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2025 | Evaluation Report

Impact Evaluation—Kenya

“Maziwa, Improvement of Dairy Value Chain
Cooperatives in Meru County, Kenya”

AID 11510



Action Research for Co-development (ARCO)

ARCO is a research centre established in 2008 at the PIN Foundation | Prato Campus, University of Florence. The ARCO team is organised into six strategic units: Monitoring & Evaluation (M&E) and Impact Evaluation, Local Development, Inclusive Development, Social Economy, Circular Innovation, and Behavioural Insights. These units work in close synergy to provide research services, qualified consultancy, and training.

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The contents of this report are the sole responsibility of the authors and the evaluation team and do not necessarily reflect the views, policies, or official positions of the Ministry of Foreign Affairs and International Cooperation or any of the organisations involved.

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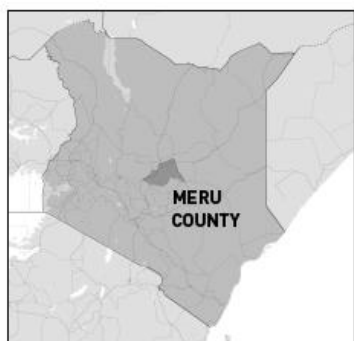
ACRONYMS

ACS	Domestic Hot Water
AICS	Italian Agency for Development Cooperation
ASAL	Arid and Semi-Arid Land
ASDSP	Agricultural Sector Development Support Programme
CIDP	County Integrated Development Plan
CMT	California Mastitis Test
CoWA	Companionship of Works Association
CSO	Civil Society Organisation
DAC	Development Assistance Committee
DGCS	Directorate General for Development Cooperation
ER	Expected Result
EU	European Union
FGD	Focus Group Discussion
FHF	Farmers Helping Farmers
GDP	Gross Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Society for International Cooperation)
HR	Human Resource
ICT	Information and Communication Technologies
IFPRI	International Food Policy Research Institute
IKI	International Climate Initiative
ILO	International Labour Organization
IPSIA	Institute for Peace, Development, and Innovation Acli
JICA	Japanese International Cooperation Agency
KDB	Kenya Dairy Board
KEBS	Kenya Bureau of Standards
KES / KSh	Kenyan Shilling
KfW	Kreditanstalt für Wiederaufbau (Credit Institute for Reconstruction)
KII	Key Informant Interview
KNBS	Kenya National Bureau of Statistics
LPG	Liquefied Petroleum Gas
M&E	Monitoring and Evaluation
MAECI	Ministry of Foreign Affairs and International Cooperation
MCIDC	Meru County Investment Development Corporation
MEAL	Monitoring, Evaluation and Learning
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
OECD	Organisation for Economic Co-operation and Development
OPHI	Oxford Poverty and Human Development Initiative
PIP	Piano Indicativo Pluriennale (Multiannual Indicative Plan)
PLA	Polylactic Acid
PPP	Purchasing Power Parity
RBM	Result-Based Management
RUP	Sole Project Manager
SACCO	Savings and Credit Co-operative Organization
SDG	Sustainable Development Goal

SDLD	State Department for Livestock Development
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SME	Small and Medium-Sized Enterprise
SRHR	Sexual and Reproductive Health and Rights
ToC	Theory of Change
ToR	Terms of Reference
TVET	Technical and Vocational Education and Training
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
USD	United States Dollar
USDA	United States Department of Agriculture
VNO	Non-Burdensome Variant
VSLA	Village Savings and Loans Association
WASH	Water, Sanitation, and Hygiene
WHO	World Health Organization

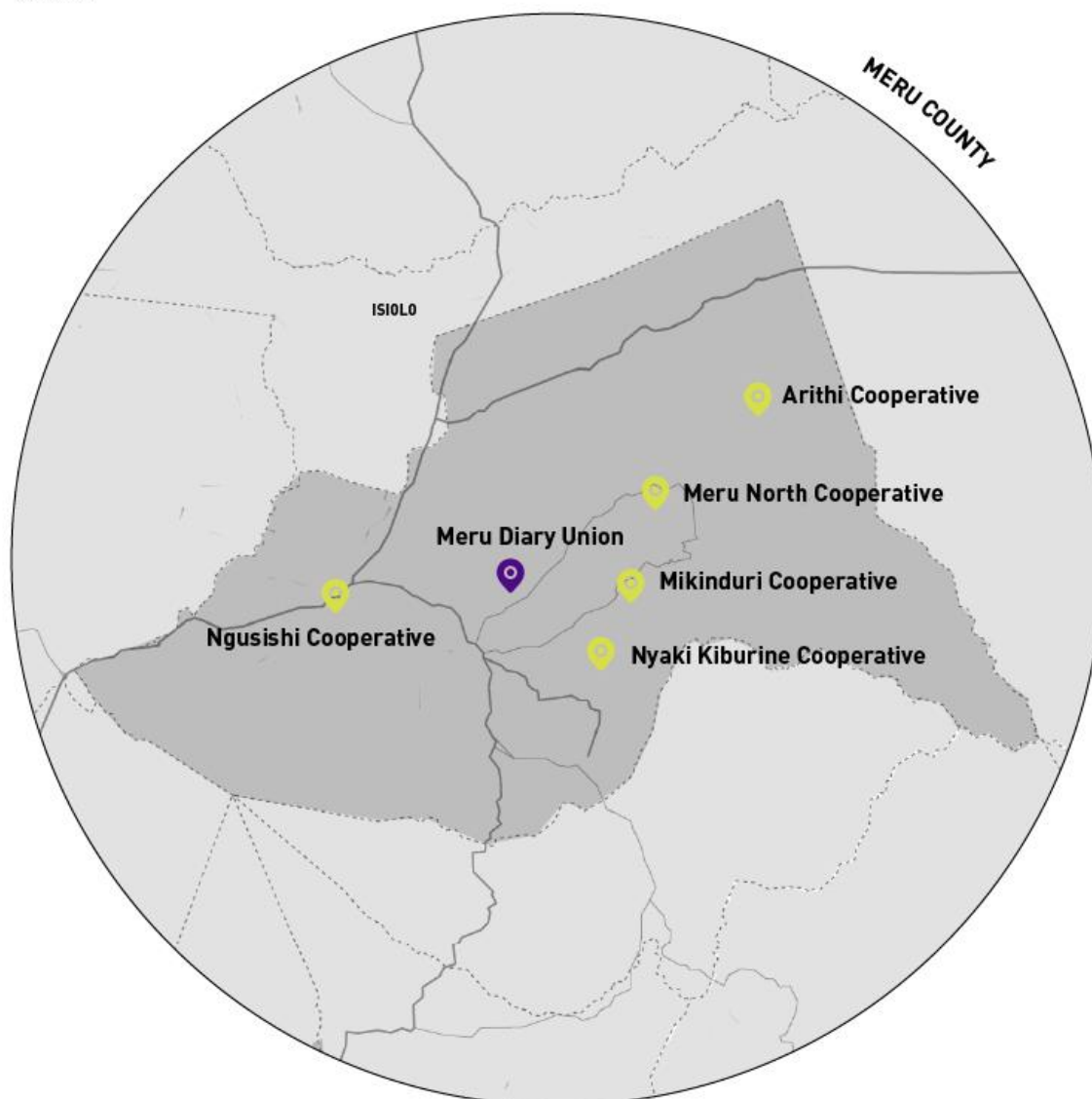
1 LOCATION OF THE INTERVENTION

The initiative “Maziwa - Improvement of Dairy Value Chain Cooperatives in Meru County” (hereafter “Maziwa”), Kenya AID 11510, was carried out between April 2018 and September 2021 by a partnership comprising Fondazione AVSI, IPSIA, Municipality of Padua, EDUS, Meru County Government, and Don Bosco Association. The project involved five dairy cooperatives located in five sub-counties of Meru County.



KENYA

Cooperative	Sub-County
Arithi Cooperative	Igembe North
Meru North Cooperative	Tigania East
Mikinduri Cooperative	Tigania Central
Ngusishi Cooperative	Buuri West
Nyaki Kiburine Cooperative	Imenti North



2 EXECUTIVE SUMMARY

A concise version of this report is available.

CONTEXT

Kenya's **dairy sector** is among the most advanced in Africa, ranking as the second largest on the continent in terms of herd size (after Ethiopia). The sector boasts one of the highest levels of milk production and consumption in Sub-Saharan Africa, with an estimated annual growth rate of 3% to 4%. A key component of the national economy, the dairy value chain contributes about **4.5% to the national gross domestic product (GDP)** according to data from the Kenya Dairy Board (KDB, 2024). Despite this volume, Kenya is not a milk-exporting country and relies on imports, primarily from Uganda, to meet domestic demand.

The sector supports about **1.8 million smallholder farming households** and provides direct employment to around 750,000 people, with an additional 500,000 engaged in related activities. However, the dairy industry faces a series of **complex challenges** that must be addressed to transform the sector into a more specialised and market-oriented model.

The Maziwa initiative, AID 11510, was implemented in Meru County by a partnership composed of Fondazione AVSI, IPSIA, Municipality of Padua, EDUS, Meru County Government, and Don Bosco Association, aiming to contribute to food security, improve nutrition, and promote sustainable agriculture (General Objective) through the enhancement of the management and production systems of cooperatives in the dairy value chain in Meru County (Specific Objective).

Project Title	Maziwa - Improvement of Dairy Value Chain Cooperatives in Meru County, Kenya		
Project Code	AID11510	Type of Project	Donation—Civil Society Organisation (CSO) Promoted Project—2017 Call
Country	Kenya, Meru County	Total Cost	€1,845,596.62
Start Date	1 April 2018	End Date	30 September 2021 (with 6-month extension)
Beneficiaries Reached	5 dairy cooperatives	2,863 farmers	423 cooperative leaders 165 Meru County Government staff

SCOPE AND OBJECTIVE OF THE EVALUATION

The impact evaluation of the Maziwa initiative is being conducted approximately four years after the project's conclusion. The general objective is to analyse the changes generated by the intervention in the medium term, focusing on the results achieved and the impacts recorded among the main beneficiaries and stakeholders in Meru County, as well as understanding the extent to which such changes can be attributed to the project's actions.

This study aims to evaluate the aid effectiveness of the initiative concerning the project's five expected results, using the Organisation for Economic Cooperation and Development-Development Assistance Committee (OECD DAC, 2019) criteria as a reference. The study will analyse the **relevance** of the intervention, the internal coherence of the Theory of Change (TOC) and the partnership, the external **coherence** with local, national, and international policies, the **effectiveness** of the actions undertaken, the **efficiency** in the use of human and financial resources, and the governance mechanisms and decision-making processes. Furthermore, it will assess the **sustainability** of the results over time—from social, economic, technical, institutional, and environmental perspectives—and the long-term changes generated by the project, with particular attention to the social, economic, and environmental **impact** on beneficiaries and the territory. The evaluation will also analyse the impact generated by the agricultural, livestock, and economic development model promoted by Maziwa, aiming to assess its potential for replicability. Finally, the evaluation pursues three purposes: accountability, learning, and empowerment.

DATA COLLECTION AND ANALYSIS METHODOLOGY

The impact evaluation adopts three complementary approaches: a **theory-based approach**, a **results-based approach**, and a **gender-sensitive approach**. The evaluator also applied mixed research methods, both qualitative and quantitative, to triangulate the collected data and provide a more detailed picture of the effects analysed. The main methodological elements include the following: project documentation analysis, desk research, contribution analysis (Mayne, 2001; 2012), and market and value chain analysis.

The primary data collection tools, designed to address the evaluation questions, were administered during the field visit by the Team Leader and the Local Expert between 30 June and 24 July 2025. The triangulation of the collected data allowed for comprehensive information on the project, combining the different perspectives of stakeholders and beneficiaries. Particularly, the evaluation employed the following tools:

- 13 semi-structured interviews—partners
- 15 semi-structured interviews—local and international institutions and stakeholders
- 10 case-study interviews with cooperatives
- 10 structured focus group discussions with 98 farmers
- Direct observation: 5 cooperatives, 11 farmers, 3 collection centres, and visits to project sites

EVALUATION FINDINGS

RESULTS ON THE COOPERATIVE BENEFICIARIES OF THE PROJECT

Currently, the five cooperatives remain operational and, compared to 2021 (the year the project ended), have increased their membership by 11%, reaching a total of 3,394 members, of whom 1,345 are actively supplying milk daily. Each active member provides an average of 7.6 litres of milk per day (up from an average of 5.2 litres in 2021), earning approximately 380 KSh per day, with a monthly average of 11,400 KSh. The average number of cattle per family has also increased, from 1.8 to 2.3. Among the most significant impacts is the improvement of facilities: the cooperatives have transitioned from temporary rented premises to a permanent office, allowing for better organisation of daily activities and product processing (although none of the processing plants are currently operational).

RELEVANCE

RELEVANCE TO THE CONTEXT AND TO THE NEEDS OF THE BENEFICIARIES The dairy sector is strategic for millions of small producers and for food security. The project, initiated following an initial needs assessment, addressed concrete priorities: limited access to quality inputs (low-quality feed and inadequate animal genetics), post-harvest losses, weak cooperatives, lack of technical services, and limited product processing and poor value chain development. Although limited in scope and conducted within a short timeframe to meet project submission deadlines, this analysis served as a valuable foundation for defining the project activities. However, some of the proposed activities revealed critical issues during the impact assessment. Particularly, most of the machinery supplied to the cooperatives (ER2 activities) are currently not being used. The lack of use can be attributed to several factors, such as the undersizing of solar systems compared to energy needs, the instability of the national electricity grid, the placement of the machinery without properly analysing the specific needs of each cooperative, and the lack of support from the Meru Dairy Union in initiating local production perceived as competition. All these factors have highlighted the need for more accurate needs assessments tailored to each cooperative, thorough engineering studies, longer support periods, and greater involvement of the cooperatives in defining and contributing to investments.

SELECTION OF BENEFICIARIES AND INCLUSIVITY The project involved five dairy cooperatives, selected in collaboration with the Meru County Government, with the aim of strengthening vulnerable and underdeveloped groups. Three cooperatives were formally established from scratch, while two existing cooperatives benefited from restructuring and governance interventions. Although a formal gender-mainstreaming strategy was not employed, the project involved many women due to their role in the value chain, with awareness-raising measures and the collection of disaggregated data. Youth involvement, which could have been further strengthened through targeted actions, such as promoting youth cooperatives capable of providing structured services along the value chain, was a secondary effect of some project activities.

RELEVANCE TO LOCAL INSTITUTIONS The initiative was implemented in partnership with national and local institutions, ensuring alignment with the strategic priorities of the dairy sector. However, structural limitations remain, particularly in the continuity of technical and veterinary services, due to the

limited resources of the institutions. The experience supports enhancing the role of cooperatives as service providers to ensure greater sustainability and closer support for farmers.

COHERENCE

COHERENCE WITH OTHER INITIATIVES The Maziwa project was developed in full coherence with other Italian and international initiatives in Meru County, integrating with projects by AVSI and IPSIA, as well as with governmental and international partner interventions. Some partial overlaps were offset by complementarity and greater continuity of actions, while collaboration with the Meru Dairy Union ensured improved services.

ALIGNMENT WITH INTERNATIONAL POLICIES Maziwa is consistent with the priorities of Italian cooperation (agri-food development, inclusion and gender, value chains) and partly aligns with the priorities on climate, innovation, and green energy of Europe, where Maziwa piloted experimental actions. Although the project approach to climate-smart practices was limited — for example through interventions aimed at more sustainable water and manure management — the project is nevertheless aligned with the priorities of the EU Gateway, particularly in the areas of food security and sustainable growth.

COHERENCE WITH NATIONAL AND LOCAL POLICIES The project aligns with the objectives of (i) Kenya's Vision 2030, aiming to develop strategic sectors such as agriculture, manufacturing, and tourism, with a focus on youth, women, and small enterprises; (ii) the Cooperative Act of 2014, promoting the development of cooperatives; and (iii) the Kenya Dairy Sustainability Roadmap 2023–2033, fostering a modern and inclusive dairy sector. The Meru region, thanks to its local dynamism, has been enhanced as a strategic hub, with reinforced cooperatives and more accessible services.

COHERENCE OF THE PROJECT LOGIC The reconstruction of the TOC confirmed the relevance of the training and cooperative-strengthening activities and validated the project logic, but revealed some limitations in the initiatives related to product processing (ER2) and energy systems (ER5). Areas for improvement emerged regarding water resource management, circular-economy practices, and more structured climate-smart strategies, which could support further consolidation of the project logic.

EFFECTIVENESS

ACHIEVEMENT OF RESULTS The impact evaluation confirmed the completion of activities and the achievement of the planned targets, albeit with varying levels of effectiveness.

ER1—Improved milk production and quality: positive results achieved thanks to the training of 2,400 farmers and the distribution of equipment, with a clear improvement in skills and milk quality. **ER2—Improved capacity for processing and preserving milk:** although five collection and processing facilities were established and innovations in milk quality analysis were introduced, outcomes remain limited, with the plants not yet operational. **ER3—Improved management, savings, marketing, and trade capacity of cooperatives:** strengthened the management and marketing capacity of cooperatives by training over 3,000 members and providing information and communication technologies (ICT) tools, with average effectiveness. **ER4—Strengthened the coordination and networking system of cooperatives:** engaged cooperatives and local institutions through training, logistical support, and awareness-raising activities, consolidating governance. **ER5—Increased use and awareness of renewable energy production systems:** introduced investments in renewable energy, accompanied by awareness campaigns.

EFFECTIVENESS AND RESULTS-BASED APPROACH The absence of an explicit Results-Based Management (RBM) logic in the 2017 call for Civil Society Organisations (CSOs) led to indicators focused on outputs, allowing for precise monitoring of activities but without fully measuring outcomes and impact. In response, AVSI initiated a systematic collection of project-induced outcomes and changes. The evaluator believes that adopting an outcome indicator system from the outset would have encouraged a more strategic and effectiveness-oriented approach.

EFFICIENCY

COMPOSITION, GOVERNANCE, AND COORDINATION OF THE PARTNERSHIP The partnership consisted of six actors: AVSI (lead partner and responsible for ER3, ER4, and ER5), Meru County Government and Don Bosco Association (local counterparts), IPSIA (responsible for ER1 and ER2), Municipality of Padua (Italian institution with expertise in ER4), and EDUS (participating in ER3 training activities). The collaboration required an initial adjustment period and experienced divergences between AVSI and IPSIA on strategic and managerial aspects. Partner activities were largely carried out independently, with limited interaction, although shared offices and relations with the Meru County Government facilitated a certain degree of alignment.

HUMAN RESOURCES AND INCLUSIVITY The permanent staff included managerial, technical, and support roles, complemented by external consultants and part-time resources. While adequate, the staff could have been expanded to better support ER1 and ER2. A positive aspect was the continuity of certain key personnel from AVSI, Don Bosco Association, and Meru County Government, who maintained connections with the cooperatives even beyond the end of the project.

PROJECT TIMELINES AND FINANCIAL RESOURCES The project timeline proved tight, given the agricultural and sequential nature of the activities, with delays related to land acquisition having cascading effects. The COVID-19 pandemic necessitated a six-month extension. At the end of the project, some cooperatives were still without electricity connections or with untested machinery, limiting the start of production and the consolidation of results.

SUSTAINABILITY

PROJECT ELEMENTS FOR SUSTAINABILITY The Maziwa project was planned with elements to ensure economic, technical, institutional, socio-cultural, and environmental sustainability, although further interventions could have strengthened its impact. Technically, training for beneficiaries, veterinarians, and institutions consolidated skills, while at a socio-cultural level, the mindset shifted towards the dairy sector. However, challenges emerged that need to be addressed, such as follow-up with farmers and cooperatives, continuity of training, and mechanisms for machinery and energy maintenance.

SUSTAINABILITY OF RESULTS Four years after project closure, the impact evaluation found high sustainability in **ER1**, with beneficiaries continuing to apply the practices learned. In **ER2**, the machinery remains largely unused, while in **ER3**, cooperatives are still using ICT tools and have improved access to credit. In **ER4**, institutional collaboration continues, albeit with limited impact on service delivery capacity, while the nutritional knowledge acquired by farmers is being applied. In **ER5**, cooperative facilities remain operational, and the biogas plants are maintained and kept active by the beneficiaries themselves.

IMPACT

Four years after the conclusion of the intervention, the evaluation examined the impacts that are still present and continue to manifest over time, the existence and duration of these impacts, the specific contribution of the Maziwa project, and other factors that have contributed to trigger these results. By applying the contribution-analysis methodology and reconstructing the project's TOC, the evaluative analysis identified intermediate outcomes and specific impacts to which the project contributed. Overall, Maziwa has demonstrated how the dairy value chain can simultaneously drive economic development, social inclusion, and environmental sustainability.

ECONOMIC IMPACT The project strengthened the financial sustainability of the cooperatives by reducing management costs and increasing savings capacity and bargaining power, stimulating market vitality and new investments. More efficient systems for data collection and payments to farmers were introduced, improving transparency and governance in line with the Cooperative Act 2014. Female participation on boards, membership numbers, and services offered—including loans and milk-collection centres—have increased, reducing post-harvest losses and reinforcing ties with the Meru Dairy Union and local markets. Obtaining KEBS certifications has laid the groundwork for future milk processing, while support to institutions has partially strengthened technical services for farmers.

SOCIAL IMPACT Households have experienced improved living conditions due to a more stable income, with greater access to education (including for girls) and more nutritious meals, thereby reducing malnutrition. The expansion of employment opportunities along the dairy value chain has promoted the inclusion of youth and women, enhancing the attractiveness of the sector. Young people have found new work prospects locally, despite challenges in accessing their own resources, such as land. For women, direct access to income and credit has promoted economic empowerment, with positive effects on decision-making within the family, time use, and community roles.

ENVIRONMENTAL IMPACT The project promoted agro-ecological and sustainable practices, improving animal welfare, nutrition, access to veterinary services, and soil fertility. The introduction of biogas plants increased the availability of clean energy, generating cost savings and reducing environmental impact.

KEY RECOMMENDATIONS AND LESSONS LEARNED

The implementation of Maziwa has provided valuable guidance for designing and implementing future rural development initiatives and dairy-value-chain strengthening in Kenya and similar contexts.

- 1. Strengthening cooperatives is crucial** to consolidating the bargaining power of small producers through enhanced governance, greater transparency, and inclusive participation, while requiring continuous training.
- 2. Thorough context analysis, stakeholder mapping, and accurate market and value chain analysis are essential** to designing projects rooted in local needs and capable of achieving real impact.
- 3. Considering the cyclical and seasonal nature of the agricultural and livestock sector** when planning project timelines and durations is vital, allowing for sufficiently extended periods, progressive consolidation phases, follow-up, and necessary flexibility.
- 4. Local presence and involvement of institutions are key factors;** prior knowledge of the territory, building of trust with institutions, and continuity of field presence are essential.
- 5. Establishing coordination forums** that facilitate shared decision-making and coherence among diverse actors is important. These spaces serve as forums for constructive dialogue and strengthen the continuity of interventions.
- 6. Timing of infrastructure investments,** which often require longer periods than initially planned, should be considered. Providing adequate buffers helps reduce delays and operational frustrations.
- 7. A structured infrastructure (handover and local ownership) is important** to ensure a sense of ownership and functionality over time.
- 8. Clear and transparent criteria for beneficiary selection are fundamental** to preventing conflicts and legitimising choices for building trust within communities.
- 9. Promoting inclusivity through targeted and cross-cutting actions** (gender, youth, environment, and climate) is essential to making results more equitable, inclusive, and sustainable.

