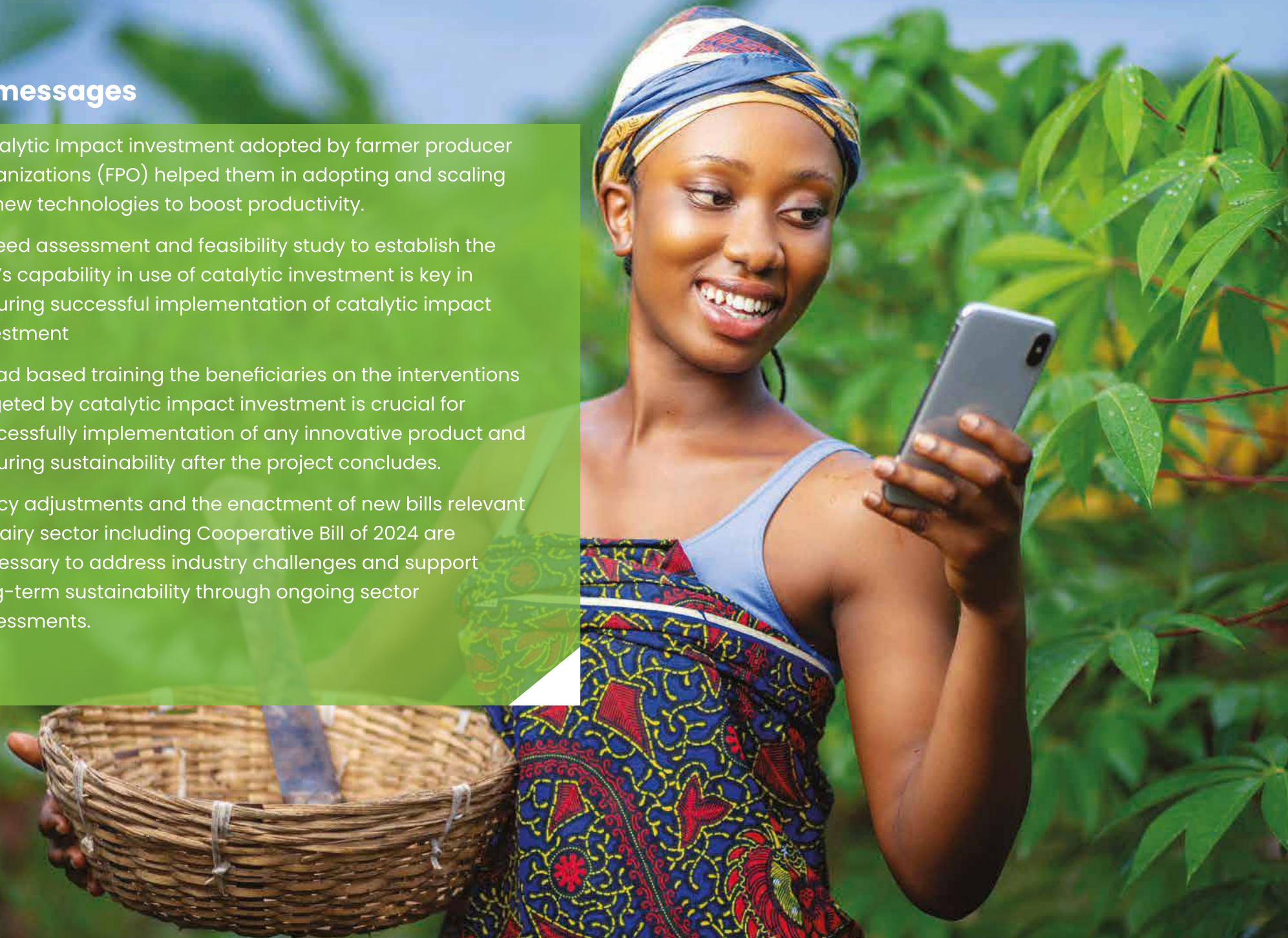
Executive summary

The Dairy Sector Catalytic Growth Project, launched in 2019 by Heifer International Kenya and supported by Irish Aid, aimed to address challenges faced by small-scale dairy farmers through targeted investments in Farmer Producer Organizations (FPOs). This five-year initiative sought to enhance the dairy sector by providing capacity building, financial and technical support, and improving market access and business development. Despite notable progress, including increased market linkages, innovations in dairy processing, and improvements in FPO operations, the project encountered significant challenges such as financial strain, inadequate infrastructure, and policy gaps. Key lessons learned include the importance of effective internal controls, stakeholder collaboration, and strategic investments. Recommendations for future initiatives include enhancing transportation and cold chain infrastructure, implementing price stabilization mechanisms, carefully expanding value addition capabilities, and enacting policy reforms to support the dairy industry's growth and sustainability.