Based on the experiences and evidence from the Maziwa project, the following recommendations are proposed to consolidate and strengthen the already-initiated approaches, improving the effectiveness, sustainability, and impact of future initiatives in the agricultural and livestock sector.

- 1. Development cooperation projects need to ensure the structuring of sustainable and market-oriented value chains, following appropriate and in-depth analyses of needs, context, and the specific value chain.** Productivity strengthening must be accompanied by solid value-chain development and ongoing dialogue with the private sector to avoid resource waste and maximise impact. Conducting the necessary needs assessments, actor mapping, engineering analyses, market and value chain analyses, environmental and animal welfare impact assessments, and circular-economy actions is important.
- 2. Define innovative mechanisms to strengthen the role of local institutions so to ensure the sustainability of the activities.** Involving institutions ensures coherence and transparency, but structural limitations require complementary solutions that enhance cooperatives as proximity actors.
- 3. Define exit strategies and ensure adequate timelines for agricultural projects.** The standard duration of cooperation projects may be insufficient to fully support cooperatives on the path to autonomy. Including exit strategies from the design phase helps strengthen sustainability and consolidate results.
- 4. Consolidate the role of local experts and ensure continuous training.** Establish structured mechanisms for ongoing training, which also account for the natural turnover of leadership and members within cooperatives.
- 5. Strengthen the coherence of initiatives and coordination through a steering committee.** Avoiding overlaps and duplication is essential to optimising resources and increasing the effectiveness of

interventions. Inclusive coordination mechanisms allow different efforts to be aligned towards shared objectives.

6. Promote climate-smart practices and circular-economy approaches in agricultural value chains. Systematically integrating climate-smart and circular-economy approaches represents an opportunity to strengthen community resilience and the sustainability of value chains.

7. Improve internal governance and communication among partners and stakeholders. Clear decision-making processes and transparent communication among partners strengthen the quality of project choices. Incorporating diverse actors, including the private sector, helps make partnerships more robust and strategic.

8. Strengthen the M&E system with a focus on results and outcomes. A monitoring and evaluation system more focused on outcomes allows for a full understanding of the changes generated and the timely introduction of any corrective measures. Integrating quantitative and qualitative indicators facilitates a more comprehensive analysis and a more dynamic project management.

3 CONTEXT

3.1 Country overview

Defined by the World Bank as a **lower-middle-income** country, Kenya is the sixth-largest economy in Africa, with a Gross Domestic Product of USD 124.5 billion and an annual growth rate of 4.7% (Kenya National Bureau of Statistics, 2025). The country's economy comprises agriculture, forestry, and fishing, contributing 22.5% of GDP; industry, 16.5%; services, 55.3%; and other activities, 5.8% (KNBS, 2025). According to the Economic Complexity Index (Trade, 2023), Kenya's main **exports** in 2023 were tea (USD 1.37 billion), flowers (USD 817 million), gold (USD 400 million), tropical fruit (USD 323 million), and coffee (USD 304 million). The main destination countries were Uganda, the United States, the United Arab Emirates, the Netherlands, and Pakistan. In the same year, Kenya's main **imports** included refined petroleum, palm oil, wheat, packaged medicines, and hot-rolled iron, primarily from China, the United Arab Emirates, India, Saudi Arabia, and Malaysia.

In recent decades, Kenya has undergone significant **institutional changes**, initiated with the adoption of the new Constitution (2010), which established a decentralised governance system that grants greater powers and responsibilities to the 47 counties.

Kenya's population is **young**: the median age is 20, and over 80% of the population is under 35. This demographic structure suggests a likely rapid population growth in the coming years. If properly harnessed and equipped with the necessary skills, the youth workforce could represent an important lever for the country's economic development (Kenya Vision 2030, 2021). However, Kenya is classified as a "low youth development" country according to the Youth Development Index, and this demographic profile could become a "ticking time bomb": each year, around 800,000 young people enter the labour market, but youth **unemployment** remaining four times higher than the national rate is a crucial public policy issue (Kenya Institute for Public Policy Research and Analysis, 2024). Many young people face unemployment, a mismatch between acquired skills and labour market demands, and a lack of entrepreneurial capacity, all of which hinder the contribution of the youth to sustainable and transformative development (Okello and Iberi, 2023; National Council for Population and Development, 2017).

Political and economic reforms undertaken over the past decade have supported economic growth, social progress, and greater political stability. However, significant development **challenges** remain: 46.4% of the population lives below the poverty line of USD 3 per day, the Gini Coefficient stands at 38.7%, indicating notable social inequalities, while youth unemployment, scarcity of quality jobs, and a lack of transparency and accountability in institutions persist.

Although Kenya's economic outlook is generally positive, the country continues to face high levels of uncertainty, particularly due to unmet fiscal consolidation goals, debt vulnerability, inflationary pressures, and food insecurity.

Added to this are recent international geopolitical tensions and the resulting increase in commodity prices.

Classification	Lower-Middle Income Group World Bank, 2024
Total Population	56.432.944 World Bank, 2024
Land Area	582.646 Sq.Km KNBS, 2024
GDP (current USD)	124.5 billion World Bank, 2024
GDP Growth (annual %)	4.7% KNBS, 2025
GDP per Employed Person (constant prices, PPP 2021)	14.613 World Bank, 2024
Inflation Rate (% as of June 2025)	3.8% KNBS, 2025
Total Unemployment (% of Labour Force)	5.4 % World Bank, 2024 on estimation ILO
Formal Employment	16.4% (3.4 m) KNBS, 2025
Informal Employment	83.6% (17.4 m) KNBS, 2025
Multidimensional Poverty Incidence (national)	0.113 OPHI, 2024
Poverty Incidence at \$3/day (PPP 2021)	46.4% World Bank, 2021
Poverty Incidence According to the National Threshold	38.6% World Bank, 2021
Gini coefficient	38.7% World Bank, 2021
Human Development Index (HDI)	0.628 UNDP (2023)
Youth Literacy Rate (% aged 15–24)	96% World Bank on UNESCO, 2022 data
Youth Development Index	0.673 (low) Commonwealth, 2022
Prevalence of Undernutrition (% of Population)	17.6 World Bank on estimation UNICEF, WHO, World Bank, 2022
Prevalence of severe food insecurity in the population (%)	28.0 World Bank on FAO, 2022 data
Country Ranking in the ND-GAIN Index	Vulnerability: 0.500 Readiness: 0.261 ND GAIN, 2023

Furthermore, Kenya is highly exposed to climate-related risks, ranking 51st among the most vulnerable countries, while its capacity to respond to climate shocks is limited, as indicated by its 157th position in readiness (ND-GAIN Country Index, 2023).

3.2 Dairy sector overview

Contribution of the Dairy Sector to GDP	4.5% KDB, 2024
Average Production of the Formal Sector	908 million litres KDB, 2024
Average Production of the Sector, Formal MERU	464 million litres Estimations KDB, 2024
Quantity of Milk and Cream Imported	67,335 tonnes TradeMap, 2024
Rejected Product (%)	1.51% KDB, 2024
Dairy Cattle Stock	5.02 millions State Department of Livestock Development, 2023
Average Production per Cow per Day	9 litres KDB, 2024
Average Gross Value of Milk per Litre	46 KSh KDB, 2024
Average Total Production Cost of 1 Litre of milk	36.2 KSh KDB, 2024
Number of Dairy Cooperatives	670 KDB, 2021
Number of Production Plants	32 large plants 186 small-medium USDA, 2024

The **dairy sector in Kenya** is among the most advanced in Africa and ranks as the continent's second largest in terms of herd size (after Ethiopia). The industry is steadily expanding, with an estimated annual growth rate of 3% to 4%. A key component of the national economy, the dairy value chain contributes approximately **4.5% to the national GDP**, 14% to agricultural GDP, and 44% to the livestock sub-sector GDP (Kenya Dairy Board, 2024). Yet, Kenya is not a net exporter of milk and relies on imports to meet domestic demand, with fresh milk and cream largely imported from Uganda.

The sector supports approximately **1.8 million smallholder farming households** and directly employs around 750,000 people, with an additional 500,000 engaged in related activities.

Milk production is primarily driven by smallholder farmers organised into cooperatives, who contribute about 80% of the country's milk output. These farmers typically own between one and five cows and produce an average of 7.6 litres of milk per cow per day.

The sector includes both **formal** and **informal** segments, with the latter accounting for approximately 45% of milk sold, according to estimates from the Kenya Dairy Board. The formal sector produces, on average, over 700 million litres of milk, placing Kenya among the largest dairy producers in Africa and giving Kenya one of the highest per capita milk consumption rates on the continent. Milk production in Kenya has generally trended upward between 2019 and 2024, despite some fluctuations, and the sector regained momentum from 2023 onwards.

The sector is crucial for national **food security**, accounting for over 7% of total caloric intake. However, it should be noted that milk sold informally can pose public health risks, as it is not subject to production, storage, and transport inspections.

The dairy industry faces a range of **complex challenges** that must be addressed to evolve the sector into a more specialised and market-oriented model, including limited access to quality inputs and technologies, poor feed quality, and, in some cases, inadequate animal genetics, low yields due to post-harvest losses, and weak market integration.

Additionally, structural factors limit growth opportunities for small producers: the fragility of small and medium agricultural enterprises, insufficient infrastructure for milk collection and cooling, seasonal variability in milk production, underutilisation of processing capacity, disengagement of youth from the dairy sector, and increase in climate-related risks.

3.3 Development Policies in the Country

In Kenya, international cooperation agencies from various countries operate, each with its own thematic priorities, alongside bilateral credit-based cooperation programmes. Among these countries, the **United States**, through USAID, particularly supports public health—including anti-HIV/AIDS programmes—and agriculture; **France**, through AFD, intervenes in urban development, water, and transport; **Germany**, through GIZ and KfW, works on energy, WASH, and the green economy. **Japan** is active with JICA in the infrastructure and technical training sectors. **Saudi Arabia** provides loans for infrastructure and fuel. The United Kingdom focuses on climate resilience, local governance, and inclusion. The **European Union** and other multilateral organisations fund projects in water, hygiene, nutrition, and education. Furthermore, in line with the Global Gateway Strategy, the EU supports key sectors such as renewable energy, digital connectivity, agro-industry, and resilient value chains. **Finland** promotes gender equality, youth empowerment, and TVET, while other countries, including **Denmark, Sweden, Belgium, Spain,** and **South Korea**, provide support in various areas, also through targeted grants.

Italy, in the AICS Three-Year Programming and Guidance Document, outlines the strategy of Italian Cooperation for 2024–2026 to promote sustainable development and equitable partnerships, while addressing the root causes of migration. Particularly, Kenya is included among the priority countries in the Horn of Africa: here, Italian cooperation in Kenya promotes development cooperation initiatives in key sectors consistent with the 2030 Agenda and with Kenya’s national and sectoral strategy. The common development priorities of the two countries are defined in the **Multi-Year Indicative Cooperation Plan (PIP) 2023–2027** (“Kenya-Italy Sustainable Development Partnership”). With an allocation of €100 million (€35 million in grants and €65 million in loans), the Plan focuses on three areas, in line with **Kenya Vision 2030**: i) Training, employment, and entrepreneurship for youth and women, with attention to innovation in the agro-food, manufacturing, and fintech sectors; ii) Climate change adaptation and combating desertification; iii) Social and health services in vulnerable areas (urban informal settlements and arid zones), focusing on maternal and child health, sexual health, gender equality, and violence prevention.

In addition to bilateral government cooperation, more than **40 Italian Civil Society Organisations (CSOs)** have been operating in Kenya for decades, regularly participating in calls for proposals issued by AICS in Rome and those managed by the regional office in Nairobi, implementing projects in both development and emergency sectors. The Italian cooperation system also includes research institutions, universities, and private sector actors. Furthermore, Italian cooperation in Kenya is active in multilateral cooperation through delegated initiatives, in collaboration with United Nations agencies, other international organisations, and the European Union.

In general, in the coming years, international cooperation will need to focus on the socio-economic issues outlined in Kenya’s national strategy, **Kenya Vision 2030**, promoted by the Government and implemented through medium-term development plans. The strategy is based on four priority pillars: i) Development of the manufacturing sector and job creation; ii) Social housing; iii) Universal access to health services; iv) Food and nutrition security. This national development plan aims to transform Kenya into an industrialised, middle-income country by 2030. The economic pillar targets annual growth of 10% through digitalisation, technical training, and youth and entrepreneurial employment, with particular focus on strategic sectors such as agriculture, manufacturing, tourism, financial services, innovation, and fintech, while emphasising support for youth, women, and SMEs. On the social and environmental side, the plan invests in education, healthcare, gender equality, services for informal settlements, and climate change adaptation. To implement Vision 2030, Kenya has launched the **Medium-Term Plan IV 2023–2027**, adopting a multisectoral approach with objectives for inclusive economic transformation.

4 SCOPE AND OBJECTIVE OF THE EVALUATION

4.1 Project description

The Maziwa project—AID11510—was implemented in Meru County with the objective of contributing to food security, improving nutrition, and promoting sustainable agriculture (SDG 2) by enhancing the management and production systems of dairy producer cooperatives in Meru County (specific objective).

Table 1: General Information on the Maziwa Project—AID11510

Project Title	Maziwa - Improvement of Dairy Value Chain Cooperatives in Meru County, Kenya		
Project Code	AID 11510		
Type	Donation—CSO Promoted Project—2017 Call		
Country	Kenya		
Region	Meru County Sub-Counties: Igembe North, Tigania East, Tigania Central, Buuri West, Imenti North		
Implementing Agency	Fondazione AVSI		
Local Counterpart	Meru County Government (Department of Agriculture)		Don Bosco Association
Partners	IPSIA—Istituto Pace, Sviluppo, Innovazione Acli	EDUS—Educazione e Sviluppo—Trento	Comune di Padova
SDGs	SDG 2 (T.2.4)	SDG 8 (T.8.2)	SDG 10 (T.10.1)
Start Date	1 April 2018	End Date	30 September 2021 (with 6-month extension)
Total Cost	€ 1,845,596.62	AICS Contribution	€1,661,036.96
		% AICS Contribution	90%
Beneficiaries Reached	Five dairy cooperatives	2.863 farmers	423 cooperative leaders 165 Meru County Government staff
Non-Costly Variants (NCV)	VNO 1 year	Changed a target cooperative (Kibirichia in Mikinduri instead of Solidarity House)	
	VNO 2 year	3-month extension	
		Moved budget lines from year 2 to year 3.	
	VNO 3 year	3-month extension	

To trigger these long-term changes, Maziwa worked on five action areas:

ER1. Improved milk production and quality

ER2. Improved capacity for processing and preserving milk and dairy products at the producer and cooperative level

ER3. Enhanced management, savings, marketing, and trade capacities of cooperatives

ER4. Strengthened coordination and networking system for producers and cooperatives

ER5. Increased use and awareness of renewable energy production systems

Table 2: Intervention Logic of Maziwa AID 11510

GENERAL OBJECTIVE	Contribute to achieving food security, improving nutrition, and promoting sustainable agriculture (SDG 2).				
SPECIFIC OBJECTIVE	Improvement of the management and production system of dairy producer cooperatives in Meru County.				
EXPECTED RESULTS	ER1	ER2	ER3	ER4	ER5
	Improved milk production and quality	Improved capacity for processing and preserving milk and dairy products at the producer/cooperative level	Enhanced management, savings, marketing, and trade capacities of cooperatives	Strengthened coordination and networking system for producers and cooperatives	Increased use and awareness of renewable energy production systems
ACTIVITIES	A1.1 Training on pastures, cereals/forage silage on the ground	A2.1 Milk refrigeration and storage	A3.1 Training on financial literacy for cooperatives	A4.1 Support for cooperatives in Meru County on management and marketing	A5.1 Land acquisition and construction of offices and laboratories for cooperatives
	A1.2 Training on selection and improvement of genetic lines and artificial insemination	A2.2 Laboratories and milk-quality analysis kits	A3.2 Provision of ICT equipment and related training	A4.2 Support to the Department of Agriculture and the Department of Cooperative and Entrepreneur Development	A5.2 Installation of biodigesters
	A1.3 Training on milk production, animal health, and hygiene	A2.3 Training on milk quality analysis, conservation, and storage methods	A3.3 Training on cooperative management and administration	A4.3 Annual meetings and exhibitions	A5.3 Installation of photovoltaic systems for the cold chain
	A1.4 Educational farm visits	A2.4 Milk and feed processing plants	A3.4 Establishment of Village Savings and Loans Association groups	A4.4 Awareness campaigns on the nutritional quality of milk and dairy products	A5.4 Installation of solar thermal systems for domestic hot water (DHW) production
		A2.5 Yoghurt production, standards, and quality	A3.5 Market analysis development		A5.5 Organisation of awareness campaigns on renewable energy sources

The central tool for the evaluation analysis is the TOC, reconstructed at the start of the evaluation through an analysis of the Logical Framework, project documents, and internal and external evaluation reports. The TOC was then tested and validated during the primary data collection, updated, modified, and finalised based on the evidence gathered, with the aim of illustrating Maziwa's contribution to change, in line with the contribution-analysis approach (see 5.2 Methodology).

Given its direct connection to the adopted evaluation approach, the TOC reconstructed by the evaluator, along with the logical steps and underlying assumptions, is presented in an organised manner in the "Impact" section of this document (see 6.2.6 Impact).

4.2 Objective and Purpose of the Evaluation

The impact evaluation of the Maziwa initiative is being conducted approximately four years after the conclusion of the project. The overall objective is to analyse the changes generated by the intervention in the medium term, with particular attention to the results achieved and the impacts observed among the main beneficiaries and stakeholders in Meru County. The evaluation also aims to understand the extent to which these changes can be attributed to the project's actions and to verify its actual contribution to achieving the intended objectives.

The study seeks to assess the aid effectiveness of the initiative in relation to the project's five expected results, using the OECD DAC (2019) criteria as a reference. The analysis examines various aspects: the

relevance of the intervention, the internal **coherence** of the TOC and the partnership, the external coherence with local, national, and international policies, the **effectiveness** of the actions undertaken, the **efficiency** in the use of human and financial resources, governance mechanisms, and decision-making processes. Additionally, the study evaluates the **sustainability** of results over time—socially, economically, technically, and institutionally—as well as the long-term changes generated by the project, with particular attention to the social, economic, and environmental impacts on beneficiaries and the territory.

The evaluation also analyses the **impact** generated by the agricultural, livestock, and economic development model promoted by Maziwa, aiming to assess its replicability potential. Specifically, the analysis focuses on the effects in terms of food security and nutritional levels, sector profitability and competitiveness, living conditions of the population, and women's empowerment processes. Special attention is paid to employment impacts, especially for women and youth, and to the diffusion of sustainable agricultural practices. The evaluation also considers the potential indirect impacts of the Maziwa project, particularly regarding access to education, with a focus on gender inequalities.

Finally, the evaluation pursues three purposes:

- **Accountability:** to provide MAECI, AICS, and other stakeholders with a transparent, evidence-based analysis of the intervention's effectiveness, efficiency, and impact;
- **Learning:** to identify good practices, lessons learned, and areas for improvement, useful for guiding future development cooperation strategies and enhancing the quality of interventions;
- **Empowerment:** to strengthen the capacities of local cooperatives and involved institutions, promoting the use of evaluation results to improve management and ensure the sustainability of their activities.

5 THEORETICAL AND METHODOLOGICAL FRAMEWORK

5.1 Evaluation criteria

The evaluation study is conducted in line with the OECD DAC (2019) criteria:

- **Relevance:** The extent to which the objectives and design of the initiative addressed the needs and priorities of the beneficiaries, the country, and the local institutions involved during the implementation period, as well as the capacity to remain relevant in the current context, taking into account changes that have occurred. This criterion includes an analysis of inclusiveness in the selection of project beneficiaries.

- **Coherence:** The compatibility of the intervention with other initiatives in the same sector in Kenya by both Italian cooperation and other actors. The analysis refers to both the project implementation period and the current context.

- **Effectiveness:** The degree to which the direct and immediate results of the initiative were achieved, considering potential differentiated outcomes among various beneficiary groups.

- **Efficiency:** The extent to which available resources were optimally allocated to achieve the project results, both in economic terms and in terms of timing and management efficiency.

- **Impact:** The assessment of significant effects of the intervention, both positive and negative, expected or unexpected, over a broader scope and a longer timeframe compared to direct and immediate results. Particularly, the impact on i) **Social sphere:** living conditions, gender equality, education; ii) **Economic sphere:** food security and nutrition, employment and working conditions; modernisation and health of cooperatives, productivity and competitiveness of the supply chain; iii) **Environmental sphere:** environmental sustainability and climate resilience of the supply chain, use of renewable energy. The evaluation also investigates the project's contribution to potential structural changes in local systems or regulations. The contribution of the project to Sustainable Development Goals 2, 8, and 10 (particularly indicators 2.4, 8.2, and 10.1) is considered.

- **Sustainability:** The extent to which the project's benefits have persisted in the medium term, and their potential to continue in the long term. The extent to which the project design included specific measures to ensure the sustainability of results.

Additionally, the evaluation incorporates certain cross-cutting criteria, particularly **gender equality** and the **enjoyment of human rights** (applying the Human Rights-Based Approach), as reflected in the evaluation questions.

5.2 Methodology

The evaluation adopts three complementary approaches:

- **Theory-based approach:** Centred on the TOC tool, this approach allows verification of the causal logic underlying the project.
- **Results-based approach:** Applying the principles of RBM, this approach analyses the achievement of project objectives through measurable indicators and concrete results, ensuring a structured and outcome-oriented evaluation framework.
- **Gender-sensitive approach:** Ensuring that the study accounts for gender differences, analysing the project's differentiated impact on men and women, and promoting the inclusion of specific perspectives and needs in the final recommendations.

The evaluator also applied **mixed research methods**, both qualitative and quantitative, to triangulate data and obtain a more detailed picture of the effects analysed. The main methodological elements include as follows:

1. Project documentation analysis: Collection and in-depth analysis of project documentation, monitoring reports, and other materials useful for contextualising the Maziwa intervention and reconstructing its logic, operational evolution, and main expected results. In parallel, some remote individual interviews were conducted with staff who had a direct role in project management (e.g., Regional Representative, Regional M&E, MEAL Manager, etc.).

2. Desk research: Aimed at gathering secondary information and data to describe in detail the intervention context, including socio-demographic characteristics of the territory and specificities of the local dairy sector. Official statistical sources, institutional reports, academic studies, and other qualified sources were reviewed to reconstruct the socio-economic, productive, and regulatory framework in which the initiative developed. This research activity helps integrate and validate primary data collected by the evaluator, contributing to a more robust and contextualised interpretation of results.

3. Contribution analysis: Based on the TOC and widely used in the evaluation of complex policies and interventions, this approach allows a robust and credible exploration of an intervention's contribution to observed outcomes, even in the absence of an experimental design. The analysis relies on triangulation of primary qualitative data collected in the field and secondary data from institutional sources and expert informants, following the steps proposed (Mayne, 2001; 2012). The aim is to reconstruct and ex post verify the consistency of Maziwa's TOC, as well as assessing the presence of alternative external factors that may have influenced the observed changes.

4. Market and value chain analysis: To evaluate the economic impact and sustainability of the initiative, the evaluator conducts a market analysis of the dairy sector in Meru County, aiming to understand sector profitability, competitiveness of the local production system, and its positioning within the Kenyan national market. This activity includes assessing the extent to which the current market has been influenced by the project's impact while considering other external factors that may have positively or negatively affected the sector. The data for the entire Meru County are compared with data from the project's beneficiary producers. Simultaneously, the evaluator studies the current functioning of the local dairy value chain, adopting a systemic approach to identify critical nodes and interconnections among the various actors (producers, processors, intermediaries, distributors, cooperatives, institutions, and final consumers).

5.3 Evaluation Limitations and Mitigation Measures

The main limitations of the evaluation methodology were as follows:

Selection of beneficiaries for qualitative data collection: During the initial phase of data collection, the evaluator requested lists of project beneficiaries from AVSI, which, in turn, requested these lists from the five cooperatives involved, receiving the lists only at the end of the first week of fieldwork. The lists included exclusively current and active members of each cooperative. Consequently, the initial selection of beneficiaries for focus group discussions and direct observation visits was determined by the cooperatives themselves. To mitigate this potential bias, the evaluator shared with AVSI—and, through it, with the cooperatives—specific selection criteria to identify beneficiaries for inclusion in the qualitative activities. A purposive sampling methodology was adopted to collect information as comprehensively and representatively as possible. Additionally, for home visits, beneficiaries different from those initially identified by the cooperatives were selected. This approach expanded the pool of interviewees and controlled the risk of bias arising from selecting only particularly positive or negative cases, which could have distorted the qualitative evidence collected.

Provision of inaccurate information by stakeholders: Several years after project completion, some interviewed stakeholders reported being unable to recall all details of activities or no longer having direct contact with beneficiaries or cooperatives. Consequently, their information was mainly limited to the implementation period and did not reflect the current situation. To reduce the impact of this limitation, the evaluator conducted a large number of interviews to triangulate the collected information and validate the data by cross-checking different sources. Additionally, direct observation of sites, activities, and beneficiaries allowed primary field data to complement stakeholder testimonies.

Other potential risks identified in the Inception Report did not materialise. Specifically, the risk of stakeholders or beneficiaries being unavailable did not occur; all invited participants responded positively to evaluation activities. This cooperation was possible through the mediation of AVSI, which directly contacted selected subjects and assisted the evaluator during visits, facilitating initial introductions before withdrawing to ensure transparent and independent interviews. Similarly, logistical challenges in reaching beneficiaries or project sites in remote areas did not arise, thanks to AVSI's constant on-field support.

Finally, the presence of a local consultant fluent in Kimeru within the evaluation team provided an additional mitigation factor. This factor allowed interactions with beneficiaries and stakeholders without external translation or mediation, fostering direct communication based on trust and understanding of the socio-cultural context. This element proved crucial for collecting high-quality qualitative data.

5.4 Information sources

The primary data collection tools, designed to address the evaluation questions, were administered during the field visit by the Team Leader and the Local Expert from 30 June to 24 July 2025. Triangulation of the data collected through these different tools enabled comprehensive information to be obtained about the project, combining the various perspectives of stakeholders and beneficiaries. Particularly, the evaluation employed the following tools:

DATA COLLECTION TOOLS	RESPONDENTS	
13 Semi-structured interviews—PARTNER	- AVSI Region and Kenya Representatives - AVSI Kenya Programmes Director - AVSI MEAL Manager - AVSI Project Manager - AVSI Current Project Manager - IPSIA Desk Officer Italy - IPSIA Project Manager (2018–2020) - IPSIA Country Coordinator Kenya - EDUS Responsible	- MERU COUNTY GOVERNMENT – Head of Department, Ministry of Agriculture, Livestock Development, and Fisheries - MERU COUNTY GOVERNMENT – Livestock Production Officer - MERU COUNTY GOVERNMENT – Director of the Agricultural Sector Development Support Programme (ASDSP) - DON BOSCO ASSOCIATION – Director
15 Semi-structured interviews—LOCAL AND INTERNATIONAL INSTITUTIONS AND STAKEHOLDERS	- Meru County Government—Director of Department of Cooperatives and Project Officer - Kenya Dairy Board Branch Manager - Meru Dairy Union Procurement and Extension Manager - Trainer of Trainers - Kenya Veterinary Association, Chairperson Eastern Region - County Nutritionist - Kenya Biogas Consultant	- Jenmart Farmer - Non-beneficiary Cooperative - Teacher from a school sensitised on Nutrition - Director of Companionship of Works Association (CoWA) - Expert from CEVA - AICS Nairobi Representative - Italian Ambassador to Kenya - AICS Rome Representative
10 Case-study Interviews—COOPERATIVES	- Arithi: Secretary Manager and Chairperson - Meru North: Secretary Manager and Board Member - Mikinduri: Secretary Manager and Chairperson - Ngusishi: Secretary Manager and Chairperson - Nyaki Kiburine: VLSA Manager and Chairperson	
10 structured focus group discussions with 98 farmers	- Arithi: 19 farmers in two FGDs - Meru North: 20 farmers in two FGDs - Mikinduri: 18 farmers in two FGDs - Ngusishi: 19 farmers in two FGDs - Nyaki Kiburine: 21 farmers in two FGDs	
Direct observation: 5 cooperatives, 11 farmers, 3 collection centres. Project site visits.	- Arithi: cooperative and two farmers - Meru North: cooperative and three farmers - Mikinduri: cooperative, two farmers, one milk-collection centre - Ngusishi: cooperative, three farmers, two milk-collection centres	- Nyaki Kiburine: cooperative and one farmer - Meru Dairy Union refrigerator - Meru Dairy Union processing plant - Meru Ushirika Day celebration

6 PRESENTATION OF FINDINGS

This section presents the results of the impact evaluation. Section 6.1 analyses the five project beneficiary cooperatives, detailing findings from direct observation and the collection of stories from the cooperatives and their member farmers. Section 6.2 then presents the results organised according to the evaluation criteria.

6.1 Assessment of the cooperatives

The following section illustrates the status and performance of each cooperative as of 2025, based on the impact evaluation. Currently, the cooperatives have a total of 3,394 members, of which 1,345 are active. Each active member provides an average of 7.6 litres of milk per day, corresponding to approximately 380 KSh in daily earnings and an average of 11,400 KSh per month. Finally, the average number of cattle per family has increased, from 1.8 to 2.3.

Table 3: Information on the Five Cooperatives, 2021 and 2025

COOPERATIVE	YEAR	Total Members	Active Members	Average Litres of milk collected	Number of Milk-collection Centres	Average Number of cattle
Ngusishi	2025	700	350	3,600–4,000	13	2.7
	2021	518	370	3,300	12	2.5 (*)
Nyaki Kiburine	2025	400	203	900	13	2.3
	2021	600	230	580	14	1.7 (*)
Mikinduri	2025	700	400	2,200	11	2.4
	2021	400	230	1,100	7	1.0 (*)
Meru North	2025	474	272	1,966	10	2.2
	2021	399	309	1,200	8	1.5 (*)
Arithi	2025	1,120	120	500	10	1.6
	2021	1,118	110	300	10	2.2 (*)

(*) Data reported by farmers during the FGD in the impact evaluation.

Source: Authors' elaboration based on the impact evaluation data (2025) and the external final evaluation data (2021).

6.1.1 NGUSISHI COOPERATIVE

NGUSISHI COOPERATIVE

Established in 1978, the cooperative ceased operations due to several issues and was reorganised in 2014 through the merger of three different cooperatives.

It is a member of the Meru Dairy Union.

Current number of active members: 200, with a production capacity of 3,600–4,000 litres per day.

DIRECT OBSERVATION

The cooperative's facilities, flooring, and machinery appear suitable for efficiently carrying out milk-collection activities. A solar power system has been installed, although it is undersized relative to the energy needs of the machinery.

The machinery available includes a batch pasteuriser, packaging machine, cap sealer, milk cooler, cold storage room, refrigerators, milk cans, weighing scales, processing table, laboratory, efficient drainage system, external refrigeration unit, milk jug, and cooling tank.

All machinery is in good condition but is currently not in use due to issues related to the lack of a stable electricity supply.



MILK COLLECTION

The cooperative operates 13 milk-collection centres located near its headquarters, where farmers can deliver milk either on foot or through *boda*. Only morning-milked milk can be delivered. From each centre, the cooperative's truck transports the milk to one of the Meru Dairy Union's cooling units. Quality tests are conducted at the centres (alcohol test and density check), and in case of doubt, a Lactoscan is used. The staff member records the accepted quantities in both her personal paper log and the farmers' register. Later, the Secretary digitises the data and sends it to the bank to enable monthly payments.

VALUE-ADDED PRODUCTS

Yoghurt production—previously a source of local employment and income—is currently suspended. The 2,000-litre cold room and the yoghurt processing unit, which were purchased earlier than planned in the business plan, are currently unused. While electricity supply in Meru was stable in the past, today, frequent outages are compounded by climate change, which has brought irregular rainfall and three consecutive years of drought. In December 2023, a two-day national blackout caused the loss of 500 litres of milk intended for yoghurt production. To address these issues, the cooperative has requested a generator from the Meru County Government and is currently awaiting a response.

VALUE ADDED AND MAZIWA'S CONTRIBUTION

Among the most significant impacts is the improvement of the infrastructure: the cooperative has moved from temporary rented premises—subject to frequent relocations—to a permanent office, allowing better organisation of daily operations.

The increased number of members has led to higher milk production, enabling the cooperative to expand the services offered to its members. The management and governance system has also been strengthened thanks to annual democratic elections for leadership roles and participatory general assemblies.

Training has improved managerial skills.

Members have also benefited from more appropriate equipment, transitioning from plastic containers to aluminium milk cans, which are more suitable for milk collection.

Lastly, in investment decisions—such as purchasing milk ATMs—the cooperative relied on technical support from the Maziwa team.

OTHER CONTRIBUTIONS

In addition to the Maziwa project, the cooperative receives support from the following:

- Meru Dairy Union: for training, technical services, milk collection, etc.
- Farmers Helping Farmers (FHF): for training, biogas systems, and water tanks.

FARMER'S STORY

G., 50 years old, lives with his family in Kiguru. He owns 1.25 acres of land and rears five cattle: two lactating cows, two heifers, and one calf. He is a member of the Ngusishi cooperative.

Initial situation: Before the start of the project, Gerald had low milk production and struggled to access the market. Limited knowledge in livestock management and a lack of proper inputs hindered the growth of his farming activity.

Project activities: Through Maziwa, he took part in training courses on silage production, calf management, feeding, and forage cultivation. He also received feed and minerals to improve the health and yield of his cows.

Results and impact: The intervention led to a clear increase in milk production and an improvement in selling prices. This benefit translated into higher income, better nutrition for the family, and a strengthened role of the cooperative.

Future outlook: G. hopes that Maziwa will resume training activities and involve more farmers. According to him, without the project, he would not have acquired the necessary skills for sustainable livestock management. Today, he looks to the future with greater confidence, relying on a stronger base for household income.

Direct observation: From observation, the animals appear to be in good overall condition and have access to ample space, though hygiene and ventilation can be improved further. Milking is done manually twice a day, with attention to hygiene, including handwashing and udder cleaning. Feeding includes green and dry forage, with water available thanks to a local water project. The involvement of men and women in daily tasks and decision-making processes is balanced. Production data is recorded in both paper and digital formats.



6.1.2 NYAKI KIBURINE COOPERATIVE

NYAKI KIBURINE COOPERATIVE

Created by the Maziwa project in 2018, the cooperative started with 130 members. Today, it has 400 members, of which 203 are active. Member of the Meru Dairy Union. The Secretary and the milk-collection truck are provided by the Union.

Current number of active members: 203, with a production capacity of 900 litres per day.

DIRECT OBSERVATION

The cooperative's structures, floors, and machinery are present, although the machinery and laboratory are currently not in use.

Available equipment includes a batch pasteuriser, packaging machine, cap sealer, milk cooler (never used and tested), cold room, two refrigerators, milk cans, scales, processing table, lab area, drainage system, external refrigeration unit, cooling tank, and a separate room for storing dairy products.

The connection to the Kenya Power electricity grid was completed at the end of the Maziwa project. The existing solar power system is connected to the milk cooler, but both are currently not in use.



MILK COLLECTION

The cooperative has 13 milk-collection centres, including the courtyard at the headquarters, where farmers deliver milk in the morning. Milk is tested for density and weight, and—if in doubt—an alcohol test is used. Additionally, four neighbouring cooperatives deliver their milk to Nyaki Kiburine, from where the Meru Dairy Union truck collects the entire quantity. Data is initially recorded on paper and later transcribed into a digital format.

VALUE-ADDED PRODUCTS

The cooperative's equipment has been installed but not tested. The cooperative currently produces about 900 litres of milk per day, while the machinery requires at least 1,500 litres to be operational. So, the goal is to increase the number of members to start milk processing and transformation in the future.

VALUE ADDED AND MAZIWA'S CONTRIBUTION

Maziwa created the cooperative from scratch: mobilising people to form an association, building trust, and developing governance capacities all required time.

The construction phase had numerous delays, including the connection to the electricity grid, and the machinery was delivered only at the end of the Maziwa project.

As a result, the mere fact that the cooperative still exists and is operational four years after the project's end already represents a significant achievement—despite the low quantity of milk produced and collected by members, and the fact that the equipment remains unused.

OTHER CONTRIBUTIONS

In addition to the Maziwa project, the cooperative receives support from the Meru Dairy Union, particularly through the provision of a Secretary and milk-collection services.

No other organisations are currently involved.

FARMER'S STORY

D., 60 years old, lives in Mbirikine and is a member of the Nyaki Kiburine cooperative. His family is composed of 15 people. He owns 16 hectares of land, on which he grows beans, peas, oranges, maize, and practices beekeeping. He has seven cows and two bulls, with three cows currently lactating. He currently produces between 16 and 20 litres of milk per day, selling to the cooperative at 50 KSh per litre.

Initial situation: Before joining the Maziwa project, the situation was very different: only two cows were lactating, daily production was around 8 litres, and the milk was sold locally to neighbours at 25 KSh per litre.

Project activities: Through Maziwa, D. received a biogas system, 10- and 15-litre milk cans, training on forage cultivation (especially Rhodes grass), and seeds.

Results and impact: The main impacts have been significant: thanks to the manure and milk income, he was able to invest and expand his crops, including fruit and beekeeping. Animal nutrition and management improved—even during the dry season—and the family's economic conditions strengthened. The household kitchen has become much more economical thanks to the biogas, which is easy to maintain and even more efficient than LPG gas. Several other farmers visited his biogas system and decided to adopt the same technology.

Future outlook: For the future, D. hopes Maziwa will return to offer further training and include new beneficiaries.

He emphasises that without the project, they would never have acquired the knowledge needed to practice more professional and sustainable dairy farming.

Direct observation: The animals are raised in semi-open and enclosed zero-grazing structures, clean and well-ventilated, with sufficient space per animal.

Milking is manual but accurate: it is carried out by D.'s wife, who cleans the udders before and after milking, maintaining good personal hygiene standards.

Feeding is based on green and dry forage, with concentrates when available. Manure is used on the farm, including for the biogas system.



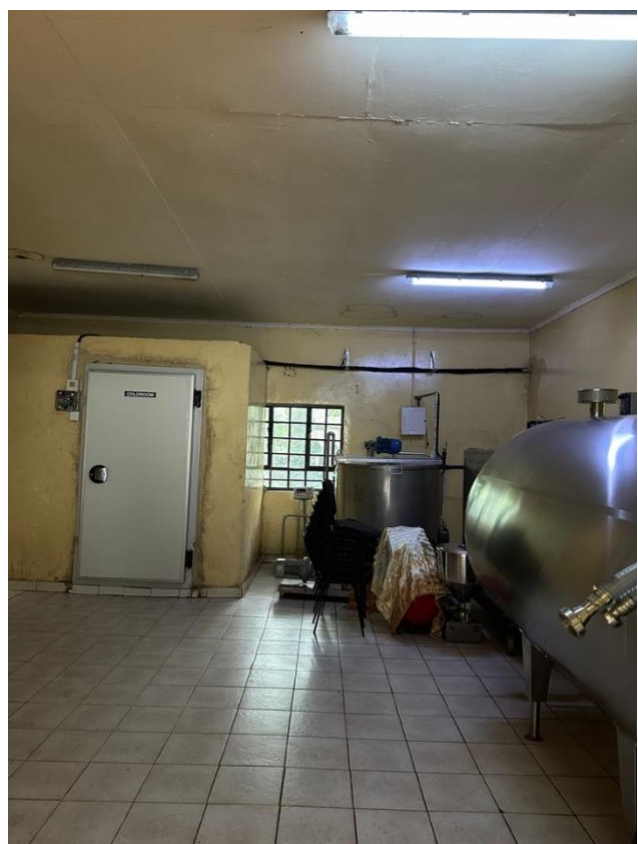
6.1.3 ARITHI COOPERATIVE

ARITHI COOPERATIVE

Created by the Maziwa project in 2018, the cooperative originated from an informal group of about 15 people, thanks to the mobilisation of the partner Don Bosco Association. Today, it has 1,120 members, 120 of whom are active, with a production capacity of 500 litres. It is not a member of the Meru Dairy Union. The cooperative sells raw milk to small businesses and local consumers.

DIRECT OBSERVATION

The cooperative's facilities and machinery appear in good condition overall and are suitable for milk-collection and processing activities. A solar system is in place, used to power the cold room and meet the office's electrical needs. Available machinery includes a pasteuriser, collection tank, packaging machine, cap sealer, cooler, cold room, refrigerators, milk cans, scales, processing table, laboratory, efficient drainage system, external refrigeration unit, milk buckets, and cooling tank, as well as laboratory equipment such as a Lactoscan, Kerba test for mastitis, graduated cylinder, and alcohol test gun, along with a computer and printer. At the moment, the cold storage room and the scales are in use, while the cooler and the processing machines are not being used due to the limited milk-collection capacity. The staff, composed of the secretary manager and his assistant, is trained and able to operate the machinery correctly.



MILK COLLECTION

The cooperative has 10 collection centres, including the patio of its own headquarters, where farmers deliver milk in the morning after density and weight measurements, and in doubtful cases, using the alcohol test and Lactoscan. The milk is then sold raw: Arithi is not a member of the Meru Dairy Union. Excess milk is stored in the cold room. Data is initially recorded on paper and later transcribed into a digital format.

VALUE-ADDED PRODUCTS

The cooperative's machinery has been installed, and the cold room is currently in use. The cooperative currently produces about 500 litres of milk per day. The milk is then sold raw, directly in the local market, to hotels and local consumers, transported by a *boda boda* employed by the cooperative. Excess milk is stored in the cold room. Yoghurt production is carried out occasionally, on a small scale, without using the equipment provided by the project.

VALUE ADDED AND MAZIWA'S CONTRIBUTION

The cooperative started as an informal group, thanks to the mobilisation of the partner Don Bosco Association. In the area, *miraa* (khat) cultivation is predominant; however, due to its declining economic relevance, many families are shifting production towards the dairy sector.

The project provided the structure and formal registration of the cooperative, and now 120 active members supply milk, which is sold in the local market. A total of 11 people are employed at the milk-collection centres and for milk transportation, and two work as a secretary and an assistant. Most of the machinery is currently not in use, although a strategic plan for its utilisation exists.

OTHER CONTRIBUTIONS

Besides the Maziwa project, the cooperative has received visits and support from the following:

- The Kenya Dairy Board, which provided practical guidance on home pasteurisation of milk in case of surpluses.
- In March 2025, LEAMINGTON AFRICA, with training for farmers.
- In 2024, AVSI, together with ENI and SAFA, promoted castor cultivation, providing seeds, training, and purchasing the oil produced.

FARMER'S STORY

Direct observation: From the observation at G.'s farm, zero-grazing farming is practised, with cows kept in open shelters with sufficient space. Hygiene conditions are not optimal, and a drainage system is absent; however, the animals appear to be in good health, with weekly parasite control via spray. Milking is done manually, twice a day, with udder cleaning; the containers used for milk collection are not visible. Animal feeding is based on purchased napier grass, green grass, maize stalks, and banana stems, while the water from rainwater harvesting is sufficient until the next season. Manure is used directly in the fields as fertiliser. In total, G. produces about 4 litres per day, of which 1 litre is used for household consumption and 3 litres are sold. Livestock management is mainly entrusted to the mother, supported by her son, who helps in decision-making. Sometimes, G. uses artificial insemination, while other times the cows are taken for natural mating.



6.1.4 MERU NORTH COOPERATIVE

MERU NORTH COOPERATIVE

When the Maziwa project arrived, the cooperative already existed but was in crisis: in 2017, it had 57 members delivering 100 litres of milk per day. It now has 272 active members and collects 1,966 litres of milk per day. Member of the Meru Dairy Union.

DIRECT OBSERVATION

The cooperative's facilities and machinery appear to be in generally good condition, with mostly new milk-processing equipment. Available machinery includes the following: batch pasteuriser, packaging machine, cap sealer, two coolers (one with a water heating/cooling system currently not functioning), receiving tank, cold room, refrigerators, milk cans, Lactoscan with cleaning supplies, scales, processing table, laboratory, drainage system, external refrigeration unit, milk bucket, cooling tank, as well as spaces dedicated to specific functions.

Despite the availability of such equipment, most of it is not operational due to difficulties related to water supply and the lack of solar or adequate electrical systems.



MILK COLLECTION

The cooperative has 10 collection centres, where farmers deliver milk in the morning after density and weight measurements, and in doubtful cases, using the alcohol test and Lactoscan. Part of the milk is collected by the Meru Dairy Union, while a residual portion is sold raw directly by the cooperative. Data is initially recorded on paper and later transcribed into digital format at the cooperative's office.

VALUE-ADDED PRODUCTS

The cooperative delivers 1,500 litres of milk per day to the Meru Dairy Union, and the remaining 400 litres are sold as raw milk on the local market. The profit generated is reinvested into the cooperative. Yoghurt is produced occasionally and in a homemade manner, while the processing machinery provided by the Maziwa project is not in use. The cooperative aims to increase milk collection to 3,500 litres per day to operate the machinery.

VALUE ADDED AND MAZIWA'S CONTRIBUTION

The Maziwa project built some of the facility's rooms, located on land that already belonged to the cooperative. Among the main effects of the project are a significant increase in milk collection, increased member trust, and more consistent milk deliveries, with a very low rejection rate thanks to improved practices. Initially, the cooperative had few members and only one collection centre, while today the cooperative manages more than ten. The project also provided a motorcycle to facilitate milk transport from more remote areas, built the office with furniture, and trained members on how to produce *malaa* and yoghurt. A digital record-keeping system was introduced, ensuring transparency in payments. The cooperative now generates monthly profits after covering all expenses and has contributed to the creation of both direct and indirect jobs.

However, challenges remain: high electricity costs and water scarcity.