Key messages

- Catalytic Impact investment adopted by farmer producer organizations (FPO) helped them in adopting and scaling up new technologies to boost productivity.
- A need assessment and feasibility study to establish the FPO's capability in use of catalytic investment is key in ensuring successful implementation of catalytic impact investment
- Broad based training the beneficiaries on the interventions targeted by catalytic impact investment is crucial for successfully implementation of any innovative product and ensuring sustainability after the project concludes.
- Policy adjustments and the enactment of new bills relevant to dairy sector including Cooperative Bill of 2024 are necessary to address industry challenges and support long-term sustainability through ongoing sector assessments.





Introduction

Catalytic impact investment is a form of investment that takes on higher risks or accepts lower returns to create positive impacts and attract other investors who might not invest otherwise. In the context of the dairy industry, Heifer International–Kenya provided this funding to farmer producer organizations for expansionary investments, such as purchasing feed factories, purchase of lorry, motor bikes, mixers, crushers, and expanding pasteurizer capacity. These investments spurred further funding from third-party financial institutions, enabling additional infrastructure improvements like acquiring a 10-ton truck for increased milk transportation capacity.

The issue

Kenya's dairy industry growth is hampered by inadequate research and extension services, product quality and safety concerns, milk price volatility, limited market access, and weak institutional connections. Additionally, low-quality feeds, suboptimal feeding practices, dairy cows with low genetic potential, and the high cost and limited availability of animal healthcare and breeding services such as Artificial Insemination and sexed semen hinder sector development. The seasonality of milk production causes fluctuations between periods of surplus and shortage, destabilizing the market. Moreover, the sector's development is impeded by limited milk processing and minimal product diversification. To realize the potential of dairy

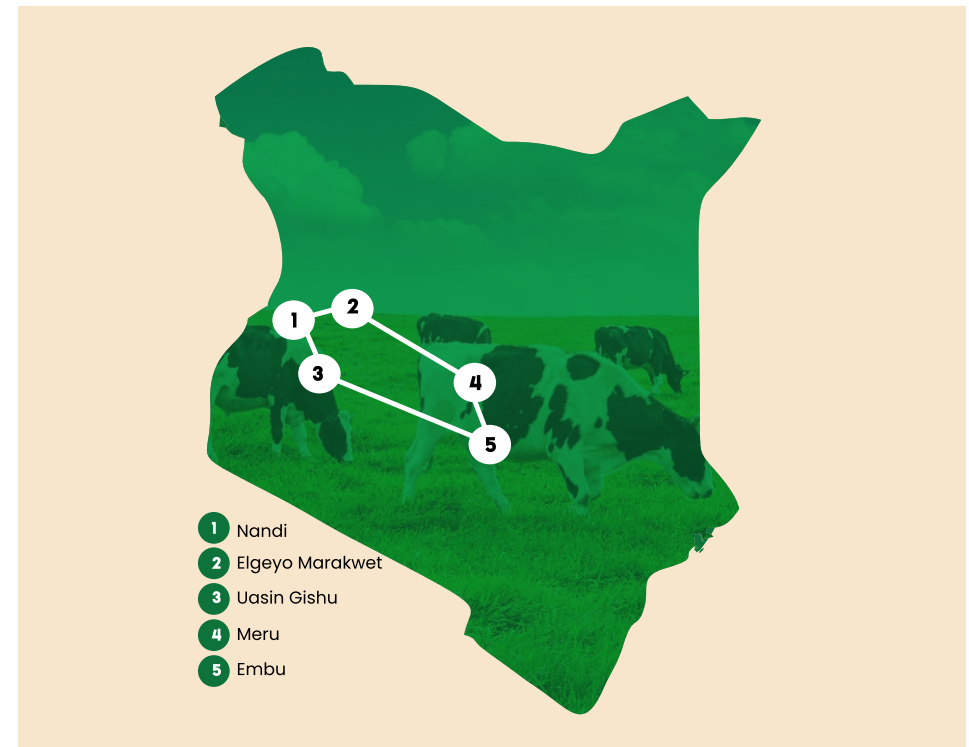
organizations to boost productivity through innovation, the government, along with dairy value chain actors such as Non-Governmental Organizations and development partners, must address these challenges to ensure progress and sustainability.