OTHER CONTRIBUTIONS

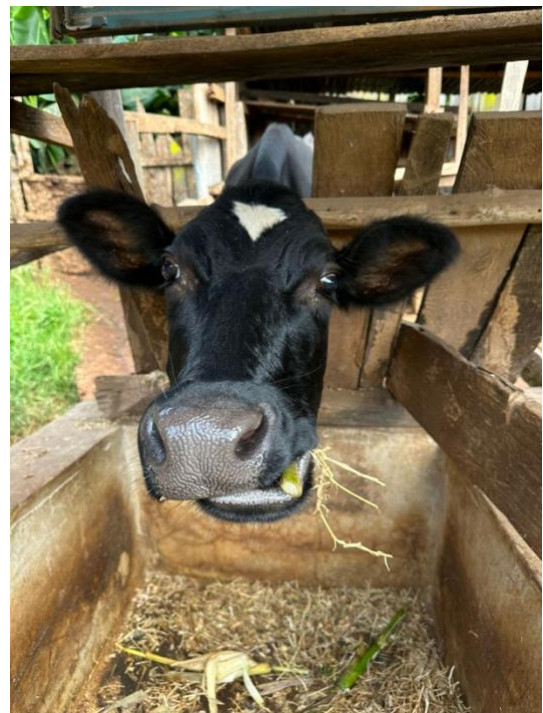
Besides the Maziwa project, the cooperative receives support from the Meru Dairy Union, particularly through milk-collection activities.

FARMER'S STORY

T., 48 years old, lives in Karama with her family of three. She currently owns only one cow, after having to sell the others due to a personal tragedy.

Initial situation: In the past, before the Maziwa project, she had five cows and produced over 20 litres per day (around 7 litres per cow). During the period of greatest involvement in the project, she managed between four and six cows, with an average production of 10 litres per day from two to three animals. Today, she no longer milks and buys milk for home consumption at 70 KES per litre.

Project activities: T. participated in several activities promoted by the Maziwa project: she received training on forage conservation and silage preparation, as well as guidance on proper feeding schedules to support milk production. She attended visits to demonstration farms and agricultural fairs in Meru. Additionally, she benefited from the distribution of equipment, such as milk cans (two 10-litre ones purchased at a subsidised price), and from support provided by the Karama cooperative, which offered a more stable and reliable market.



Results and impact: The project's main impacts on her life were significant. Thanks to the training and support, milk production increased, and T. could rely on a more stable income, allowing her to improve her family's living conditions, save money, and access free gas thanks to a biogas system installed in 2021. When well-fuelled, it covers all daily cooking needs and provides excellent organic fertiliser for crops like potatoes, maize, beans, and sweet potatoes.

Future outlook: Looking ahead, T. hopes to relaunch yoghurt production, a product in high demand in the local Karama market. She also emphasises the importance of continuing to improve cow management through adequate resting spaces, access to water, and proper nutrition. Convinced of the value of cooperatives, she believes members are now more competitive thanks to the training received and the support services available.

Direct observation: The farm is managed in a semi-open stall, with ample space for the animal but suboptimal hygiene conditions, particularly regarding manure management. Feeding is based on green and dry forages, without precise nutritional balancing, and the milk is hand-milked twice a day with proper udder cleaning.

6.1.5 MIKINDURI COOPERATIVE

MIKINDURI COOPERATIVE

Maziwa supported the creation of the cooperative, registered in 2018, starting from three informal groups.

Currently, the cooperative has 400 active members and collects about 2,200 litres of milk per day. It is a member of the Meru Dairy Union, to which it delivers all the milk collected.

DIRECT OBSERVATION

The facilities and equipment of the cooperative are adequate for milk-collection and -management activities, although the processing plant is absent, as the cooperative requested facilities for animal feed production.

Available machinery and tools include a cooler (currently not in use), milk containers, scales, external refrigeration unit, equipment for milk testing (lactometer, alcohol gun, and Lactoscan), building for feed production and meeting room, a solar system, and a motorcycle used for transporting milk from the collection centres.



MILK COLLECTION

The area is divided into five sub-areas served by 11 milk-collection centres. The milk collected at each centre is tested (alcohol test, density, and Lactoscan) and then transported to the cooperative, which acts as the main collection centre. Here, the Meru Dairy Union truck collects all the milk. The cooperative keeps paper records at the collection centres, which are later digitised at the office.

VALUE-ADDED PRODUCTS

The Mikinduri cooperative chose to request a mill instead of dairy machinery, as raw materials for feed production are available locally, allowing preparation of food for cows. The main challenge remains access to funds to activate production: a quote of about 2 million KSh could not be covered by loans due to a lack of guarantees. Currently, the group is applying for cooperative financing and simultaneously seeking support from the county government. While waiting to activate the plant, the cooperative buys feed through the Meru Union at negotiated prices and resells the feed to members and non-members, generating income. Electricity connection was achieved with IPSIA funds at the end of Maziwa. Currently, Kenya Power electricity is used, and the cooperative has requested solar panels through other programmes.

VALUE ADDED AND MAZIWA'S CONTRIBUTION

Maziwa created the cooperative starting from informal groups, built the cooperative's infrastructure, and provided training and machinery. Delays in electricity connection and depleted funds, which prevented the start of feed production, have posed a challenge. Nevertheless, a significant outcome is the existence of the cooperative, milk collection, and increased membership.

The Mikinduri cooperative was established with the support of Maziwa, transforming informal groups into a structured society and equipping them with land, infrastructure, equipment, and training. Maziwa facilitated investment in feed production machinery. However, the available funds covered only the purchase of equipment, leaving the necessary materials unfunded and preventing start-up. Despite these challenges, the cooperative successfully collects milk, distributes inputs, and has increased its membership.

OTHER CONTRIBUTIONS

Besides the Maziwa project, the cooperative receives support from the Meru Dairy Union, particularly through milk-collection activities. Thanks to Maziwa, the cooperative started and now operates independently and has accessed additional contributions from other initiatives.

FARMER'S STORY

M., a 64-year-old resident of Mikinduri, lives with her family of three. She owns 25 acres of land where she cultivates maize, beans, vegetables, peas, onions, sweet potatoes, and tomatoes.

Initial situation: She keeps four cows and four calves, of which two are lactating, producing 15 and 7 litres of milk per day, respectively. In the past, a cow that produced 20 litres per day died due to illness.

Project activities: Through the Maziwa project, she received concrete support, including five milk cans of various capacities (50L, 20L, 20L, 10L, and 10L), a biogas plant co-financed at 80% by the project, and training on cow care, feeding, and milk hygiene management. She participated in visits to demonstration farms and learned innovative techniques, such as using biogas for clean cooking.

Results and impact: The impacts were significant; milk quality and quantity increased due to better feeding management and the use of appropriate equipment. Furthermore, the market became more stable: she no longer needs to travel to Mikinduri or rely on unreliable customers but can deliver milk to the nearby cooperative collection centre. This result has also benefited her family, providing funds for daily expenses, school fees, and overall improved household wellbeing.

Future outlook: Looking ahead, M. intends to further strengthen her activities. She plans to improve pasture with super napier and introduce more productive breeds that can reach 30 litres per day. She intends to continue using artificial insemination, while acknowledging challenges related to technician reliability. She also hopes that the cooperative can address issues related to the water scarcity, the lack of milk cans, and the need for new training for recent members.

Direct observation: Hygienic and sanitary conditions are optimal; the facilities are well-ventilated, clean, and effectively drained. The animals are healthy, and milking practices meet high hygiene standards with regular controls. The farmer has good management organisation, with accurate records, balanced feeding (green, dry, and concentrates), and supporting technologies such as an electric freezer and forage cutter, confirming the training received by her and her son, and passed on to the workers.



6.2 Assessment of the OECD DAC Evaluation Criteria

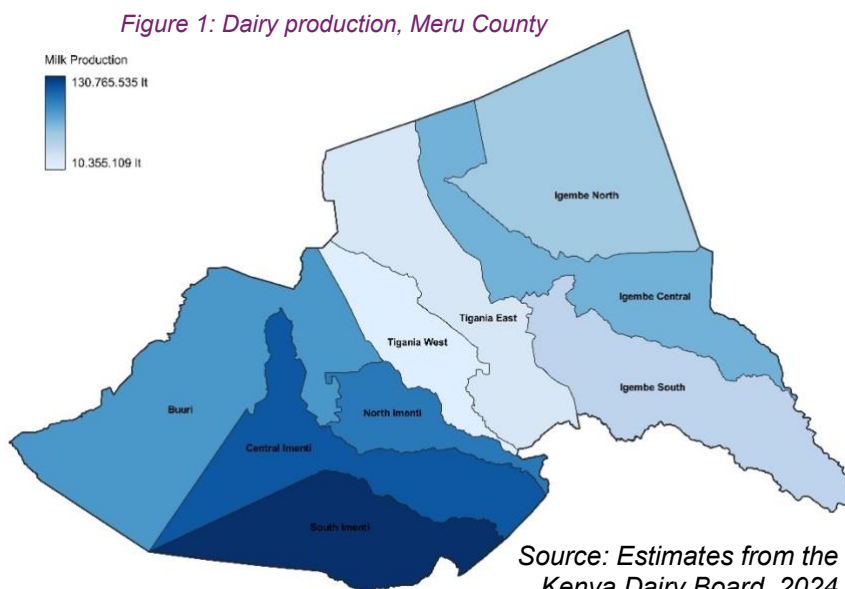
6.2.1 RELEVANCE

The extent to which the objectives and design of the intervention have addressed the needs and priorities of the country, beneficiaries, partners, and institutions, including the possibility to remain pertinent amid changing contexts and circumstances

RELEVANCE TO CONTEXT AND BENEFICIARY NEEDS

The dairy sector employs approximately **1.8 million smallholder farming households** and directly employs around 750,000 people, with an additional 500,000 engaged in related activities across the country. Milk production is primarily driven by smallholder farmers organised in cooperatives, who generally own one to five cows and produce an average of 7.6 litres of milk per cow per day. The sector plays a key role in national **food security**, contributing over 7% of total caloric intake (see Section 3).

In **Meru County**, where the Maziwa project operated, the dairy sector represents a dominant source of income and employment. Despite facing pressing challenges—such as irregular rainfall, degraded ecosystems, and rising feed costs—the sector holds significant potential. The region hosts dynamic cooperatives, innovative farmers, and a highland climate conducive to dairy farming.



Milk production in Meru County was estimated at 464 million litres in 2024, marking a 50% increase from 264.2 million litres in 2020. Dairy farming is considered a business activity, supported by reliable market opportunities that have bolstered producer confidence.

According to the Kenya Dairy Board (KDB), the volume of milk marketed formally in Meru County rose to 220 million litres, up from 71 million litres in 2020. As confirmed by the Livestock Production Officer, not all produced milk reaches the market; part is used for self-consumption, part is sold through informal channels, and only a portion is sent for processing.

During the rainy season, local milk supply meets processing capacity, whereas in the dry season, milk is imported from neighbouring counties because Meru alone cannot supply its processing capacity.

Meru County is divided into three zones: highlands dominated by tea and dairy production; intermediate zones producing coffee and dairy products; and arid and semi-arid land (ASAL) zones characterised by livestock, cereal, and cotton farming. The Maziwa project targeted the intermediate zone, identified as the most suitable for intervention according to the Livestock Production Officer.

The project was designed based on prior knowledge of the county and a needs assessment that involved key beneficiaries, ensuring the inclusion of their priority issues. The analysis, although limited in scope and conducted within a short timeframe to meet project submission deadlines, still served as a valuable foundation for defining the project activities. Some of the proposed activities, although appearing relevant during the initial needs analysis, revealed critical issues at the time of the impact evaluation. Particularly, regarding the machinery provided to cooperatives (ER2 activities) being currently unused, the lack of use is attributable to several factors, such as the undersizing of solar systems relative to energy needs, instability of the national electricity grid, placement of machinery not aligned with a real analysis of the specific needs of individual cooperatives, and the lack of support from the Meru Dairy Union, which perceives cooperative dairy production as competition. However, this situation should not be interpreted as a total failure of the project strategy, but rather as a weakness of this line of action. This issue has already been addressed in a subsequent project led by AVSI (Agrifood Economic Recovery, AID012590/05/6), in which machinery is provided according to the specific needs of the cooperatives and with significant co-financing from them. Moreover, projects of this type require a much longer timeframe

and more intensive support than the 36 months foreseen by the donor to allow for production consolidation. Among the needs identified by stakeholders interviewed during the impact evaluation activities, the following were reported:

Table 4: Identified Needs and Maziwa Project Activities

IDENTIFIED NEEDS	MAZIWA ACTIVITIES
Limited access to quality inputs and technologies, poor-quality feed, and inadequate animal genetics, with strong seasonality in milk production	Training for farmers (ER1 activities).
Post-harvest losses, insufficient infrastructure for milk collection and cooling	Provision of milk refrigeration and storage systems (A2.1) and training on quality analysis (A2.2).
Weaknesses of small and medium agricultural enterprises (inaccurate record-keeping of livestock, insufficient equipment, and limited milk collection)	Creation and strengthening of cooperatives through training (ER3 activities) and purchase of land for cooperatives (A5.1).
Limited availability of technical services to support farmers	Strengthening activities for the County Government (A4.2).
Low interest of young people in agriculture and the dairy sector	Activities directed at cooperatives also included young members.
Limited product processing and poor valorisation of value chains	Provision of milk-processing machinery to cooperatives (ER2).
Malnutrition issues	Training and awareness campaigns in schools (A4.4).
Difficulty accessing a stable sales market	Increase in milk quality and quantity (ER1) with guaranteed purchase by Meru Dairy Union and access to the local market.
Limited access to energy and renewable sources	Installation of photovoltaic systems (A5.3, A5.4) and biogas plants (A5.2) and awareness campaigns on the use of renewable energy (A5.5).
Increasing climate risks	No activities were specifically dedicated to this need; however, some activities included relevant elements (e.g., silage techniques).

Source: Authors' Elaboration.

Equally important was the presence in the county of a crucial buyer: the **Meru Dairy Union**.

MERU DAIRY COOPERATIVE UNION LTD

Also known as Meru Dairy Union, it is a union of cooperatives and a leading actor in dairy processing in Meru County. Founded in 1967 on the initiative of several cooperative societies to support farmers in milk marketing, the union today brings together over 120 cooperatives and represents one of the main collection and processing hubs in the local sector. Every day, it processes more than 670,000 litres of milk to produce a wide range of dairy products, including yoghurt, long-life milk, mala, ghee, and other products under the **Mount Kenya Milk** Products brand.

KENYA DAIRY BOARD

The KDB is the national regulatory agency responsible for the development, regulation, and promotion of the dairy industry in Kenya. Established under the Dairy Industry Act (Cap. 336) and operating under the authority of the Ministry of Agriculture, Livestock, and Fisheries, the KDB plays a central role in ensuring the quality and safety of milk and dairy products throughout the supply chain.

Its mandate includes issuing licenses and inspecting milk-processing plants, enforcing hygiene and safety standards, developing markets, and strengthening stakeholder capacities.

Through its network of 27 regional offices and the National Dairy Laboratory, the KDB regularly conducts quality controls, supports innovation, and facilitates both national and international trade in the dairy sector.

In recent years, the Board has introduced updated regulations and strategic initiatives, including the Dairy Sustainability Roadmap 2023–2033, to modernise the sector, promote climate-resilient practices, and enhance consumer protection, positioning Kenya as one of the leading dairy producers on the continent.

BENEFICIARY SELECTION AND INCLUSIVITY

The five beneficiary groups of the intervention were selected based on knowledge of the local context and of a previous project led by AVSI in the most marginalised areas of Meru County, where dairy cooperatives were underdeveloped, often not formalised, and had limited market access. The selection was also validated by the Meru County Government. As confirmed by the Directorate for Cooperatives, AVSI involved the institution in selecting the cooperatives to be included both in the Maziwa project and in subsequent initiatives. As the practice helps strengthen the most vulnerable cooperatives, it is viewed positively by the institution itself. In contrast, other organisations directly approach the Meru Dairy Union for this selection, without involving local institutions.

The cooperatives had already been identified during the project proposal submission for the AICS “OSC 2017” call. However, at the start of the project, the partnership replaced one group in Kibirichia—due to concerns about political interference linked to upcoming local elections—with another in Mikinduri, considered to have greater impact potential, as later confirmed by the Livestock Development and Fisheries representative in Meru County.

Project interventions were then tailored to the specific needs of each group: three were supported in formalisation and registration under the 2014 Cooperative Act, while two cooperatives, already active but struggling, benefited from restructuring and governance strengthening. In the Arithi cooperative, the local partner (the Don Bosco Association) handled the mobilisation and formation of the group, also involving vulnerable families whose children attend the schools the association manages.

Table 5: Cooperative societies benefitting from the Maziwa project

Ngusishi Coop.	Nyaki Kiburine Coop.	Arithi Coop.	Meru North Coop.	Mikinduri Coop.
Already existing, strengthened by Maziwa	Registered by Maziwa in 2018	Registered by Maziwa in 2018	Already existing, strengthened by Maziwa	Registered by Maziwa in 2018

INVOLVEMENT OF COOPERATIVES:

From Maziwa (AID11510) to Agrifood Economic Recovery (AID012590/05/6)

After the conclusion of the Maziwa project, AVSI launched a second intervention in the Counties of Meru, Embu, and Tharaka Nithi, involving approximately 30 cooperatives. In line with the Italian cooperation strategy, the beneficiary cooperatives of the two projects do not coincide. However, some specific training activities targeting a broader group of cooperatives could also include the five Maziwa cooperatives.

The selection strategy was also different: building on lessons learned from Maziwa, in the Agrifood Economic Recovery project, cooperatives were identified only after the project started, through a grant call open to applications and the definition of selection criteria that allowed groups to be chosen based on vulnerabilities and cultural or social aspects.

While this responds to the Italian cooperation strategy of diversifying beneficiaries, the impact evaluation highlighted that subsequent involvement of the five Maziwa cooperatives could have further strengthened and consolidated the results already achieved. Indeed, in agricultural and value chain development projects, 36 months is not sufficient to guarantee the full autonomy of cooperatives.

The continued presence of AVSI in the field remains an important point of reference; cooperatives continue to turn to the organisation in case of need.

The Maziwa project did not include formal **gender-mainstreaming** actions aimed at promoting gender equality. However, even in the absence of specific strategies, women were involved due to their predominant role in managing the dairy value chain, participating in training as cooperative members. In some cases, the husband was formally registered with the cooperative and therefore entitled to participate in project activities, highlighting how the inclusion of gender strategies from the planning stage could allow for corrective measures to be identified and applied. Maziwa nevertheless raised awareness among beneficiaries and local stakeholders about the importance of female participation in the value chain and collected gender-disaggregated data to define schedules that facilitated women's participation without interfering with family responsibilities.

Similarly, the involvement of **young people** was a secondary effect of some project actions, which could have been further strengthened through targeted activities, such as promoting youth cooperatives capable of providing structured services along the value chain—for example, the transport of agricultural inputs or the provision of specialised services. The dairy value chain, and the agricultural sector in general, are perceived by young people as unattractive (Kenya Youth Agribusiness Strategy, 2018–2022); however, as highlighted by the evaluation, the strengthening of cooperatives and the increase in income from milk sales contributed to renewing youth interest in this sector.

RELEVANCE FOR LOCAL INSTITUTIONS

The Maziwa project was launched with the support of, and in partnership with, the Meru County Government, which was involved from the planning phase and through the active participation of key institutions such as the Directorate of Cooperatives, the Kenya Dairy Board, and the Meru County Department of Agriculture. In this way, the project's objectives and the design of its activities also sought to respond to the concrete needs of these institutions. Among the expected results and indicators identified in the 2023/2027 strategic planning (The National Treasury and Economic Planning, 2024) are the strengthening of cooperatives, their formalisation and compliance with the Cooperative Act 2014, an increased contribution of livestock to GDP, higher daily milk production, and a reduction in post-milking losses. As confirmed by the representative of the Meru County Department of Agriculture, the County continues to prioritise increasing milk productivity per animal up to 75% of its potential, improving collection through cooperatives, increasing the volume of milk produced and sold on the formal market, and strengthening the value chain, with particular focus on the process from individual farmers to the processing site.

Table 6: National-Level Indicators and Targets for the Dairy Sector

OUTCOME	INDICATOR	UNIT	BASELINE YEAR	BASELINE VALUE	TARGET			DATA SOURCE	AGENCY
					2023/2024	2025/2026	2027/2028		
Increased livestock production	Share of livestock contribution to GDP	%	2022/2023	3.50	3.75	4.30	4.90	SDLD Report	SDLD
	Average milk yield per cow per day	Lt	2022/2023	2.5	3	6	7.5	SDLD Report	SDLD
	Percentage in post-harvest losses in milk	%	2022/2023	6	5.5	4	2	Economic Survey	SDLD

Source: *The National Treasury and Economic Planning, 2024.*

Improving the nutritional quality of animal feed remains a critical issue for the institutions. One of the main challenges concerns the lack of controls on feed labels: the Meru County Department of Agriculture has found that the nutritional information declared on labels often does not correspond to the actual composition. Despite the existence of good practices defined by the Meru County Department of Agriculture, the National State Department of Livestock, and the Kenya Bureau of Standards, the verification system to ensure their application is absent.

Some needs of the Meru County Government are structural in nature and, for this reason, cannot be fully addressed by a single international cooperation project. Among the main issues identified is the inability of the authority to provide technical services (extension services) to farmers due to a lack of budget and transportation resources. Within this context, the Maziwa project provided two-wheeled vehicles to the Meru County Government to allow technicians to reach farmers and offer assistance (activity 4.2). However, these vehicles were used only to a limited extent; during the project, the absence of funds to cover fuel costs was reported, and at the end of the initiative, the vehicles were essentially unused. Alternative solutions should be considered to address technical service needs more sustainably, for example, by strengthening the delivery of these services directly through cooperatives rather than relying on government services, as revealed during the interviews.

Similarly, activity A1.2 “Training on selection and improvement of genetic lines and artificial insemination” aimed to increase the number of livestock per farmer. However, the Department of Agriculture currently estimates that it can meet only 20% of the demand for artificial insemination, mainly due to a lack of funds.

ELEMENTS FOR OPTIMAL INVOLVEMENT OF INSTITUTIONS IN FUTURE INITIATIVES

- Involve institutions from the project design phase, collecting their needs.
- Identify a focal point for each institution and keep them regularly informed.
- Include institutional representatives in a steering committee to ensure open and transparent information sharing.
- Organise quarterly meetings with relevant institutions to provide updates on activity progress.
- Formalise roles, responsibilities, and mutual expectations through a Memorandum of Understanding (MoU).
- Share offices with county officers to ensure rapid and efficient communication.

6.2.2 COHERENCE

Compatibility of the intervention with other initiatives in the dairy sector in Kenya, implemented by both the Italian Cooperation and other stakeholders. The analysis covers the project implementation period as well as the current context.

COHERENCE WITH OTHER INITIATIVES

In Meru County, several Italian and international actors operate development projects. AVSI itself manages other interventions in the county, targeting different cooperatives and beneficiaries:

- The **Arabika Project AID 11767**, focused on the coffee value chain, concluded in 2025.
- The **Agrifood Economic Recovery Project AID012590/05/6** is scheduled to end in August 2027.
- The **biofuel cultivation project in Meru County** was later continued by ENI under the Agri-hub project.