To solve some of these challenges, smallholder producers (farmers owning between 1 and 3 cows), who dominate the dairy industry, often join milk-marketing FPOs. These FPOs enhance the dairy value chain by providing a reliable market for milk collection and marketing, pooling resources to access quality feeds, seeds, and other agricultural inputs. Some FPOs also support their members in accessing veterinary services, vaccinations, improved breeds through artificial insemination or sexed semen, educate farmers on best practices in dairy farming, provide access to credit and financial support, and offer technical advice through extension services. Additionally, a few FPOs assist in processing milk into value-added products like yogurt and ensure efficient transportation of milk from farms to collection centers.

The intervention

In 2019, Heifer International Kenya, supported by Irish Aid, launched the Dairy Sector Catalytic Growth Project to address dairy farmers' challenges through FPOs. The five-year initiative aimed to enhance the dairy sector through capacity-building activities such as training, extension and advisory services,

financial and technical support, market access, and business development. The implementation of these interventions was made possible through collaboration with county governments and 10 FPOs located in the counties of Embu, Meru, Nandi, Uasin Gishu, and Elgeyo Marakwet.

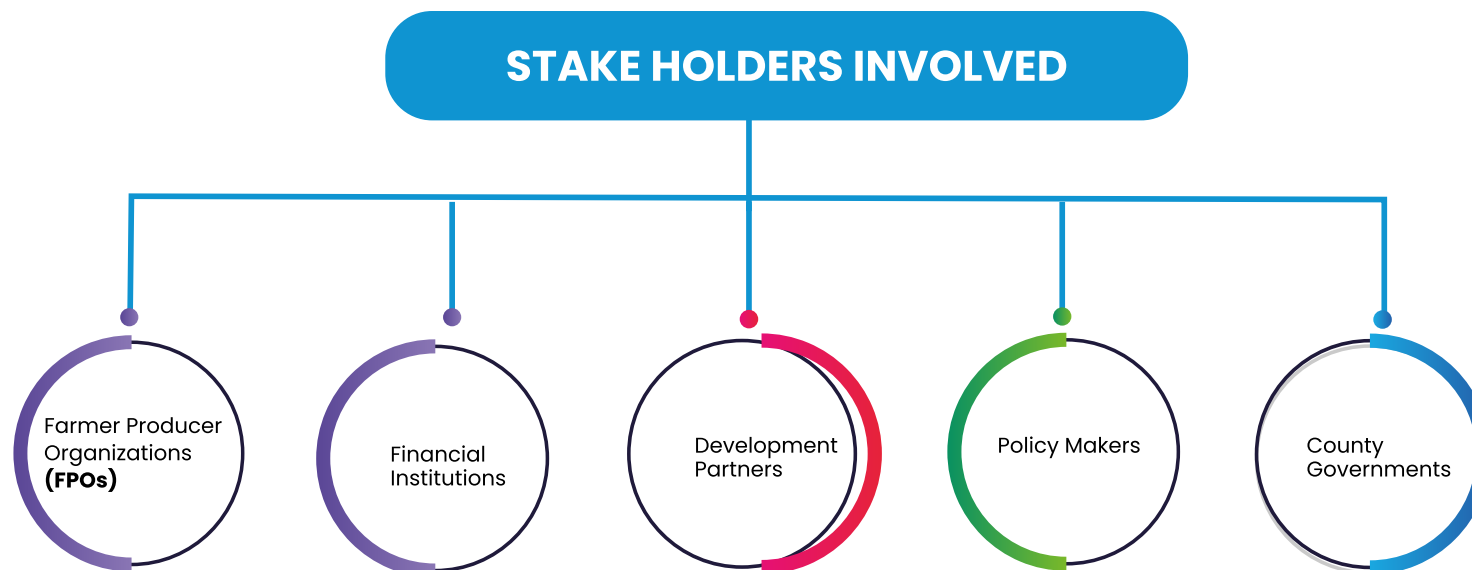


These FPOs included Mburugu Farmers' Cooperative Society in Embu, Katheri Dairy Farmers Cooperative Society Limited and Magati Dairy Farmers Cooperative Society Limited in Meru County, Lessos Dairy, Lelchego Dairy, Kabiyet Dairy, New Progressive Farmers' Cooperative Society, Lelbren Dairies, Ainabkoi Farmers'