AVSI is also implementing initiatives under the Mattei Plan in other value chains, applying the methodology piloted with Maziwa, which involves strengthening cooperatives and collaborating closely with local institutions, particularly the County Government.

The project partner IPSIA conducts cooperation projects in Meru and neighbouring counties:

- Resilience and food security for Maasai agro-pastoral communities in Laikipia, Meru, and Tharaka Nithi, funded by the 8x1000 IRPEF under direct state management.
- Women's empowerment and support for environment and health in Kenya (Laikipia), funded by AICS.
- **BE-0-Gas** (Laikipia), funded by GIZ – International Climate Initiative (IKI).
- **Smart Coffee Cultivation in Kenya** (Kiambu and Embu), funded by Fondazione Cariplo and Fondazione Compagnia di San Paolo.
- **Caffè Corretto** (Kiambu and Embu), funded by AICS.

Thus, the Maziwa project was developed **in full alignment with other Italian cooperation initiatives** active in Meru County.

The impact evaluation also highlighted the complementarity of Maziwa with other interventions by international or local organisations:

- Kenyan government projects aimed at increasing the number of cooling plants in the county.
- The **Livestock Value Chain Project**, promoted by the Polish government.
- Meru County government projects for artificial insemination, use of sexed semen, and mass vaccination for disease control.
- USAID-funded projects.
- **AGRITERRA**, a German organisation active in the dairy and coffee value chains.

However, cases of **partial overlap** were also present. For example, the Farmers Helping Farmers (FHF) project, supported by the Rotary Club of Montague in Canada, involved the Meru North and Ngusishi cooperatives. In these areas, the combination of Maziwa and FHF actions ensured more continuous and intensive support, albeit with some overlap.

The **Meru Dairy Union**, which affiliates four of the five Maziwa cooperatives, already provides a range of technical support services, including animal feeding training, provision of feed at subsidised prices, artificial insemination, veterinary and technical assistance, accounting support for auditors, milk

collection, and purchase at a set price of 50 KSh, along with milk-cooling facilities. However, these services do not fully meet demand, so Maziwa contributed to addressing gaps more effectively, improving the value chain.

The Union was involved in project implementation as a key stakeholder in the value chain. Among other contributions, the union advised on the type of milk cans to be purchased but opposed the activation of cooling and processing plants at the cooperatives, fearing the creation of competitors, as the cooperatives were members of the Union.

An important lesson from Maziwa was the need to ensure better coordination among different actors and interventions to avoid duplication and optimise resources. In response, AVSI's subsequent project, Agrifood Economic Recovery, established a **stakeholders' forum** including the Meru County Government, operational organisations in the county, the Livestock Directorates, Meru Dairy Board, Kenya Dairy Board, cooperatives, and AVSI to promote more structured and lasting collaboration.

The Kenya Dairy Board expressed high satisfaction with the collaboration and level of engagement achieved, emphasising the effectiveness of the information-sharing mechanism. To further consolidate results and move beyond individual projects, the KDB recommended **establishing a continuous forum to coordinate the efforts of the various stakeholders** in the dairy sector more effectively.

ALIGNMENT WITH INTERNATIONAL POLICIES

In relation to the objectives of **Italian cooperation**, the project is consistent with sectoral priorities such as agriculture and rural development with a value-chain-oriented approach, promotion of the private sector, development of value chains, and cross-cutting attention to gender and inclusion.

At the international level, **European priorities** are increasingly focused on climate change mitigation, technological development, and green energy—areas in which the project implemented pilot actions. Specifically, Maziwa's activities only indirectly addressed climate-smart practices, including sustainability strategies in water and manure management, and resilience-oriented animal selection practices designed to ensure adequate capacity to respond to climate risks. Nonetheless, the **EU Gateway** confirms the importance of agricultural development for food security and sustainable economic growth—areas in which the project actively contributed.

ALIGNMENT WITH NATIONAL AND LOCAL POLICIES

Maziwa is consistent with the objectives of **Kenya's Vision 2030**, which aims to develop strategic sectors such as agriculture, manufacturing, tourism, financial services, innovation, and fintech, with particular attention to youth, women, and small enterprises.

The actions to strengthen and establish cooperatives were implemented in compliance with the **Cooperative Act 2014**, and align with the Vision 2030 target (The National Treasury and Economic Planning, 2024) of increasing the number of cooperatives that are properly registered and compliant.

Table 7: Indicators and Targets Identified at the National Level for Cooperative Societies

OUTCOME	INDICATOR	UNIT	BASELINE YEAR	BASELINE VALUE	TARGET			DATA SOURCE	AGENCY
					2023/ 2024	2025/ 2026	2027/ 2028		
Improvement of cooperative governance	Percentage of cooperatives compliant with the law	%	2022/ 2023	15	17	43	80	SDC Reports	SDC

Source: The National Treasury and Economic Planning, 2024.

The **Kenya Dairy Sustainability Roadmap 2023–2033** is an ambitious initiative aimed at repositioning the dairy sector as a climate-smart, commercially sustainable, and socially inclusive driver of development. Linked to **Kenya's Vision 2030** and the **Bottom-Up Economic Transformation Agenda**, the roadmap outlines concrete interventions to increase the production of quality milk by 2.5 billion litres per year. The roadmap envisions a modernised industry led by strengthened cooperatives and service providers capable of adopting advanced technologies and sustainable practices.

The Meru region, thanks to its strategic geographic location and dynamic dairy ecosystem, is well-positioned to play a key role in this transformation. Coordinated investments, improved governance, and inclusive innovation will enable Kenya's dairy sector, including Meru, to meet growing domestic demand, strengthen resilience to climate shocks, and stimulate broader rural economic growth. In this context, the Maziwa project has been fully **aligned with sector policies and guidelines**, as confirmed by institutional actors interviewed during the impact evaluation.

COHERENCE OF THE PROJECT INTERVENTION

The coherence of the project logic was verified through the reconstruction and assessment of the **TOC**. The evaluation highlighted that training activities for farmers (ER1), together with the strengthening of cooperatives (ER3), were crucial for achieving the project objectives and ensuring the sustainability of actions after project completion. The presence of a **functioning market outlet**, represented by the **Meru Dairy Union**, allowed for an effective supply chain; however, the Union is an external factor over which Maziwa had no direct influence. Conversely, efforts to establish a complete supply chain at the level of individual cooperatives through local processing plants (ER2) were unsuccessful due to the Union's opposition, problems with electricity caused by undersized photovoltaic systems (ER5), and the unreliability of the local grid, which is subject to frequent power cuts.

The reconstruction of the TOC based on the outcomes and impacts actually observed (see 6.2.6 Impact) highlighted some differences from the initial planning, particularly in the causal links between activities and expected results. Analysis of the outcomes indicated that a different organisation of activities within the Expected Results could have strengthened overall project logic coherence.

Finally, the impact evaluation provided reflections to further consolidate the project logic:

- **Water collection, storage, and reuse:** Had the cooperatives effectively activated production and processing plants (ER2), water availability would have been a critical aspect in planning and managing the activities of the plants. Maziwa initially lacked a focus on water collection and use.
- **Strengthening circularity:** Maziwa promoted the use of only manure for biogas production, but many other circular-economy practices could be introduced (see Circular-economy Practices section).
- **Reinforcing climate-smart practices:** Some sustainability strategies through smart resource management, including soil quality improvement and efficient land use, were already implemented via manure use as fertiliser, silage production, and zero-grazing practices. Further activities could enhance resilience through drought-tolerant livestock varieties, watershed protection, pest and disease risk management, and consideration of climate change and global price shocks.

CIRCULAR-ECONOMY PRACTICES AND VALORISATION OF BY-PRODUCTS IN THE DAIRY SECTOR

Circular-economy practices in the dairy sector can be classified according to the level of implementation, ranging from activities at the farm level to processes in processing plants and laboratories. This systemic perspective highlights the interconnections along the value chain, facilitating the identification of synergies and a more equitable allocation of responsibilities among the various actors.

At the farm level, circular-economy practices primarily focus on reducing waste and potentially valorising by-products. A widely adopted practice globally is the production of biogas. In dairy processing plants and cheese factories, there are several options for recovery and reuse. Whey, the liquid by-product from cheese, casein, and yoghurt production, represents a high-potential resource, rich in proteins of high nutritional value, lactose, and bioactive compounds. Whey proteins include components with antimicrobial, antioxidant, and immunomodulatory properties (Lavelli, 2022). Whey can be used for animal feed production, functional ingredients for the food industry, or biotechnological applications.

From a nutritional perspective, whey components such as β -lactoglobulin and α -lactalbumin are increasingly used in sports, clinical, and infant nutrition, demonstrating growing market interest (Mehra et al., 2021).

Whey could represent a valuable opportunity to promote circular bioeconomy practices within Kenya's rapidly expanding dairy sector. Rather than being considered waste, whey can be valorised across multiple sectors to support circular-economy objectives (Nayil, 2021). According to the Kenya Dairy Board, the increase in yoghurt and cheese demand also raises the volume of the whey produced. Despite the need for technological investments, this by-product can be reimaged as a resource contributing to sustainability, nutritional enrichment, and innovation.

As extensively demonstrated globally, whey could offer various valorisation opportunities in Kenya within a circular-economy framework. Some examples include the following:

Animal feed: Both sweet and acid whey can be used as high-energy feed. Collaborations with nearby farms can facilitate its local reuse (Pires et al., 2021).

Food products: Whey can be dried into powder and used in various food items, such as infant formulas, baked goods, meat products, sauces, and snack seasonings (Tsakali, 2010; Alimoradi, 2016; Kareb, 2019).

Nutraceuticals: Bioactive peptides derived from whey proteins support immune, cardiovascular, and digestive health. Technologies such as ultrafiltration allow the extraction of α -lactalbumin, lactoferrin, and immunoglobulins for the production of high-value health products (Awuchi, 2022).

Energy: Whey can be co-digested with manure or other organic waste to generate biogas, providing both waste treatment and renewable energy. Additionally, its lactose content can be converted into bioethanol or hydrogen via fermentation, contributing to green energy strategies (Nzila, 2010; Antonelli, 2016).

Packaging: Lactose derived from whey can be fermented into lactic acid, a precursor for biodegradable plastics such as PLA (polylactic acid), increasingly used in sustainable packaging solutions (Rosseto, 2023).

6.2.3 EFFECTIVENESS

The degree of achievement of the initiative's direct and immediate results, taking into account any differentiated outcomes among the various beneficiary groups, the logic and coherence of the project design, and its overall validity

ACHIEVEMENT OF RESULTS

The evaluation highlighted that all planned activities were implemented and that the targets set for the project's indicators were achieved. The effectiveness analysis was conducted through the review of narrative reports and the project M&E matrix, subsequently validated through field visits and the use of primary data collection tools.

Overall, the analysis shows that for each Expected Result, activities were completed according to the plan, and the output indicator targets were met. However, medium-term effects are heterogeneous. Particularly, for Expected Result 2, related to milk processing and storage facilities, the medium-term effects were limited, as the facilities were not yet operational at the time of this evaluation due to the instability of the national electricity grid, the undersizing of solar systems compared to energy needs, or the lack of machinery testing. Similarly, the effects associated with Expected Result 5, concerning the use and awareness of renewable energy sources, were not fully achieved.

In light of this heterogeneity across the five Expected Results, a detailed analysis is proposed below, outlining the main outputs and outcomes for each result.

ER	MAIN OUTPUTS AND OUTCOMES	LEVEL
ER1	Training activities: Approximately 2,400 farmers were trained on pasture management, milk production improvement techniques, silage and feed preparation methods, and animal health and hygiene. Procurement and distribution: 245 California Mastitis Test kits, 1,080 milk cans, a total of 1,441 milk cans distributed to target farmers (capacities of 10, 15, 20, and 50 litres), 10 additional 50-litre cans delivered to each cooperative for milk transport. Observed results: Significant increase in farmers' knowledge and skills, higher milk quantity and improved quality, and a cultural shift in perception—dairy farming increasingly seen as a business activity rather than purely a traditional practice.	High
ER2	Training activities: 2,400 farmers and 50 milk-collection point operators trained on quality analysis, storage methods, and value addition (processing and product enhancement). Infrastructure: Four new milk-collection and processing facilities constructed (2,000-litre capacity each) in Mikinduri, Arithi, Kiburine, and Ngusishi; one facility in Meru North refurbished. Innovations introduced: Initiation of milk-quality testing at collection points (e.g., alcohol test, density measurement), cold storage cells for processed milk, and training of cooperative members and staff in milk processing (e.g., yoghurt production). <u>Facilities are not currently operational due to electrical issues, lack of testing, and delayed delivery of machinery during the project closure phase.</u> Management efficiency: Construction and equipping of refrigeration facilities contributed to reducing operational costs, including savings on previously incurred monthly rental fees.	Medium-low
ER3	Training of cooperative members: 900 members trained in financial literacy and business management skills, 1,800 members trained on community savings and credit mechanisms (VSLAs), and 2,400 members trained on marketing strategies. Training of staff and management: 45 committee members trained in ICT, and 45 cooperative managers trained in management and administration of social enterprises. Technological equipment: Five cooperatives provided with laptops for administrative and technical management.	Medium

ER	MAIN OUTPUTS AND OUTCOMES	LEVEL
ER4	Training and capacity building: 423 board members of 47 cooperatives participated in a workshop on management and marketing of dairy cooperatives; 165 Meru County Government officials and district veterinarians benefited from capacity-building activities. Institutional equipment: The Departments of Agriculture, Livestock, and Cooperatives were each provided with two motorcycles, for a total of six motorcycles, to support field activities. Awareness raising: 7,200 people sensitised on the nutritional value of milk.	Medium
ER5	Structural investments: Purchase of land for three cooperatives, installation of three biogas plants, installation of two photovoltaic systems in two cooperatives, installation of five solar thermal systems in the five cooperatives. Awareness raising and campaigns: 7,200 people sensitised on renewable energy topics, implementation of three dedicated awareness campaigns.	Medium

EFFECTIVENESS AND RESULTS-BASED APPROACH

The “AICS-OSC 2017” call did not explicitly require the adoption of an RBM logic; consequently, the indicators proposed by the project focused primarily on output-level measurement. This approach allowed precise monitoring of the activities actually implemented but did not provide a direct measure of the results and impacts generated.

Aware of the limitations of an output-only approach, AVSI initiated the collection of unplanned outcomes and impacts triggered by the Maziwa project (AVSI, 2021) through an internal evaluation that investigated the multidimensional secondary effects generated by the project. The evaluator considers that adopting an outcome indicator system from the outset would have encouraged a more strategic and effectiveness-oriented approach, fostering continuous reflection on how planned activities genuinely contributed to improving the value chain and strengthening the cooperatives.

6.2.4 EFFICIENCY

The extent to which available resources were optimally allocated to achieve the project's results, both in terms of financial management and in terms of timing and operational efficiency

PARTNERSHIP COMPOSITION, GOVERNANCE, AND COORDINATION

The partnership consisted of six actors: one lead organisation, two partner organisations, two local counterparts, and one Italian institution.

ORGANISATION	ROLE	RESPONSIBILITIES
AVSI	Leader	Responsible for RA3, RA4, and RA5
MERU COUNTY GOVERNMENT	Local counterpart	Integrate the project into the local context and involve government technicians
DON BOSCO ASSOCIATION	Local counterpart	Act as a local liaison among the cooperatives. Manage the purchase of land and the transfer of ownership to the cooperatives
IPSIA	Partner	Responsible for RA1 and RA2
EDUS	Partner	Participate in the training of RA3
COMUNE DI PADOVA	Partner	Provide expertise on the activities of RA4

The evaluation activities highlighted that the partnership possessed all the **technical skills** necessary to carry out the activities. Moreover, all partners involved reported that through Maziwa, they had consolidated their **expertise** in the agri-food sector and value chains, subsequently applying their expertise in other projects.

It emerged that the presence of numerous partners, each with their own perspectives and with limited prior experience of working together, required an initial adaptation period to build trust and define shared operational procedures. Differences of opinion arose particularly between AVSI and IPSIA regarding the presence of expatriate staff, office location, and the appropriate level of decision-making.

With few exceptions (including the construction and provision of cooperative premises, carried out jointly by AVSI and IPSIA, with the latter responsible for purchasing machinery), each partner was responsible for distinct activities that could be managed autonomously, also thanks to the limited interactions between different actions. The sharing of offices, proximity to the Meru County Government, and the preparation of monthly reports nevertheless allowed for a certain level of alignment and coordination.

The partnership had not initially planned regular **coordination** meetings among all project partners: the Don Bosco Association, EDUS, and Municipality of Padua were mainly managed by AVSI, and no structured planning or coordination meetings were scheduled with them. At the local level, in Meru County, quarterly meetings were organised between AVSI, IPSIA, the County Government, and the cooperatives, ensuring a regular exchange of information.

HUMAN RESOURCES AND INCLUSIVITY

For the implementation of the Maziwa project, the partnership deployed a stable and qualified staff, including the following: one Project Manager, two Project Coordinators, five Project Officers, one Accountant, one Office Assistant, and one Communications Officer. This core team was supplemented by part-time staff involved in Procurement and Human Resources (HR), as well as external experts assigned to specific activities, such as trainers from Ceva Animal Health, trainers from the Companionship of Works Association (CoWA), and biogas specialists.

The staff closely collaborated with government officials from the partner Meru County Government, often sharing workspaces. As confirmed by the interviewed partners, personnel selection was based on specific skills, ensuring gender balance with five women and six men, of whom five Project Officers operated directly within the cooperatives.

Interviews conducted during the evaluation activities highlighted that, although the staff was adequate, an increase in HR could have further strengthened the support provided to the cooperatives, particularly

in activities related to ER1 and ER2. These actions require continuous field support, which is essential to ensuring solid foundations and enabling the effective implementation of the planned activities.

PROJECT TIMELINES AND FINANCIAL RESOURCES

The planned timelines for the implementation of the Maziwa project proved to be particularly tight, considering the agricultural and value chain context of the intervention, which involves mandatory and sequential steps. In particular, activities aimed at training farmers represented an essential initial phase, necessary to ensure the effectiveness of subsequent actions.

Some activities were prerequisites for others; for example, without completing A5.1—the acquisition of land and construction of offices and laboratories for the cooperatives—proceeding with ER2 activities related to machinery would not have been possible, nor with ER5 activities related to photovoltaic systems. Consequently, any delays in the land acquisition phase had a cascading effect on subsequent project actions.

The project also faced the extraordinary challenge of the COVID-19 pandemic, necessitating a six-month extension to complete all planned activities.

Although the overall schedule was substantially respected, by the end of the project, two cooperatives still lacked electricity connections, and in one cooperative, the delivered machinery had not been commissioned. These delays prevented production from starting during the project period, hindering the testing and consolidation of this component and contributing to the non-achievement of some expected results.

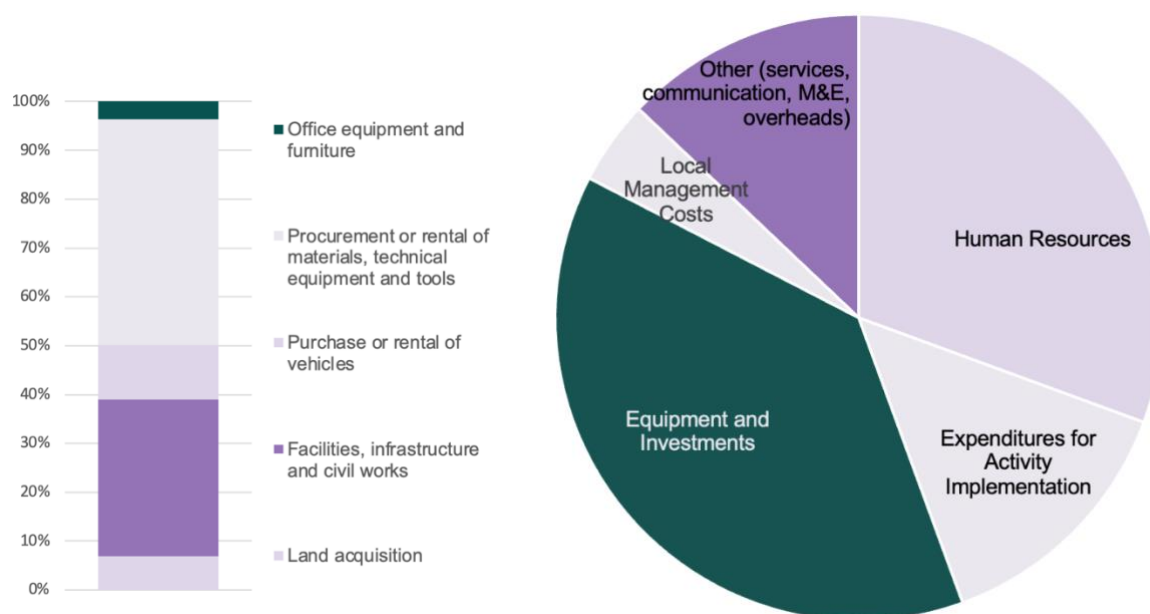
Analysing the budget composition by component, 48% was allocated to personnel costs and on-site management expenses, including communication, monitoring, and evaluation activities, as well as general costs. Fourteen percent covered expenses for implementing activities (international travel, local transport, insurance, etc.), while the remaining 38% was allocated to equipment and investments (purchase of land and plants, as well as the purchase or rental of vehicles, office materials, and equipment).

The share of financial resources allocated specifically to the direct implementation of activities appears relatively limited after looking at the budget distribution by Expected Result. However, this allocation should be understood in light of the fact that a significant portion of activities under ER1 and ER2 was carried out through staff engagement, whose costs primarily cover training and follow-up. In agricultural and value chain projects, adequate HR are critical to ensuring quality training and continuity in support and ultimately represent an essential condition for achieving expected results. The HR competencies should be fully leveraged, for example, by assigning to them the need analysis and the identification of the most effective methods for strengthening the value chain. This approach would ensure optimal resource use and a more sustainable impact of activities. ER2 and ER5, which involved the purchase of machinery and plants, absorbed a significant portion of the budget; however, the impact of these investments has so far been limited, mainly due to the underutilisation of the plants. This fact underscores the importance of accompanying material investments with strategies aimed at strengthening the use and long-term sustainability of these plants.

Table 8: Economic resources of the Maziwa project

Total cost	€ 1,845,596.62		AICS Contribution		€ 1,661,036.96	
			% AICS Contribution		90%	
Contribution by Implementing Agency / Others	AVSI € 92,591.34 IPSIA: € 71,968.32 EDUS: € 20,000.00		% of total cost		AVSI 5.02% IPSIA: 4.33% EDUS: 1.08%	
Expected Results	HR and activity costs	ER1	ER2	ER3	ER4	ER5
Total Expenditure	48%	5%	20%	6%	8%	14%
COST-EFFECTIVENESS	High	High	Medium-low	Medium	Medium	Medium-low

Figure 2: Project Budget Distribution by Major Expense Category



Source: Authors' elaboration based on the project budget shared by Fondazione AVSI and AICS.

6.2.5 SUSTAINABILITY

The extent to which the benefits generated by the project have persisted in the medium term, and their potential to be maintained over the longer term

PROJECT ELEMENTS FOR SUSTAINABILITY

In implementing project activities, Maziwa sought to apply a **sustainability-oriented approach**, including design elements aimed at ensuring the durability of its results from economic, institutional, technical, socio-cultural, and environmental perspectives. The table below outlines these elements and highlights additional aspects that could have further supported this approach.