Cooperative Society, and Chepkorio Dairy. To qualify for support, the FPOs presented business cases focusing on increasing efficiency, reducing production costs, improving quality and competitiveness, and diversifying businesses. The interventions that the selected FPOs focused on included acquiring equipment for value addition, addressing access to feeds and transportation, staff training, environmental conservation, and implementing new technologies and innovations such as solar energy.

Research Methodology

In July 2024, Brics Insights evaluated the Catalytic Impact for Dairy Sector Growth Project to identify outcomes, challenges, solutions, lessons learned, and recommendations for scaling up the project. Using a structured participatory approach, primary and secondary data were collected from various stakeholders, including the 10 Farmer Producer Organizations (FPOs), milk processors, financial institutions, development partners, policymakers, and county and national governments including KDB. Data collection involved reviewing project documents and existing policies and regulations, as well as conducting 16 Key Informant Interviews (KIIs), four Focus Group Discussions (FGDs), in-depth interviews, and four case studies. KIIs included representatives from FPOs, the livestock and cooperative departments, the Kenya Dairy Board, and New KCC.



Findings

Capacity building

Across all Farmer Producer Organizations (FPOs), board members, staff, and farmers received various trainings. Board members were trained in governance, decision-making, and leadership to improve organizational oversight and inspire their teams. Farmers learned about extension services, dairy management, feed formulation (especially silage making), record keeping, milk handling and safety practices. This holistic approach resulted in better governance, increased trust in FPO management, and higher milk production.



Financial and technical support

To enhance agricultural productivity and support services. In Ainabkoi FPO, 10 motorbikes were purchased to improve mobility and communication. Human resource staffing was bolstered, and demonstration farms were established to provide hands-on learning opportunities. Heifer also advised on communication enhancement which prompted Ainabkoi FPO to install a mast and satellite that enabled farmers to receive real time data and information on milk amounts delivered and other critical regular updates that improved member trust. In Lelchego, a refrigerated 10-ton truck was acquired to ensure the safe transport of perishable goods, and pasteurizer machines were installed to enhance dairy processing. Additionally, a bank loan was offset, aiding financial stability. Lelbren saw the construction of an office building and the restocking of its agrovet, improving administrative and agricultural support services.

Lastly, in Lessos, a feed mill was constructed to support livestock nutrition, and demonstration plots were created to showcase best farming practices. In Mburugu Farmers' Cooperative Society, significant developments included land acquisition, factory construction, raw materials procurement, and the commissioning of operations. Katheri Dairy Farmers Cooperative Society Limited saw the installation of a 5000-liter cooling plant, the acquisition of a 7-tonne lorry, strategic human resource investments including the employment of interns in extension services and ICT, the implementation of digital scales, and the

Integration of a management information system (MIS). In Magati Dairy Farmers

Cooperative Society Limited, a cooling room and a 5000-liter cooling plant were constructed, motorbikes were procured, and efforts were made in policy and human resource development. Additionally, two interns per FPO were engaged to support daily data checks, enhancing operational efficiency and data accuracy.

In Ainabkoi, the installation of a mast, satellite, and motorbikes enhanced communication and mobility, while increased staffing and demonstration farms boosted farming productivity. Lelchego's refrigerated truck and pasteurizer machines ensured safe dairy transport. Lelbren's new office and restocked agrovet improved farmers' access to inputs and administrative efficiency. In Lessos, a feed mill and demonstration plots enhanced livestock nutrition. Mburugu's land acquisition, factory construction, and raw material procurement provided access to quality feeds, resulting in increased milk production in the first year of operation. Katheri's cooling plant, lorry, and human resources increased milk production. Magati's cooling room, policy development, and intern engagement improved dairy quality and efficiency. These interventions collectively increased productivity, quality, efficiency, and financial stability for the FPOs.

Adaptation and innovations

The project interventions led to significant innovations and adaptations with notable impacts.