A key factor in ensuring cross-cutting sustainability across the expected results was the **continuity** of certain management figures from AVSI, Don Bosco Association, and Meru County Government, who maintained direct links with the cooperatives even after the project implementation. The stable presence of these figures in the area helped consolidate trust and continue supporting local communities, contributing to the intervention's sustainability. In contrast, IPSIA closed its Meru office and focused its activities in neighbouring counties, while EDUS and the Municipality of Padua, already marginally involved, did not maintain further contact with the cooperatives.

Although veterinarians were trained as part of the project, they were unable to provide systematic coverage for cooperative members either during implementation or afterwards. At the time of this impact assessment, some trained veterinarians were still operating in Meru County, but no stable collaborations or service agreements had been established with the five project cooperatives. Currently, farmers contact veterinarians independently as needed. From this perspective, the project could have strengthened links between cooperatives and technical service providers, given that access to veterinary support remains one of the main challenges for local producers.

SCOPE	ER1	ER2	ER3	ER4	ER5
ECONOMIC	Creation of a sustainable business model.	Presence of machinery for value-added production.	Strengthening the power of cooperatives.		Provision of land and buildings to cooperatives.
TECHNICAL	Training provided to trainers and veterinarians. Training provided to farmers. Visits to other farms.	Provision of machinery.	Strengthening the skills of cooperative staff in administrative and financial management.	Training institutional staff in their areas of expertise.	Training on renewable energy.
INSTITUTIONAL	Provision of veterinary services and support to government technical services.	Placement of refrigeration facilities for milk collection (supporting the government strategy).	Training and support to the Directorate of Cooperatives.	Signing of MoUs.	Registration of cooperatives in accordance with the Cooperative Act 2014.
SOCIO-CULTURAL	Change in mindset and understanding of the economic opportunities offered by the dairy sector.		Strengthening the role and management capacity of cooperatives.	Change in awareness regarding dietary habits.	
ENVIRONMENTAL	Awareness-raising of beneficiaries on the adoption of sustainable agricultural practices.				Awareness-raising on energy produced through biodigesters.
TO BE STRENGTHENED	Follow-up with farmers over time. Mechanisms to make training continuous. Identification of people within cooperatives who can "mobilise" other members and carry out cascade training for new members.	Follow-up with cooperatives on the actual use of machinery, and joint search for solutions to emerging challenges.	Follow-up with cooperatives on the actual use of machinery, and joint search for solutions to emerging challenges. Mechanism to ensure training of new cooperative staff (e.g., Chairperson, Secretary) who may replace those trained under the project. Implementation of market analyses.	Mechanisms to strengthen the provision of technical services to farmers within cooperatives. Mechanisms to sustain training delivery.	Ensure that solar panels have sufficient capacity to meet energy demand. Create contacts among service providers (e.g., biogas) and beneficiaries who received the plant, for repairs in case of malfunction.

SUSTAINABILITY OF RESULTS

The impact evaluation assessed which results proved to be long-lasting, continuing even after the project's closure. Some issues that required particular attention had already been highlighted in the project's final external evaluation and were confirmed during the impact evaluation: the need for longer-term support to cooperatives to enable them to start their businesses sustainably, and the need to strengthen technical services for farmers, including through cooperatives.

Four years after the conclusion of the intervention, thanks to the measures adopted, the results observed are:

ER	ELEMENTS IDENTIFIED DURING THE IMPACT EVALUATION	SUSTAINABILITY OF RESULTS
ER1	(A1.1–A1.2–A1.3–A1.4) During the FGDs, all beneficiaries confirmed that they continue to apply the techniques learned during the training sessions. Aspects reported to be particularly effective in the training included the combination of theory and practice, and the exposure visits.	High
ER2	(A2.1–A2.2–A2.4) The machinery is located at the cooperatives but is currently not in use. The Ngusishi cooperative used the machinery for six months and then halted production due to electricity problems. At Nyaki Kiburine, the machinery has still not been tested. At Mikinduri and Meru North, it is not in use. At Arithi, only the cold storage unit is being used. (A2.2–A2.3) The analyses and quality checks on the collected milk continue to be carried out at the milk-collection centres. At the cooperative level, checks are performed as needed using the equipment provided by the project.	Low
ER3	(A3.1–A3.2–A3.3) The cooperatives are using the ICT tools provided, enabling them to carry out more efficient data collection. At the milk-collection centres, data is still collected manually but is then transferred into soft copy. (A3.4) The VLSAs are linked to the villages rather than to the cooperatives themselves. Farmers confirmed that these VLSAs already existed. The cooperatives have improved their ability to provide credit and advance payments to members. Additionally, farmers have been connected to banks and SACCOs to receive payments from the cooperatives; therefore, the farmers now have greater access to credit. (A3.5) Four cooperatives sustain themselves solely through selling milk to the Meru Dairy Union and fresh, unprocessed milk to the local market. One cooperative (Arithi), however, sells only to the local market and does not supply the Union.	Medium
ER4	(A4.1) The training was short, and the impact evaluation was unable to verify this result. (A4.2) The Department of Agriculture and the Department of Cooperative and Entrepreneur Development confirmed that though useful, the support they received did not significantly enhance their long-term capacity to provide services to farmers. However, the collaboration continues. (A4.3) Participation in fairs and events produced short-term effects, but these results were not identified during the impact evaluation. (A4.4) Farmers involved in the FGDs confirmed that they had learned useful information during the nutrition training and that they continue to apply the training in their diet. Their diet is varied and includes the essential macronutrients.	Medium
ER5	(A5.1) The cooperative structures are still in place and functioning; all project cooperatives are operational and have increased their number of active members. (A5.3–A5.4) The photovoltaic systems for the cold chain (RA2) are currently in use but are undersized compared to the absorption capacity. (A5.2–A5.5) The biogas plants are being used by the three farmers who received them, and in two cases where malfunctions occurred, the farmers took action to resolve the malfunctions independently. Additional farmers interviewed during the FGDs confirmed their interest in purchasing a biogas system.	Medium

6.2.6 IMPACT

The estimate of the significant effects of the intervention, both positive and negative, foreseen or unforeseen, in a broader scope and over a longer period, compared to the direct and immediate results, particularly, the impact on the social, economic, and environmental spheres

Four years after the conclusion of the intervention, the evaluation examined the impacts still present, continuing to manifest over time. These effects, both positive and negative, whether foreseen or not, fall within the area of influence and interest of the project's TOC and allow reflection on the change produced by Maziwa. The evaluation verified the existence and durability of these impacts, the specific contribution of the Maziwa project, and the other factors contributing to them.

By applying the contribution-analysis methodology and reconstructing the project's TOC, the evaluation analysis identified intermediate outcomes and specific impacts to which the project contributed. As a result, the framework was enriched with intermediate steps that contribute to achieving both the Specific Objective and the General Objective.

Particularly, the Maziwa project generated significant impacts on the economic, social, and environmental levels.

From an **economic perspective**, cooperatives reduced management costs, improving their financial sustainability and savings capacity. The introduction of more efficient data collection and payment systems for farmers increased transparency, traceability, and internal governance, in line with the provisions of the 2014 Cooperative Act. Female participation on boards grew, as did the attractiveness of cooperatives, registering an increase in members and strengthening the bargaining power of the cooperatives. The range of services offered expanded, including loans to members and an increase in milk-collection centres, thereby reducing milk losses and improving connections with the Meru Dairy Union and local markets. Obtaining KEBS certifications laid the groundwork for future milk processing, strengthening the vitality of the local market and encouraging new investments in the sector. Institutions had the opportunity to strengthen public services supporting farmers and to increase available technical services, although this result was only partially achieved.

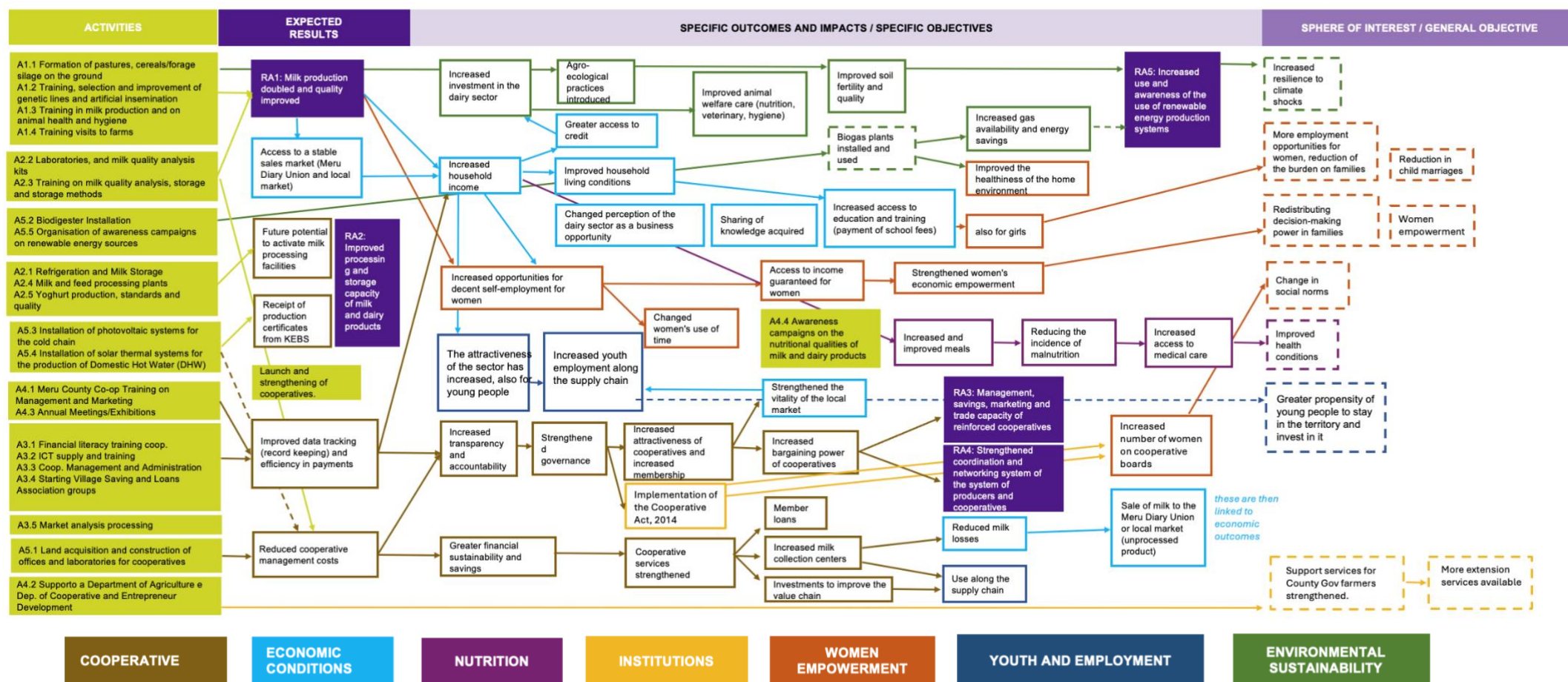
Social impacts particularly concerned family living conditions, ensuring a more dignified life. Increased income enabled better access to education, including for girls. Families could secure more and higher-quality meals, helping reduce malnutrition and improve health. Opportunities for (self)employment along the dairy value chain expanded, increasingly involving young people and women. Economic opportunities strengthened the attractiveness of the sector, increasing youth employment and encouraging a greater willingness among young people to seek work in the value chain: many young people chose to remain in their territory and invest in agriculture and livestock, although land ownership remains with their fathers, making new investments difficult for young people. For women, through direct access to income and credit, the project promoted economic empowerment, potentially resulting in a redistribution of decision-making power within families and a transformation of time use, improving household conditions and, more generally, consolidating the role of women in the community.

On the **environmental level**, Maziwa promoted sustainable practices and investments in agro-ecological techniques. Attention to animal welfare—in terms of nutrition, veterinary services, and hygiene—improved, as did soil fertility and quality. The introduction of biogas systems increased the availability of gas for households, while ensuring economic savings on energy and helping reduce environmental impact.

The following figure shows the causal logic described above, in the form of a TOC. It is interesting to note how Maziwa touched on various spheres of socio-economic development, demonstrating how investment in the dairy value chain can simultaneously **drive economic development, social inclusion, and environmental sustainability**. Below is the analysis of the outcomes observed in these three areas, taking into account the contribution of the Maziwa project to their achievement, further contributions from other interventions, and the remaining open points or identified gaps.

The main areas of focus include improving economic, nutritional, and health conditions; increasing women's empowerment; greater environmental sustainability; youth involvement and the creation of employment opportunities; and strengthening cooperatives and institutions.

Figure 3: Reconstruction of the Theory of Change of the Maziwa Project



6.2.6.1 ECONOMIC IMPACT

STRENGTHENING OF COOPERATIVES

CHANGE	Reduced cooperative management costs Greater financial sustainability and savings Improved data tracking (record keeping) and efficiency in payments to farmers Increased transparency and accountability Strengthened governance Implementation of the Cooperative Act 2014 Increased number of women on cooperative boards Greater attractiveness of cooperatives and increased membership Enhanced bargaining power of cooperatives
DESCRIPTION	Before the intervention, many cooperatives operated in a disorganised manner, relying on paper-based systems, lacking secretaries, and facing issues with incorrect payments. The specific training offered by Maziwa, together with the introduction of digital data collection systems, has radically transformed cooperative management. Today, thanks to the use of Excel and computer systems, cooperatives can accurately record data on payments, members, and quantities of milk delivered. Payment management has become more precise and timely, eliminating confusion and delays, and ensuring that each member receives the correct amount, which in turn has increased transparency and trust among farmers. Annual elections are now organised, and the rules established by the Cooperative Act 2014, are respected, increasing female participation in leadership roles. Currently, the cooperative boards are composed as follows: • Ngusishi: ten members, of which four are women • Nyaki Kiburine: five members, of which two are women • Arithi: nine members, of which four are women • Mikinduri: nine members, of which three are women The cooperatives have been able to replace unreliable leadership. Elections and management rules, implemented and supervised by Maziwa, have strengthened members' trust in the system and increased overall participation, attracting new members, including from other cooperatives. The adoption of transparent and digitised management practices has enabled cooperatives to become more autonomous, maintain the liquidity needed to pay farmers, purchase feed, medicine, and forage, and properly manage operational costs such as electricity and staff.
SOURCES	- FGDs with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri. - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers. - Interviews with trainers. - Interviews with representatives from Meru County Government, AVSI, IPSIA, Don Bosco Association., and Directorate of Cooperatives
MAZIWA'S CONTRIBUTION	Activities of ER3 and ER5 that strengthened cooperative services: The Maziwa project directly supported the cooperatives by delivering essential infrastructure, such as the purchase of land, construction or upgrading of offices, milk-processing facilities, and equipment for value-added production. IT systems were installed, and key staff were trained, enabling timely payments and more accurate management. Capacity-building activities included training on governance, financial management, risk management, and the roles of board members.
OTHER CONTRIBUTIONS	The Meru Dairy Union provides training and ongoing support, including assigning a paid Secretary in cases in which the cooperative cannot cover the cost.
OPEN ISSUES	Governance requires continuous training, since with annual elections new members often do not receive training on management and roles, which risks undermining the effectiveness of the progress achieved. Some cooperatives still face structural problems or have limited technical capacity. Despite the tools introduced, some cooperatives continue to face risks related to politicized or potentially corrupt leadership.

CHANGE	Provision of loans to members Expansion of milk-collection centres Reduction of milk losses Sale of milk to Meru Dairy Union or local markets (raw, unprocessed milk) Receipt of KEBS production certifications Future potential to activate milk processing facilities
DESCRIPTION	The increase in milk-collection capacity has enabled the reduction of losses and the shortened time required for product delivery. Thanks to the installation of cooling systems at the cooperatives, in case of transport vehicle breakdowns, the milk can be stored at a controlled temperature, thus avoiding waste. The guarantee of a constant flow to the Meru Dairy Union has led to greater reliability in payments: the milk is paid to the cooperative at 53 KSh per litre, members receive 50 shillings per litre, an additional 2 KSh are recognised as dividends, 2.5 KSh are allocated to the cooperative as profit, 0.2 KSh go to the Kenya Dairy Board, and 0.3 KSh go to the Meru Dairy Union. Two cooperatives (Arithi and Meru North) sell milk on the local market: the selling price is 70 KSh per litre, allowing for a greater profit margin. Farmers report that the cooperative system is safer and more reliable than direct sales to neighbours, who often failed to honour payments. The presence of equipment for milk pasteurisation and yoghurt production represents a potential for additional income-generating activities that cooperatives can activate, with possible positive impacts on the entire system. Moreover, the cooperatives have requested and obtained KEBS certificates to start product processing. In addition to ensuring timeliness, the cooperatives provide additional services such as loans and advance payments, thus supporting members' liquidity. In some cases, the cooperatives also organise collective purchases of agricultural inputs, which are then resold to farmers at controlled prices. Another relevant element is the use of the banking system for payments, gradually bringing farmers closer to formal financial services. This stability, combined with the continuity of production, increases the confidence of members, who now say they are more willing to take out loans, knowing they will be able to repay the loans regularly.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women). - Interviews with trainers - Interviews with representatives of Meru County Government, AVSI, IPSIA, Don Bosco Association, and Directorate of Cooperatives
MAZIWA'S CONTRIBUTION	Activities under ER3 and ER4 that contributed to the strengthening of cooperative services. Maziwa also facilitated access to credit through SACCOs, banks, and advance payments from the cooperative, improving the liquidity of farmers (men and women). It enabled the orderly management of the society and the maintenance of essential services such as electricity, water, and staff.
OTHER CONTRIBUTIONS	Training and support from the Meru Dairy Union.
OPEN ISSUES	Cooperative services could be further strengthened to include technical and veterinary services. The RA2 machinery for product processing remains unused.

OPPORTUNITIES IN THE PRODUCTIVE SECTOR

CHANGE	Changed perception of the dairy sector as a business opportunity Sharing of acquired knowledge Reduced milk losses Increased investments in the dairy sector Strengthened vitality of the local market
DESCRIPTION	Farmers (men and women) report that, in Meru County, before the Maziwa project, owning cows was mainly considered a cultural value, and the economic potential of the cows was not fully recognised. With the project, however, the farmers discovered the importance of milk as a resource and now see livestock management as a real income opportunity. Farming practices have improved, significantly reducing milk losses and lowering the rejection rate. Greater financial availability has enabled new investments in the sector, the expansion of activities, and the improvement of facilities, making the business more solid and profitable. This process has generated increased demand for inputs along the entire value chain, both upstream and downstream, and, combined with the increased spending capacity of families, has contributed to stimulating the vitality of the local market. Another positive impact has been the “cascading” spread of knowledge: many farmers have shared what they learned with neighbours and new cooperative members.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women) - Interviews with trainers - Interviews with representatives of Meru County Government, AVSI, IPSIA, and Don Bosco Association
MAZIWA'S CONTRIBUTION	Activities under ER1 that contributed to improving the quality and quantity of dairy production. Activities under ER3 that contributed to strengthening cooperative services and access to a stable and secure sales market.
OTHER CONTRIBUTIONS	The presence of the Meru Dairy Union, representing a stable sales market.

STRENGTHENING OF INSTITUTIONS

CHANGE	<i>Strengthened support services for farmers from the local government</i> <i>Increased availability of extension services.</i>
DESCRIPTION	Support services for farmers from the local government have been strengthened. The availability of extension services has increased. Institutions were highly involved from the project's design phase, including the identification of needs and the definition of project actions. This working approach ensured the active engagement of the farmers, and through formal agreements (MoUs) and coordination meetings, they contributed to transparent decision-making. Government staff received training, increasing their skills and ability to support farmers, and motorcycles and tools were provided to ensure a stronger field presence.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women) - Interviews with trainers - Interviews with representatives of Meru County Government, AVSI, IPSIA, Don Bosco Association, and Directorate of Cooperatives
MAZIWA'S CONTRIBUTION	Activities under ER4 supported the Departments of Agriculture, Livestock, and Cooperatives with two motorcycles each, for a total of six motorcycles, to support field activities. 165 officers from the Meru County Government and district veterinarians benefited from capacity-building activities.
OPEN ISSUES	Limited financial and human resources available to institutions represent a significant constraint, which is difficult to address through international cooperation projects. Although involving institutions and supporting them in carrying out their functions is important, the structural limitations cannot be tackled by the projects.

6.2.6.2 SOCIAL IMPACT

IMPROVEMENT OF LIVING CONDITIONS OF THE TARGET POPULATION

CHANGE	Improved living conditions of the household
DESCRIPTION	The improvement in economic conditions has allowed families to live a more dignified and peaceful life. Part of the income is reinvested in improving and expanding the business, while other funds are used for savings or to meet family needs—for example, to independently pay school fees and materials for their children, to buy clothes and thus be more presentable, to purchase furniture for the home and add comfort, and to improve nutrition and health. This enrichment has resulted in an overall higher quality of life and greater security for facing the future.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women) - Interviews with representatives of Meru County Government, AVSI, IPSIA, and Don Bosco Association
MAZIWA'S CONTRIBUTION	Activities under ER1 contributed to improving the quality and quantity of dairy production, and thus to increasing household income. Activities under ER3 contributed to the strengthening of cooperatives.
OTHER CONTRIBUTIONS	The presence of the Meru Dairy Union, buyer of the milk produced for four cooperatives, ensures a stable and consistent market. Cooperatives pay farmers 50 KSh per litre. Training sessions delivered by other organisations (for example, FHF in the Ngusishi cooperative)..
OPEN ISSUES	The cooperatives report a constant turnover of members, with new members joining. However, in the absence of specific projects or initiatives, structured training mechanisms to help new members quickly reach the same skill level as previous ones are missing. Knowledge transfer often happens informally, through a “cascading” effect from more experienced to new members, but this is not a process formally foreseen by either the cooperatives or the projects. The introduction of a systematic training system for new members would also contribute to improving the quality of the milk collected.

IMPROVEMENT OF ECONOMIC CONDITIONS

CHANGE	Increased household income Greater access to credit
DESCRIPTION	Livestock farming has led to a significant and more stable increase in household income, thanks to the implementation of practices learned during training sessions. Farmers (men and women) have learned that milk quantity is crucial for income, and that proper animal management brings immediate benefits. Unlike agriculture, which generates earnings only after several months, milk sales ensure weekly or monthly income, making the activity particularly attractive to young people. Thanks to the cooperatives, the price of milk paid to farmers rose from 45 KSh per litre (when sold to brokers) to 50 shillings, with regular and secure payments. This steady cash flow has enabled the covering of major expenses such as school fees, farm investments, and the purchase of machinery. The flow has also positively impacted families, improving relationships and reducing tensions related to financial availability. The increase in income has also facilitated access to credit and financial inclusion, both through the cooperative and through SACCOs.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women) - Interviews with representatives of Meru County Government, AVSI, IPSIA, and Don Bosco Association
MAZIWA'S CONTRIBUTION	Activities under ER1 contributed to improving the quality and quantity of dairy production. Activities under ER3 contributed to the strengthening of cooperative services and access to a stable and secure sales market.
OTHER CONTRIBUTIONS	Meru Dairy Union, which offers training, veterinary services, and loan and advance payment services. Training delivered by other organisations (for example, FHF in the Ngusishi cooperative).