Ainabkoi added value to milk by producing yoghurt and Mursik, diversified income streams, introduced an SMS system for better record-keeping and communication, and promoted solar and biogas use. Katheri and Magati implemented MPESA payments for financial efficiency, with Katheri also training farmers in biogas, resulting in 20% adoption. Practical Farmer Trainings (PFTs) and demonstration farms provided hands-on learning. Mburugu leveraged their feed mill for quality feeds, boosting dairy productivity. Magati and Katheri upgraded their systems with data servers, payroll modules, and farmer messaging, improving administrative efficiency. Overall, these interventions enhanced agricultural productivity, financial efficiency, environmental sustainability, and FPO resilience.

Market access and business development

The project significantly enhanced market linkages for milk FPOs through unions like the Nandi Union in Lessos and increased business for value-added milk products like yoghurt and mursik in Ainabkoi. It also helped FPOs develop marketing strategies and establish valuable connections, including linking Magati Dairy Farmers Cooperative Society Limited with digital weighing scale firms, connecting Katheri Dairy Farmers Cooperative Society Limited to animal breeding companies like Bles Dairy, Geneplus,



and KAGRIC, and facilitating ties between Magati Dairy Farmers Cooperative Society Limited and Mburugu Farmers' Cooperative Society with the farmer-to-farmer Improving Economies for Communities (IESC). These efforts boosted their operational

Capabilities and market reach.

Producer organization efficiency increased (Reduced cost of energy). The efficiency of some FPOs has improved significantly, notably with a reduction in energy costs in Katheri Dairy Farmers Cooperative Society Limited and Ainabkoi, in particular, the FPOs have adopted solar energy as catalytic outcomes to heat the water used for cleaning their coolers, demonstrating a commitment to cost-effective and sustainable practices.

Milk Collection System Support

The milk collection system received notable support with Katheri Dairy Farmers Cooperative Society Limited concentrating on the procurement of a dump tank. This enhancement is anticipated to improve the efficiency of their milk collection process, leading to better overall operations and management.

Successes during project implementation

The project has led to significant improvements across multiple areas, including enhanced capacity building and professional human resource staffing, increased financial support and technical assistance, and strengthened partnerships with other

stakeholders. Advancements in ICT technology have been made, alongside increased milk supply and value addition. Improved feed strategies, such as the use of silage, and increased extension training through demonstration sites have been implemented.

Embracing technology, including solar energy, has been a key focus, contributing to increased membership and greater involvement of youth and women. Training cooperative members on various topics in Embu and Meru proved highly effective, reaching a larger number of farmers. The collaboration among stakeholders was crucial in implementing project activities, and the training model, which utilized Practical Farmer Trainings (PFTs) and demonstration farms, significantly enhanced farmers' skills and expertise in dairy production. This approach also facilitated the dissemination of local information, particularly among peers. Additionally, the integration of a Management Information System (MIS) streamlined cooperative operations, resulting in increased efficiency.



Challenges in project implementation

Operational Challenges

In Mburugu Farmers' Cooperative Society, challenges included the underutilization of the milling facility, limited access to raw materials necessary for feed production, high feed costs, and a lack of qualified personnel for the feed mill. Katheri Dairy Farmers Cooperative Society Limited faced issues with inadequate extension officers due to retirements and other causes, and the two 5000-liter cooling tanks were insufficient to handle the milk collection capacity, requiring two collections per day.

Additionally, Katheri Dairy Farmers Cooperative Society Limited experienced limited time for capacity building, highlighting the need for more comprehensive advisory on internal operations and control systems, and faced low turnout during training sessions, as farmers expected allowances. In North Rift region involving (Lessos Dairy, Lelchego Dairy, Kabiye Dairy, New Progressive Farmers' Cooperative Society, Lelbren Dairies, Ainabkoi Farmers' Cooperative Society, and Chepkorio) transport challenges occasionally led to milk losses, further impacting the efficiency of operations.

Magati Dairy Farmers Cooperative Society Limited struggled with high market competition from other dairy cooperatives, difficulties in achieving substantial increases in milk volumes, and low milk production per farmer, averaging just 4 liters daily, which impacted overall production levels.



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In North Rift region transport challenges led to milk losses, and further to efficiency of operations.

Financial challenges

In Mburugu Farmers' Cooperative Society, inadequate finances hindered the ability to purchase raw materials for feed production. Magati Dairy Farmers Cooperative Society Limited faced operational margin constraints, with low margins set by the processor at 2.7, which led to operational challenges and staff shortages. Additionally, rising transport costs significantly impacted the organization, with monthly expenses escalating from 100,000 shillings to 200,000 shillings, adding considerable financial strain. In North Rift region the challenges encountered included accrued loans that created financial strain, stalled projects that hindered progress, and job losses that affected local employment.

Lessons learned

The project implementation yielded several valuable lessons.

- **Internal Control systems:** Effective internal control systems, including robust governance and efficient procurement processes, are crucial for enhancing the efficiency and accountability of FPOs. Additionally, well-defined policies and internal control systems were critical in governing procurement processes and safeguarding organizational interests.
- **Training approaches:** Participatory and peer training models were effective in enhancing farmers' skills and knowledge in dairy production, allowing them to access extension services within their reach and learn from their peers. Capacity building particularly training proved to be crucial for the successful implementation of any innovation, ensuring sustainability even after the project's completion. Building capacity holistically for the board, PO staff, and farmers leads to increased synergy and productivity, organizational efficiency and a comprehensive training program for both staff and farmers has demonstrated improvements in cooperative management.
- **Stakeholder Collaborations:** Collaboration among various stakeholders fostered teamwork, contributed to successful project outcomes, and improved community engagement, thereby enhancing willingness to adopt and participate in project activities.
- **Outsourcing business functions:** Outsourcing non-core business functions, such as transport services, ICT systems and efficient energy through solarization positively impacted the core business of milk collection and chilling.
- **Addressing needs of FPOs:** Tailoring project implementation to the specific needs of each FPO led to more effective results, particularly in training.
- **Cost sharing:** Cost-sharing and partnerships play a vital role in sustaining investments in the producer organization, while strategic investment planning is essential for maintaining a sustainable growth trajectory.

- **Adoption of technologies:** Mechanization, such as silage machinery, significantly boosts efficiency in operational processes.
- **Clear communication:** Clear communication structures between producer organizations and implementing partners facilitated effective collaboration and prompt resolution of challenges.
- **Controlled political interference in project implementation:** Maintaining a separation between FPO staff activities and political involvement helped avoid conflicts of interest and potential business collapse.
- **Importance of strategic investment plan:** A strategic investment plan was vital for sustainable growth, helping to prevent unnecessary financial pitfalls.-