EFFECTS ON ACCESS TO EDUCATION

CHANGE	Increased access to education and training (including for girls)
DESCRIPTION	Access to education and training has improved significantly: families, thanks to the income from milk sales, report that they can now regularly pay school fees and purchase school materials without having to take loans or organise fundraisers. This result has ensured school attendance for both boys and girls: families state that it is important for both to receive equal educational opportunities. Many observe that girls often stand out more in their studies, as they show greater commitment and interest compared to their male peers. Others highlight that, in the past, boys tended to drop out more easily, attracted by quick markets such as <i>miraa</i>, while today, with the decline of that sector, boys are also attending school more consistently.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women) - Interviews with representatives of Meru County Government, AVSI, IPSIA, and Don Bosco Association
MAZIWA'S CONTRIBUTION	Activities under ER1 that have improved the quality and quantity of dairy production and thus increased household income.
OTHER CONTRIBUTIONS	No other contributions were mentioned.

IMPROVEMENT OF NUTRITION

CHANGE	Increased and improved meals Reduced malnutrition Increased access to medical care Improved health conditions
DESCRIPTION	The evaluation found significant improvements in diet and health. Families report having more frequent and better-balanced meals today. The nutritional value of milk has improved, and milk availability has increased. Despite reduced volumes during drought periods, each family member still manages to drink at least one glass per day, sometimes even more. Food consumption has diversified: besides milk, families now manage to include meat two or three times a week, compared to once before the project. Other foods such as sweet potatoes, arrowroot, and cabbage have also become more accessible, thanks both to the ability to buy them at the market and to produce them. Improved nutrition, combined with access to medical care (thanks to higher income), has led to better health conditions.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Case-study interviews with farmers (men and women) - Interviews with a nutritionist, trained teacher, and AVSI representatives
MAZIWA'S CONTRIBUTION	Activities under ER4 on nutrition. Also, during training for farmers (ER1), basic nutrition information was shared alongside technical aspects of livestock management, and balanced meals were organised to raise family awareness. The increased milk production allowed both greater domestic consumption and additional income to purchase missing foods.
OTHER CONTRIBUTIONS	Training carried out by other organisations (for example, FHF in the Ngusishi cooperative).
OPEN ISSUES	Milk consumption drops significantly during drought periods, reducing nutritional intake for families. Limited duration of nutrition awareness activities. Lack of involvement of the Ministry of Health or other public health departments.

YOUTH EMPLOYMENT AND EFFECTS ON OCCUPATION

CHANGE	Increased attractiveness of the sector, also for youth Increased youth employment along the value chain Greater willingness of young people to remain in the area and invest
DESCRIPTION	The average age of farmers in the county is very high (60 years), as reported by the Livestock Production Officer. The project contributed to making the dairy sector more attractive to young people, who have seen that the sector can bring stable income in a short time. The possibility of monetisation and monthly payments, also thanks to the strengthening of cooperative management services, helps attract youth. The greater productivity of the sector has created employment opportunities along the value chain: some young people have started helping families care for animals, while others have been employed at cooperatives in milk-collection centres and as transporters (<i>boda boda</i>). The new jobs created are fixed-term contracts; however, those interviewed consider the jobs stable. More jobs could have been created if the milk-processing activities under RA2 had been operational: in the Ngusishi cooperative, during the yoghurt production period, two other people were employed (currently no longer employed due to halted production). The possibility of seeing profitability and less-strenuous working conditions compared to other sectors, such as horticulture, can, in the long term, strengthen young people's willingness to enter the sector (however, high initial investments and land availability represent obstacles) to remain in the area and invest, with a positive impact on both generational continuity and local development.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (men and women) - Interviews with representatives of Meru County Government, AVSI, IPSIA, Don Bosco Association
MAZIWA'S CONTRIBUTION	Activities under ER1 that improved the quality and quantity of dairy production and thus increased income, helping to make the sector attractive. Activities under ER2 and ER3 that created new jobs at cooperatives and strengthened cooperatives.
OTHER CONTRIBUTIONS	Meru Dairy Union. Other initiatives (e.g., FHF in the Ngusishi cooperative)
OPEN ISSUES	Youth involvement was a secondary effect but could be further strengthened through targeted activities, such as promoting youth cooperatives capable of offering structured services along the value chain, such as transport of agricultural inputs or provision of specialised services. Finally, although many jobs were performed by workers hired by individual farmers, training sessions were attended by the cow owners, making the transfer of skills from owners to workers necessary to ensure the implementation of what was learned.

WOMEN'S EMPOWERMENT

CHANGE	Increased opportunities for dignified (self-)employment for women Guaranteed access to income for women Strengthened economic empowerment of women Redistributed decision-making power within families
DESCRIPTION	The dairy sector in Meru County features a strong female presence in management roles, while men tend to engage in more traditionally lucrative value chains such as <i>miraa</i> cultivation. However, with the decline in profitability of that sector, many men are starting to show interest in the dairy sector as well. The increased profitability of the dairy sector provides women with opportunities for dignified and profitable self-employment. Some women have been employed along the value chain: in cooperatives as secretaries, and in milk-collection centres as responsible for analysis. Differences in remuneration and job stability between men and women have not been reported. Bringing a stable and additional income to the family makes women feel more respected, as reported during the FGDs, as well as more involved in the spending decisions of the family: "Before, only men made family decisions; now, since we bring income, we are also involved." Often, women are still not involved in investment decisions, but the greater available income allows them to make some decisions independently, without needing the husband's permission for small expenses (economic empowerment). Particularly, they can buy clothes for themselves and their children, support school expenses, purchase more and more varied food, visit the hairdresser, visit family, and feel better cared for, with positive effects on self-esteem and autonomy.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers (women and men) - Interviews with representatives of Meru County Government, AVSI, IPSIA, and Don Bosco Association
MAZIWA'S CONTRIBUTION	Activities under ER1 improved the quality and quantity of dairy production, thus increasing family incomes. Maziwa conducted awareness-raising actions, though not structured, to promote female participation and collected gender-disaggregated data, using it to schedule activities at times that facilitated women's participation without interfering with family commitments.
OTHER CONTRIBUTIONS	No other projects or initiatives specifically promoting women's empowerment and gender equality were mentioned.
OPEN ISSUES	Maziwa did not include formal gender-mainstreaming actions aimed at promoting gender equality. In some cases, the husband was formally registered with the cooperative and thus entitled to participate in activities; this fact highlights how including gender strategies from the planning phase could help identify and apply corrective measures.

CHANGE	Modified use of time by women Improved healthiness of the domestic cooking environment
DESCRIPTION	The transformation of dairy activities into economic enterprises had a twofold effect on women's time use: on one hand, a reduction of free time due to the increased commitment required for animal care and management. On the other hand, the learned techniques and practices allowed for more efficient livestock management. Additionally, the profitability of livestock enabled women to dedicate themselves full-time to this activity, without needing to look for occasional jobs outside the home. At the same time, the increase in the number of milk-collection centres reduced the time needed to deliver milk, resulting in more free time. The installation of biodigester systems provided clean energy for cooking, ensuring a healthier environment with fewer carbon dioxide emissions, while also impacting women's time use: the availability of gas allows cooking to be done faster and with less effort. Furthermore, the digestate is used to fertilise the fields.
SOURCES	- FGDs with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Interviews with the Secretary Manager and Chairperson of the five cooperatives - Case-study interviews with farmers - Interviews with representatives of Meru County Government, AVSI, IPSIA, and Don Bosco Association.
MAZIWA'S CONTRIBUTION	Activities under ER1 improved the quality and quantity of dairy production, thus increasing family incomes. The number of milk-collection centres has increased. Installation of biodigesters (Activity A5.2).
OTHER CONTRIBUTIONS	Increase in the number of milk-collection centres (some installed by cooperatives). Other projects that distributed biodigester systems (e.g., FHF).
OPEN ISSUES	Specific gender-mainstreaming actions in agriculture are needed, focusing on raising awareness and ensuring access to rights for women, such as land and asset ownership rights.

WOMEN'S EMPOWERMENT IN AGRICULTURE

Empowerment is a multidimensional and long-term process that can be inherently conflictual, involving individuals in their relationships with others, with society, and with the prevailing culture. Many cultures present beliefs, norms, and social structures that legitimise the subordination of women, perpetuating violence against them. These norms reinforce women's dependence on men, becoming institutionalised and appearing natural and immutable. They are central to explaining how gender differentiation occurs, how it is legitimised through the division of labour between men and women, and how it determines the different values attributed to the contributions of boys and girls (Mulwa, 2007).

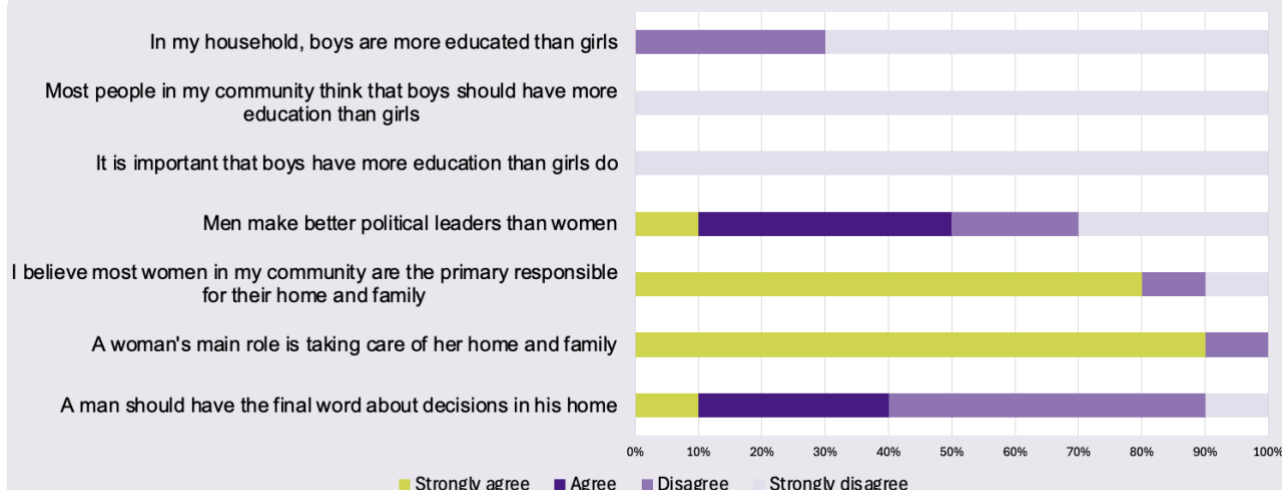
A recent study in Kenya by Arciprete and Nannini (2025) revealed that when social norms are deeply internalised, women—more than men—tend to justify or normalise violence. This finding confirms a widespread acceptance of unequal power relations, discriminatory attitudes, and behaviours that hinder the full realisation of women's rights and gender equality.

While social change is underway, continuous efforts are required to transform these deeply rooted dynamics. Access to education, decent work opportunities, and economic empowerment are essential preconditions to trigger a transformative empowerment process that can ensure gender equality. Education consistently emerges as a key protective factor: higher levels of education are associated with more egalitarian attitudes, a stronger rejection of gender-based violence, greater health literacy, and a more accurate understanding of issues related to sexual and reproductive health and rights.

Impact evaluation activities (Figure 4) revealed a social context in which women remain somewhat subordinate to men. Particularly, 90% of respondents believe that the role of women is to care for the family; attitudes towards political leadership indicate that one in two people think men are “much” or “somewhat” better than women; and 40% of the sample believes that ultimate decision-making in the household belongs to men.

However, regarding education, attitudes are more egalitarian: all respondents believe that both boys and girls should have equal educational opportunities. Respondents also reported that, thanks to increased household income, they can now ensure greater access to education for their children, both boys and girls. The respondents noted that daughters often show greater commitment to their studies and are more likely to continue schooling. With the decline in the attractiveness of the *miraa* sector, boys have also increasingly begun attending school.

Figure 1: Attitudes and behaviours regarding Gender Equality



Source: Authors' elaboration based on a selection of questions posed to the 98 participants of the FGDs.

Looking at the dimensions of the **Women's Empowerment in Agriculture Index (WEAI)** by IFPRI, those who performed the evaluation activities highlighted the following:

- **PRODUCTION:** Women are involved in production but are less involved in decision-making regarding the productive inputs to use.
- **RESOURCES:** Property is still predominantly held by husbands.
- **INCOME:** Decisions on the use of economic resources are often made jointly by men and women, although the final decision usually rests with the husband. The increased economic independence provided by income from the dairy sector allows women to make autonomous decisions regarding minor household expenses.
- **LEADERSHIP:** Women participate as cooperative members, and the number of women in cooperative boards is beginning to increase. However, they often occupy subordinate, non-top positions, and during FGDs, many men reported that women are not suitable for leadership roles.
- **TIME USE:** The workload for women has increased due to greater involvement in the sector, but at the same time, improved efficiency in practices and the closer proximity of milk-collection centres allow for a more balanced distribution of time.

In conclusion, Maziwa has contributed to strengthening the role of women, primarily through increased household income and higher education levels for girls and boys—factors crucial for building a more equitable and gender-balanced society.

6.2.6.3 ENVIRONMENTAL IMPACT

IMPROVEMENT OF ANIMAL CARE

CHANGE	Greater investments in the dairy sector Improved care of animal welfare (nutrition, veterinary, and hygiene)
DESCRIPTION	Animal welfare has improved thanks to greater attention to nutrition, hygiene, and the health of cows, as well as increased investments in the sector, resulting from greater economic availability and income generation. Farmers have adopted zero-grazing systems in semi-open barns, with the feeding area separated from the sleeping area, and protection from the sun and weather events. Zero-grazing is a beneficial strategy in contexts with limited land or difficult climatic conditions. The strategy improves milk yield (the combination of controlled diet and rest reduces the energy spent during grazing, increasing yield and improving milk quality), reduces feeding costs, optimises forage management, and allows for the circular use of manure as input for biogas plants and fertiliser, as well as enhancing animal welfare and disease and parasite control. However, the method requires investments in infrastructure and specific equipment, and presents critical issues for animal welfare due to movement restrictions and stress from prolonged confinement. Following the training, farmers have introduced and ensured a constant supply of better quality feed, balanced nutrient mixtures, mineral supplementation, and availability of clean water. Water availability has been observed in project areas, and some farmers have tanks for collecting and storing rainwater (sometimes from other projects, other times purchased independently). To avoid aflatoxin, farmers also ensure that the feed is not spoiled or mouldy. Assistance and regular control for disease prevention (tick sprays and deworming) have increased, and requests for veterinary care for periodic check-ups and reproduction management, with artificial insemination protocols, have also increased. Farmers record the dates of visits and checks to maintain better management.
SOURCES	- FGD with beneficiaries in Nugusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Case-study interviews with farmers - Interviews with trainers - Interviews with representatives from Meru County Government, AVSI, IPSIA, and Don Bosco Association - Visits and direct observation at farmers' premises
MAZIWA'S CONTRIBUTION	ER1 activities have enabled improved livestock management practices, as well as linking farmers to veterinarians and suppliers of medicines.
OTHER CONTRIBUTIONS	Meru Dairy Union offers technical services and input sales. Training on nutritional supplements is conducted by other organisations (e.g., Hand in Hand).
OPEN ISSUES	The choice of breeds should be according to agro-ecological zones, not solely based on production expectations, as recalled by the ASDSP representative. Zero-grazing practices have advantages but also critical points that need to be addressed. The choice of forage species to plant must be appropriate to the climate and agro-ecological zone to ensure better yield. The availability and access to veterinary services are still limited: the County Government cannot provide the necessary technical services. After contacting veterinarians, farmers often have to wait 4–5 days for a visit, and in many cases, cows die before the veterinarian arrives.

EFFECTS ON ENVIRONMENTAL SUSTAINABILITY

CHANGE	Introduced agro-ecological practices Improved soil fertility and quality Installed and used biogas plants Increased availability of gas and economic savings for energy
DESCRIPTION	The introduction of biodigesters and zero-grazing practices has allowed for more efficient manure management and its use as fertiliser, improving soil fertility and quality. Among the interviewed farmers, 13 have a biodigester plant (of which three were provided by the Maziwa project, and eight by other interventions). Over 50% of participants confirmed that before Maziwa, they had never seen the plant in operation, and after observing the plant working at beneficiary farmers' sites, they are now interested in making this investment: some (about 10%) are in contact with plant suppliers to implement the project. The use of biogas and biodigesters has contributed to a healthier environment, reducing pollution and increasing the energy autonomy of farmers. Some climate-adaptive seeds have been introduced for the production of silage and hay, ensuring better quality forage even during periods of water scarcity.
SOURCES	- FGD with beneficiaries in Ngusishi, Nyaki Kiburine, Arithi, Meru North, and Mikinduri - Case-study interviews with farmers - Visits and direct observation at farmers' premises - Interviews with representatives from Meru County Government, AVSI, IPSIA, and Don Bosco Association
MAZIWA'S CONTRIBUTION	ER1 activities have improved livestock management practices: climate-smart practices such as silage and forage conservation. ER5 activities: five biogas plants for beneficiary farmers, becoming reference points for other farmers interested in replicating the experience, and renewable energy solutions such as solar panels for milk cooling, albeit with capacity limits.
OTHER CONTRIBUTIONS	Biodigester plants distributed by other organisations (e.g., FHF in the cooperatives of Ngusishi and Meru North).
OPEN ISSUES	The photovoltaic plants installed at two cooperatives for solar energy production are undersized, compared to the energy needs of the installed machinery (ER2). Increasing climate-smart practices is necessary to achieve greater resilience to climate shocks. The high costs of biogas plants discourage many farmers, despite widespread interest. Many farmers do not yet have enough cows or water resources to fully support these technologies.

ENVIRONMENTAL IMPACT OF DAIRY PRODUCTION

Livestock production is traditionally associated with high levels of greenhouse gas emissions, particularly methane, as well as soil and water pollution linked to poor manure management.

Conversely, an opportunity lies in using cattle manure for **biogas production**, which provides an effective solution to reduce climate-altering emissions, improve livestock waste management, and generate renewable energy to support farms.

A critical aspect concerns **dairy processing**: whey, if improperly disposed of, represents a source of organic pollution. It is therefore strategic to promote policies and investments in circular recovery solutions, such as the production of animal feed, biogas, biofertilisers, or ingredients for the food industry.

These actions, if supported by an appropriate regulatory framework and targeted incentives, can reduce environmental risks, create added value along the dairy value chain, and strengthen the competitiveness of the sector. Addressing these challenges is particularly important given Kenya's climate commitments and the increasing vulnerability of the agricultural sector to climate change.

6.2.6.4 CONTRIBUTION TO THE ACHIEVEMENT OF THE SDGs

Maziwa implemented actions that concretely contribute to the achievement of the SDGs and the related targets identified as priorities by the project. Below is a brief analysis of the main results.



Prevalence of stunted growth, height-for-age (% of children under 5 years)	17.6% (2022)
Prevalence of malnutrition (% of the population)	35% (2022)
Prevalence of severe food insecurity in the population (%)	28.0% (2022)
Prevalence of stunted growth, height-for-age, girls (% of girls under 5 years)	15.6% (2022)
Prevalence of stunted growth, height-for-age, boys (% of boys under 5 years)	19.6% (2022)

2.4 By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and output, help conserve ecosystems, strengthen the capacity to adapt to climate change, extreme weather conditions, droughts, floods, and other disasters, and progressively improve land and soil quality.

Maziwa Contribution

Over the past 10 years, malnutrition rates in the county have remained stable, but improvements have been observed in arid and semi-arid areas (Buuri, Meru North, Tigania, and Igembe) thanks to interventions by the government, partners, and private millers for food fortification and micronutrients. During the Maziwa project, 7,200 people received training. During the evaluation activities, beneficiaries confirmed an improvement in the nutritional status of their families. Food consumption has become more diverse: in addition to milk, families can now include meat two to three times per week, compared to only once previously. Other foods such as sweet potatoes, arrowroot, and cabbage have also become more accessible through both market purchases and home production.



GDP per employed person (in constant 2021 \$ PPP)	14,613 (2024)
GDP growth (annual percentage)	4.5% (2024)
Per capita GDP growth (annual percentage)	2.5% (2024)
Ownership of an account at a financial institution or with a mobile money service provider (% of population aged 15 and above)	79.20% (2021)

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading, and innovation, including a focus on high value-added and labour-intensive sectors.

Maziwa Contribution

2,400 farmers were involved in milk-related training activities. The cooperatives, in addition to ensuring timely payments, provide additional services such as loans and advance payments, thereby supporting members' liquidity. In some cases, they also organise collective purchases of agricultural inputs, which are then resold to farmers at controlled prices. Another relevant aspect is the use of the banking system for payments, gradually bringing farmers closer to formal financial services.



Average annual growth rate of real per capita consumption or income from survey, for the poorest 40% of the population (%)	-1.2% (2021)
Average annual growth rate of real per capita consumption or income from survey, for the entire population (%)	-3.1% (2021)
Share of people living below 50% of the median income (%)	8.7% (2021)

10.1 By 2030, progressively achieve and sustain growth in the income of the poorest 40% of the population at a rate higher than the national average.

Maziwa Contribution

Maziwa ha contribuito a rafforzare le cooperative e i loro membri: oggi ci sono complessivamente circa 3,394 membri, di cui 1,2495 attivi. Ogni membro attivo fornisce in media 7.6 litri di latte al giorno, corrispondenti a circa 380 KSh di guadagno giornaliero e una media di 11,400 KSh mensili.

7 CONCLUSIONS

The impact evaluation study, conducted approximately four years after the conclusion of the Maziwa project (AID 11510), highlighted that the Meru dairy value chain can serve as a driver of economic development, social inclusion, and environmental sustainability.

In terms of **relevance**, the initiative addressed real needs in the dairy sector—access to quality inputs, reduction of post-harvest losses, and strengthening of cooperatives—through training, provision of refrigeration systems, and renewable energy. The project also supplied milk-processing machinery to the cooperatives; however, the machinery is currently unused, often due to instability in the national electricity grid, undersized solar installations relative to energy needs, and lack of commissioning. Beneficiary selection, guided by the Meru County Government, included women (although without structured gender-mainstreaming strategies) and targeted five vulnerable cooperatives, strengthening two existing ones and formalising three new ones. The main challenges relate to the non-use of machinery and a project duration insufficient for the durable consolidation of the promoted changes.

The project demonstrated strong **alignment** with Kenyan policies (Vision 2030, Cooperative Act), European priorities, and Italian development cooperation, as well as complementarity with other initiatives in Meru, despite some overlaps. Maziwa also addressed needs not covered by local institutions.

In terms of **effectiveness**, all activities were implemented and indicators achieved, but medium-term effects varied across Expected Results. Particularly, for Expected Result 2, related to milk processing and storage facilities, outcomes were limited because the structures were not operational at the time of this evaluation.

The Maziwa **partnership**, composed of six actors with complementary technical expertise, initially faced coordination challenges due to differing visions and limited interaction between partner-assigned activities. The importance of improved coordination emerged and was later addressed in a subsequent AVSI project through the establishment of a steering committee including major institutional and non-institutional actors. HR were qualified and gender-balanced, though an increase in staff would have further strengthened support to the cooperatives. A success factor was the continued presence of managerial figures within some partners and stakeholders, who maintained connections with cooperatives even post-project.