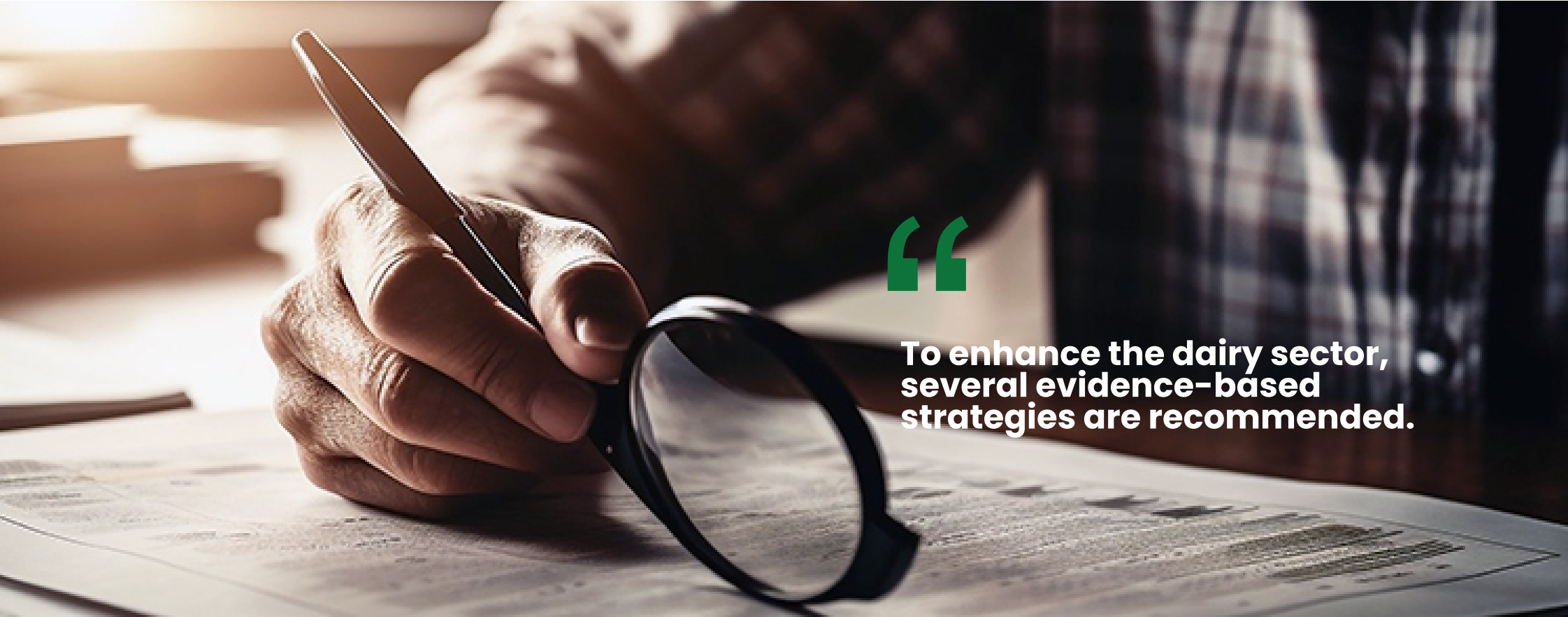
Policy gaps

The existing dairy policies exhibit significant gaps that hinder the sector's growth and efficiency as follows: The Dairy Industry Act (Cap 336) has policy gaps such as limited enforcement and compliance mechanisms, inadequate support for smallholder dairy farmers, and outdated provisions that do not address modern dairy farming challenges. Kenya Vision 2030 faces implementation challenges at the grassroots level, insufficient linkage between national policies and local practices, and

inadequate funding and resource allocation for dairy sector initiatives.

The Agricultural Sector Transformation and Growth Strategy (ASTGS) 2019–2029 has gaps in integrating smallholder farmers into commercial dairy value chains, infrastructure for milk collection, storage, and transportation, and the implementation of technology and innovation in dairy farming. The Dairy Master Plan (2010) has seen slow progress towards its targets, insufficient public–private sector collaboration, and gaps in extension services and farmer training programs.

Addressing the gaps in Kenya's dairy policy requires targeted interventions, such as enhancing support for smallholder farmers, developing infrastructure, promoting value addition, investing in research, implementing climate-smart practices, and improving coordination and resource allocation across sectors. At the same time, the dairy industry presents opportunities, including the potential for clean milk production, which improves market access and ensures safety standards are met. Additionally, training on traceability can open doors to the export market by meeting international quality and safety requirements, further expanding market opportunities for dairy products.



To enhance the dairy sector, several evidence-based strategies are recommended.

Recommendations

Evidenced Based Recommendations

To enhance the dairy sector, several evidence-based strategies are recommended.

- **Having a direct marketing channel:** Developing direct marketing channels can reduce dependence on processors and strengthen market linkages, as some FPOs currently sell 80% of their milk to processors and only 20% to formal or informal markets.
- **Efficient transportation systems:** Investing in efficient transportation systems and expanding cold chain infrastructure are crucial to minimize milk spoilage, especially given the wide catchment areas for FPOs. Furthermore, improving rural infrastructure is essential, as many FPOs face challenges due to poor road conditions. Policies aimed at enhancing rural roads should be prioritized to facilitate milk transportation and reduce spoilage.

- **Investing in milk value addition:** Expanding value addition capabilities among FPOs has also proven beneficial, with increased milk supply observed since the project implementation.
- **Introduction of minimum milk price:** The National government intervention is needed to address price fluctuations in the milk market. Implementing price stabilization mechanisms, such as minimum price guarantees during oversupply periods, could help stabilize milk prices.
- **Access to machinery:** There is need for county governments to develop policies to support machinery access, such as low-interest loans for essential equipment like silage machines, would benefit FPOs.
- **Agricultural extension services provision:** Expanding agricultural extension services to address the shortage of extension staff and supporting peer-to-peer training programs like farmer field schools are crucial.
- **Innovation and adaptation:** Supporting the adoption of green energy by providing incentives for cooperatives and farmers to use renewable energy solutions in dairy production and processing is recommended.
- **Outsourcing services and leasing:** Leasing a feed factory could ensure consistent feed production, while hiring land in Mbeere, Embu, for growing fodder supports could enhance feed supply.

Establishing a multisectoral approach to address the dairy industry challenges comprehensively.

- **Involving youth in dairy value chain:** Involving youths in the value addition node of the dairy value chain is essential for fostering innovation and sustainability in the sector.

Policy based recommendations

Policy-based recommendations include the enactment of the Cooperative Bill of 2024 to fortify the regulatory framework for cooperatives, ensuring better governance and operational standards. Implementing Kenya Dairy Board (KDB) regulations and establishing a mobile milk testing lab will enhance the control and quality of milk. To prevent unnecessary competition and promote fair market practices, it is essential to enforce boundaries for cooperative establishment based on defined catchment areas. Additionally, developing a comprehensive feed policy to regulate feed quality, along with guidelines for standardized dairy management training programs, will contribute to improved efficiency and elevated standards across the dairy sector. In this regard, some of the measures that the government can adopt include:

1. Enactment of the current cooperative bill 2024 to an act

Efforts should be made to ensure the enactment of the current Cooperative Bill 2024. This will help solve a number of problems, as follows:

- **Registration of cooperative by the commissioner**

The bill proposes that the commissioner will not register a cooperative with a name that closely resembles the name of an already registered cooperative or differs only by the addition of a place, locality, or region in Kenya. Therefore, there is a need to deregister inactive cooperatives. This can be done after a few years of inactivity, which has led to some cooperatives not being registered as the names of even inactive cooperatives remain in the registry.

- **The cooperative law on the succession and transition**

The current challenge in the operation of dairy cooperative societies in Kenya is the lack of strict adherence to the one-third rule for board succession and transition. This rule, which ensures that only one-third of the board members are replaced at any given time, provides continuity and stability in governance. Many cooperatives fail to implement this rule effectively, resulting in members' decisions not always being overarching and the cooperative not consistently operating for members' benefit. Additionally, inadequate verification of governance qualifications for new board members leads to governance issues and potential mismanagement. The Cooperative Bill 2024 emphasizes the importance of adhering to the one-third rule and verifying governance qualifications to maintain effective leadership and benefit members.

- **The cooperative policies should be standard and independent of the donors or impacts investment provider policies**

The cooperative policies are not standardized and independence from donor or impact investment provider policies. This creates inconsistencies and dependency issues, hindering effective regulation of business ventures and donor-funded projects. To address this, county governments need to align all cooperative policies to ensure uniform regulation. Additionally, needs assessments and feasibility studies should be conducted beforehand to inform and support these policy adjustments.

- **NGOs should assess cooperative capacity before engagement to ensure alignment with their main mandate**

Many cooperatives societies are keen to collaborate with NGOs to enhance their capacity, but there is often insufficient assessment of the cooperative's needs and the NGO's ability to meet those needs. This lack of thorough evaluation can lead to cooperatives deviating from their primary mandates in pursuit of NGO-driven agendas. There is a pressing need to ensure that any engagement with NGOs is preceded by a comprehensive capacity assessment and alignment with the cooperative's core objectives to maintain focus on their main mandate.

2. Strengthening of County Agricultural Sector Steering Committee (CASSCOM) secretariat

The secretariat brings all actors including representatives from county governments, local leaders, and stakeholders together to ensure transparency, coordination, and alignment with local development goals. This will allow the organizations, projects, programme on dairy have more concerted effort to share lessons learned, reduce possibility of repeating what other organizations are doing and instead improve and sustain projects targeting the dairy industry as well as aid in reduction of duplication of funding towards the same dairy producer organization.

3. Enforcement of Kenya dairy Board Regulations

There is a need for increased enforcement of Kenya Dairy Board regulations to ensure that all actors, including producers, can participate in marketing quality milk. This requires training and raising awareness about milk safety issues, which is hindered by the Board's current underfunding. The underfunded budget of the Kenya Dairy Board makes it difficult to ensure compliance across the sector. Additionally, there is a need for more frequent spot checks. It is worth considering that the Kenya Dairy Board should have its own mobile lab to test milk on the spot.

In conclusion, implementing these recommendations is crucial for advancing Kenya's dairy sector. Enacting the Cooperative Bill of 2024 will enhance governance and operational standards. Strengthening the CASSCOM secretariat will improve coordination and project



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