Project timelines proved tight given the agricultural and sequential nature of activities. Delays in land acquisition and the COVID-19 pandemic caused cascading delays, preventing the initiation and consolidation of production within the project period and limiting the achievement of certain expected results.

Maziwa aimed for **sustainability** through actions incorporating elements that are economically, technically, institutionally, socio-culturally, and environmentally sustainable. However, the impact evaluation highlighted the need to strengthen follow-up, continue the training, and raise awareness. Four years after closure, farmers continue to apply the learned techniques, showing high durability. Challenges persist regarding unused milk-processing machinery, which remains non-operational in all five project cooperatives, often due to electrical issues, lack of commissioning, or delayed delivery during project closure. Cooperatives use ICT tools and have improved access to credit for farmers, with some sustaining themselves through milk sales. Photovoltaic systems for energy production to support the cold chain are operational but undersized relative to the energy needs of machinery, while biogas plants are used and repaired independently when breakdowns occur. During the evaluation, more farmers expressed interest in purchasing a biogas system or already possess one through other interventions. Cooperative structures remain functional, with an increase in active members. Overall, there is a need for longer-term and more intensive support to cooperatives and for strengthening mechanisms to deliver technical services to farmers beyond project timelines.

Currently, the **cooperatives** have a total of 3,394 members, of whom 1,345 are active. Each active member supplies an average of 7.6 litres of milk per day, corresponding to approximately 380 KSh in daily income and an average of 11,400 KSh monthly. Finally, the average number of cattle per household increased from 1.8 to 2.3.

Among the most significant **impacts**, the first is the improvement of infrastructure available to cooperatives, which moved from temporary rented offices subject to frequent relocations to stable offices that allow better organisation of daily activities.

The project also strengthened the cooperatives by reducing their expenses, improving data management, and increasing payment transparency to farmers, in line with the Cooperative Act 2014. This effect led to

a stronger role for the cooperatives, greater capacity to attract new members, and the ability to increase the volume of milk collected. Improvements in milk quality and quantity have increased household incomes, enhancing living conditions, access to education, and nutrition.

The project promoted women's economic empowerment by providing direct access to income and credit and strengthening their decision-making role within households. However, empowerment is a long, multidimensional process that is inherently potentially conflictual, as it involves the individual in their relationships with others, society, and prevailing culture, and therefore requires time to take root. Maziwa also contributed to making the dairy sector more attractive to young people, generating employment opportunities and encouraging them to invest locally.

On the environmental front, the project encouraged sustainable practices, improved animal welfare, and introduced biogas plants that provide clean energy and fertiliser, contributing to soil fertility. Although the institutions partially strengthened the support services, challenges remain, such as the lack of systemic technical and veterinary coverage, as well as the need to further integrate climate-smart and circular practices.

Thus, four years after its conclusion, the Maziwa project has generated significant economic, social, and environmental impacts.

However, **structural needs** persist, such as longer-term support for cooperatives and the establishment of a system to ensure continuous training for both cooperative members and institutional staff. The issue of using machinery for the production of processed and value-added products remains unresolved: currently, the sales market is guaranteed by the Meru Dairy Union, a union of leading dairy-processing cooperatives in Meru County, and, to a lesser extent, by raw milk sales by some cooperatives on the local market.

8 LESSONS LEARNED

The implementation of Maziwa has provided valuable insights for designing and implementing future rural development initiatives and for strengthening dairy value chains in Kenya and similar contexts.

Importance of strengthening cooperatives to consolidate the bargaining power of small producers.

The evaluation highlighted that cooperatives are the main tool for increasing the bargaining power of small-scale farmers, improving payment transparency, and strengthening mutual trust. Progress achieved in terms of governance, financial management, and female participation demonstrates that investing in the organisational strengthening of cooperatives produces lasting effects and generates replicable models in other areas. However, training must be continuous, as annual elections and leadership changes risk the weakening of results if not accompanied by ongoing capacity building.

Importance of context analysis, stakeholder mapping, and accurate market and value chain analysis.

The evaluation highlighted that an accurate needs assessment, accompanied by a systematic mapping of public and private actors and their interests, is an essential step to ensuring the success of projects operating in already structured and competitive markets. In its absence, there is a risk of developing value chains with limited competitiveness and poor alignment with the local market. Simultaneously, it emerged that current access modalities to funding can sometimes make it difficult to carry out in-depth preliminary assessments, as a significant investment of time and resources in the proposal-writing phase does not always guarantee funding. This finding suggests the need to strengthen tools and mechanisms that facilitate more robust context analyses from the earliest stages.

Importance of considering the cyclical and seasonal nature of the agricultural and livestock sector when planning the timing and duration of cooperation interventions.

The evaluation has shown that, in planning cooperation interventions in the agricultural and livestock sector, considering the cyclical and sequential nature of the sector is essential. This necessity implies allowing sufficiently extended timelines, structuring progressive phases of consolidation and follow-up, and ensuring an adequate level of flexibility to respond to unforeseen external events beyond the project's control.

Importance of local presence and involvement of institutions.

The Maziwa experience highlights how a prior knowledge of the territory and the continuity of field presence are key factors for the sustainability and impact of interventions. Familiarity with the context and the continued engagement of actors even beyond the project's duration, while implementing different initiatives involving various sub-counties and beneficiaries, helped consolidate results. Furthermore, the active involvement of local institutions from the early design phases strengthens the relevance and alignment of interventions with territorial priorities, addressing concrete needs and integrating project objectives with those of national and local strategic planning. However, the limited financial and HR available to institutions often constitute a significant constraint, which cannot easily be addressed by individual international cooperation projects. While involving institutions and supporting them in carrying out their functions is important, it is equally important to understand these structural limitations to propose interventions consistent with them.

Importance of establishing coordination forums

The Maziwa case highlights that creating spaces for coordination among stakeholders, civil society organisations, competent institutions, and public and private actors helps strengthen the coherence of interventions, facilitates shared decision-making, and guides targeted choices in line with the real needs of the territory. Such platforms, if maintained beyond the duration of a single project, can promote continuity of actions, reduce overlaps, and increase the overall sustainability of results.

Importance of considering the timing of infrastructure investments.

The Maziwa experience reiterated that infrastructure interventions are often subject to delays and technical issues, requiring longer timelines than those planned in project schedules, with the risk of creating cascading effects on the implementation of other activities and the achievement of expected results. Therefore, taking these timelines into account from the planning phase is important, allowing for adequate buffers and support mechanisms to mitigate the impact of delays.

Importance of a structured handover of infrastructure (handover and local ownership).

The Maziwa experience highlights that the project closure phase should include dedicated moments for transferring infrastructure to the cooperatives, thereby strengthening their sense of ownership and reducing the perception of abandonment by partners. Despite positive results, the evaluation identified some critical issues related to delivery timing: in several cases, the facilities did not have sufficient time for use to be piloted and tested, limiting the opportunity to introduce corrective strategies. More careful planning of the handover phase, including testing and initial support, can promote full operational capacity and the sustainability of the transferred infrastructure.

Importance of clear and transparent criteria for beneficiary selection.

In the Maziwa project, beneficiary groups were identified during the project proposal phase. However, at the start, the partnership deemed it necessary to replace a group in Kibirichia, where political interference related to elections was feared. This experience demonstrates that when selecting a limited number of beneficiaries within larger communities, it is essential to define and communicate clear and transparent criteria to prevent disputes, legitimise choices, and ensure fairness and alignment with the project's objectives.

Importance of promoting inclusivity through targeted and cross-cutting actions (gender, youth, environment, and climate).

The Maziwa evaluation showed that the absence of formal gender-mainstreaming strategies can limit the full participation of women, while their inclusion from the planning stage would allow for targeted corrective measures during implementation. Similarly, youth involvement—which emerged only as an unplanned effect of Maziwa—could be strengthened through the creation of youth cooperatives with specific roles in the value chain (e.g., transport, technical services). On the environmental front, there is a need to reinforce climate-smart practices (livestock and forage choices should be calibrated to agro-ecological conditions to maximise yield and reduce risks) and to implement appropriately scaled technologies (photovoltaic systems were undersized, while the high costs of biogas discourage small-scale farmers, who often have limited resources).

9 RECOMMENDATIONS

Based on the experiences and evidence emerging from the Maziwa project, the following recommendations are proposed, aimed at consolidating and strengthening the approaches already initiated to improve the effectiveness, sustainability, and impact of future initiatives in the agricultural and livestock sector.

1. Development cooperation projects need to ensure the structuring of sustainable and market-oriented value chains, following appropriate and in-depth analyses of needs, context, and the specific value chain.

The Maziwa project experience highlighted that the strengthening of agricultural and livestock production must be accompanied by parallel investment in value-chain development, with particular attention to product quality and links to reliable markets. The project was designed based on prior knowledge of the county and a needs assessment that involved key beneficiaries, ensuring inclusion of their priority issues. Although limited in scope and conducted within a short timeframe to meet project submission deadlines, this analysis still served as a valuable foundation for defining the project activities. Some of the proposed activities, although appearing relevant during the initial needs analysis, showed critical issues at the time of the impact evaluation. Particularly, regarding the machinery provided to cooperatives (ER2 activities) being currently unused, the lack of use is attributable to several factors, such as the undersizing of solar systems relative to energy needs, instability of the national electricity grid, placement of machinery not aligned with a real analysis of the specific needs of individual cooperatives, and the lack of support of Meru Dairy Union for cooperative dairy productions perceived as competition. At the same time, engagement with the private sector and key private actors (e.g., Meru Dairy Union) demonstrated the potential to provide concrete technical solutions and guide project decisions towards truly sustainable options.

Therefore, value-chain development projects require the following:

- A thorough needs assessment (initial needs analysis), so that the project actions can be defined based on the evidence.
- Mapping of all actors (public, private, etc.) and their interests.
- Preliminary engineering analyses to define appropriate machinery, facilities, and energy systems, and to avoid their oversizing or undersizing, or their non-use.
- Studies to ensure that machinery, facilities, and energy systems comply with the main national or international sector regulations.
- Market and value chain analyses, so that understanding of dynamics enables the design of actions with potential for sustainability and durability.
- Assessment of the environmental impact of the value chain and identification of measures to mitigate negative effects, such as greenhouse gas emissions and waste management.
- Assessment of the impact on animal welfare and identification of measures to mitigate negative effects, such as mobility restrictions arising from zero-grazing practices.

Project designs should also include circular-economy actions, such as valorising production waste or end-of-life products. The use of digital solutions to optimise processes and ensure traceability along production value chains is also recommended.

Possible actions:

- In projects with value chain components, engage and involve the private sector to leverage their expertise and facilitate market access.
- Conduct the necessary needs assessments, actor mapping, engineering analyses, market and value chain analyses, environmental and animal welfare impact assessments, and circular-economy actions.
- Introduce a progressive and participatory approach to investments (equipment, energy, processing), based on precise assessments of actual production capacity and the real needs of the cooperatives.

2. Define innovative mechanisms to strengthen the role of local institutions so to ensure the sustainability of the activities.

The Maziwa project demonstrated that involving local institutions from the initial phases increases transparency, relevance, coherence, and supports the sustainability of actions. However, limited financial and HR within institutions can reduce their capacity to provide continuous services to farmers, particularly regarding technical and veterinary assistance. To address these structural limitations, it is advisable that development cooperation projects integrate and strengthen institutional services through complementary mechanisms that leverage cooperatives as proximity actors to address these structural limitations.

Possible actions:

- Consolidate institutional partnerships through MoUs and coordination platforms, promoting the gradual transfer of skills and responsibilities.
- Strengthen technical and veterinary assistance services delivered through cooperatives, in synergy with institutions, to ensure greater timeliness and continuity.
- Engage AICS country offices in the dialogue and coordination with local institutions

3. Define exit strategies and ensure adequate timelines for agricultural projects.

The Maziwa experience shows that the standard three-year duration is not sufficient to support cooperatives from the construction and establishment phase to consolidation and market access, especially when infrastructure investments and agricultural seasonality are involved. Project design that includes exit strategies from the outset and a longer timeframe can strengthen the sustainability of interventions and the real managerial capacity of beneficiaries.

Possible actions:

- Consider agricultural and livestock seasonality in planning, allowing adequate time, phases of consolidation, follow-up, and the flexibility needed to address external contingencies.
- Integrate exit strategy plans from the project design stage, providing for a gradual transfer of responsibility and ownership to the cooperatives.

4. Consolidate the role of local experts and ensure continuous training.

The Maziwa experience highlighted that the involvement of community-based experts (veterinarians and paravets) is crucial for follow-up and the sustainability of such initiatives, ensuring continuity of services beyond the project duration. Moreover, although the cooperatives have shown significant progress in governance and management, they require continuous training due to the annual turnover of members and leadership. Integrating local experts into projects and establishing structured mechanisms for continuous capacity building is essential to ensure the durability of results and improve service quality.

Possible actions:

- Systematically include community-based experts in agricultural projects and enhance their role as a bridge between institutions, cooperatives, and farmers.
- Establish periodic continuous training programmes for cooperative members and leadership, focusing on governance, transparent management, and production quality.

5. Strengthen the coherence of initiatives in the same sector and coordination through a Steering Committee.

The evaluation highlighted that the target cooperatives of the project already had several initiatives similar to Maziwa, with risks of duplication and overlapping efforts. Ensuring coherence between new and existing projects would allow resources to be focused on activities not yet covered, such as specific training, and would increase the effectiveness of investments. Coordination among local actors, including institutions, cooperative unions, and NGOs, is crucial to guide future decisions and consolidate acquired skills.

Possible actions:

- Establish local Steering Committees with representatives from cooperatives, institutions, and partners to coordinate activities and ensure coherence between initiatives.
- Conduct a thorough needs assessment before each intervention, adapting support to the real needs of each cooperative and avoiding duplication.

6. Promote climate-smart practices and circular-economy approaches in agricultural value chains.

The evaluation highlighted that, although some Maziwa activities included relevant elements (e.g., silage techniques and waste management), systematic strategies for climate resilience and environmental sustainability were not developed. Integrating agro-ecological practices, natural resource management, and drought-resistant varieties is essential to increase communities' capacity to cope with climate shocks, diseases, and market fluctuations, while strengthening the circular economy and food security.

Possible actions:

- Systematically incorporate natural resource management strategies (water and soil), climate-smart agro-ecological practices, and drought-resistant varieties into agricultural and livestock projects.
- Include circular-economy elements (e.g., reuse of waste, whey, and manure management) to ensure efficient resource use and reduce environmental impact.

7. Improve internal governance and communication among partners and stakeholders.

The evaluation highlighted that a clear governance structure and transparent decision-making processes within partnerships are essential to ensure coordination and effective implementation of actions, especially when partner activities are interrelated. The Maziwa experience shows that including private sector representatives in the steering committee and clearly defining roles and responsibilities can improve the quality of project decisions and reduce the risk of duplication or inefficiency.

Possible actions:

- Agree on governance mechanisms and decision-making processes within partnerships, ensuring clearly defined roles and responsibilities and regular exchanges among partners.
- Establish joint task forces or steering committees with representatives from NGOs, local institutions, cooperatives, and the private sector, and monitor their effectiveness in mid-term evaluations.

8. Strengthen the M&E system with a focus on results and outcomes.

The evaluation highlighted that the mere installation of facilities and equipment does not, by itself, guarantee concrete and lasting results. Strengthening outcome monitoring during implementation would allow systematic verification not only of activity progress but also of the results achieved, facilitating the timely adoption of corrective strategies wherever necessary.

Possible actions:

- Integrate both quantitative and qualitative outcome indicators, at the medium-term level, into the M&E system.
- Conduct periodic reviews and produce transparent reports to allow timely adjustments and better calibrate investments based on actual results.

10 REFERENCES

- Arciprete, & Nannini. (2025). *Policy brief per IMARA project*. WeWorld (progetto finanziato da AICS).
- AVSI. (2021). *Maziwa Project internal evaluation report*.
- Awuchi, C. G. (2022). Whey protein from milk as a source of nutraceuticals. In *Food and agricultural byproducts as important source of valuable nutraceuticals* (pp. 159–183). Cham: Springer International Publishing.
- Economic Complexity Index. (2023). *OEC—The Observatory of Economic Complexity*.
- Kenya Dairy Board (KDB). (2024). *Kenya Dairy Board official website*. <https://www.kdb.go.ke/>
- Kenya Institute for Public Policy Research and Analysis. (2024). *Rethinking youth employment initiatives*.
- Kenya National Bureau of Statistics (KNBS). (2025). *2025 economic survey (popular version)*. <https://www.knbs.or.ke/wp-content/uploads/2025/05/2025-Economic-Survey-Popular-Version.pdf>
- Kenya Vision 2030. (2021). *Youth critical in unlocking Kenya's growth potential*.
- Kenya Youth Agribusiness Strategy, 2018–2022.
- Mayne, J. (2001). Addressing attribution through contribution analysis: Using performance measures sensibly. *Canadian Journal of Program Evaluation*, 16(1), 1–24.
- Mayne, J. (2012). Contribution analysis: Coming of age? *Evaluation*, 18(3), 270–280.
- Mehra, R., Kumar, H., Kumar, N., Ranvir, S., Jana, A., Buttar, H. S., & Guiné, R. P. (2021). Whey proteins processing and emergent derivatives: An insight perspective from constituents, bioactivities, functionalities to therapeutic applications. *Journal of Functional Foods*, 87, 104760.
- Ministry of Agriculture. (2024). *Agricultural sector transformation and growth strategy: Towards sustainable agricultural transformation and food security in Kenya 2019–2029 (Abridged version)*. <https://kilimo.go.ke/wp-content/uploads/2024/08/ASTGS-Abridged-version.pdf>
- National Council for Population and Development. (2017). *Youth bulge in Kenya: A blessing or a curse (Policy Brief No. 56)*. <https://ncpd.go.ke/wp-content/uploads/2021/10/Advisory-Paper-6-Population-Age-Structure-and-Demographic-Dividend-in-Kenya.pdf>
- Nayil, D. (2021). Whey, waste or value? *World Journal of Agriculture & Soil Science*, 6(5). WJASS.MS.ID.000648.
- ND-GAIN Country Index. (2023). *Kenya vulnerability and readiness profile*. <https://gain-new.crc.nd.edu/country/kenya>
- Nzila, C., Dewulf, J., Spanjers, H., Kiriamiti, H., & Van Langenhove, H. (2010). Biowaste energy potential in Kenya. *Renewable Energy*, 35(12), 2698–2704.
- OECD. (2019). *Better criteria for better evaluation: Revised evaluation criteria – Definitions and principles for use*. OECD/DAC Network on Development Evaluation. Paris: OECD Publishing.
- Okello, A., & Iberi, D. (2023). Dissatisfaction, disengagement mark outlook of young Kenyans. *Afrobarometer Dispatch*, (No. 710).
- Pires, A. F., Marnotes, N. G., Rubio, O. D., Garcia, A. C., & Pereira, C. D. (2021). Dairy by-products: A review on the valorization of whey and second cheese whey. *Foods*, 10(5), 1067.
- Rosseto, M., Rigueto, C. V. T., Alessandretti, I., de Oliveira, R., Raber Wohlmuth, D. A., Loss, R. A., & Richards, N. S. P. D. S. (2023). Whey-based polymeric films for food packaging applications: A review of recent trends. *Journal of the Science of Food and Agriculture*, 103(7), 3217–3229.
- State Department for Livestock Development. (2023). *Strategic plan for State Department for Livestock Development 2023–2027*. <https://kilimo.go.ke/wp-content/uploads/2025/01/Strategic-Plan-for-State-Department-for-Livestock-Development-2023-2027-FINAL-with-Signatures-10.01.2025.pdf>
- The Commonwealth. (2023). *Youth development index at a glance*. <https://thecommonwealth.org/publications/global-youth-development-index-update-report-2023/youth-development-index-glance>

The National Treasury and Economic Planning, State Department for Economic Planning. (2024). *The national reporting indicator handbook: Bottom-up economic transformation agenda for inclusive growth, for the fourth medium term plan 2023–2027*. Government of Kenya.

Tsakali, E., Petrotos, K., D'Allessandro, A., & Goulas, P. (2010, June). A review on whey composition and the methods used for its utilization for food and pharmaceutical products. In *Proceedings of the 6th International Conference on Simulation and Modelling Food and Bioindustry* (pp. 195–201).

United Nations Development Programme (UNDP). (2023). *Human development reports: Country insights*. <https://hdr.undp.org/data-center/country-insights#/ranks>

United States Department of Agriculture (USDA). (2024). *Assessment of Kenya's dairy and beef sectors and opportunities for US investment (Voluntary Report—Voluntary—Public)*. USDA-GAIN. Nairobi, Kenya.

World Bank. (2021). *Kenya overview*. <https://data.worldbank.org/country/kenya>

World Bank. (2024). *Kenya data*. <https://databank.worldbank.org/reports.aspx?source=2&country=KEN>

11 ANNEX

Annex 1: Terms of Reference

Annex 2: Evaluation Questions and Sources

Annex 3: List of Consulted Documentation

ANNEXES NOT INCLUDED IN THE REPORT

Annex 4: Market Analysis—Dairy Supply Chain

Annex 5: Additional Documentation Produced (including semi-structured interview transcripts, focus group discussions, etc.)

Allegato 1



*Ministero degli Affari Esteri
e della Cooperazione Internazionale*

MINISTERO DEGLI AFFARI ESTERI E DELLA COOPERAZIONE INTERNAZIONALE

DIREZIONE GENERALE PER LA COOPERAZIONE ALLO SVILUPPO

Ufficio III

Sezione Valutazione

TERMINI DI RIFERIMENTO PER LA VALUTAZIONE INDIPENDENTE DEL PROGETTO

*“Maziwa –Miglioramento delle cooperative della filiera lattiero-casearia nella
contea di Meru”*

KENYA

Valutazione d’impatto

ECODEV, FOOD

AID 11510

1. Oggetto della valutazione

1.a. Contesto

Il settore lattiero-caseario è uno dei più importanti pilastri dell'economia del Kenya, contribuendo direttamente al 30% al PIL del comparto zootecnico e per il 14% al PIL agricolo complessivo. Il settore impiega oltre il 40% della popolazione totale e oltre il 70% della popolazione rurale del Kenya ed è di significativa importanza per la creazione di nuove occupazioni. Il settore è un'area di sviluppo con un enorme potenziale che contribuisce in modo significativo alla crescita economica del Paese. I piccoli produttori di latte in Kenya rappresentano oltre l'80-85% della produzione totale di latte nel Paese. L'importanza della catena del valore in Kenya si riflette nel numero di famiglie che vi lavorano: nel complesso, il settore contribuisce al reddito familiare e alla sicurezza alimentare e nutrizionale di molte famiglie impegnate lungo la catena del valore.

Tuttavia, la filiera lattiero-casearia locale presenta numerose criticità, tra cui bassa produttività, difficoltà di accesso ai mercati, la diffusione di malattie e parassiti, gli alti costi dei mangimi e lo scarso accesso ai servizi di allevamento, scarsa capacità di trasformazione e conservazione del latte, oltre a limitate competenze manageriali all'interno delle cooperative dei produttori. A loro volta, queste sfide riducono i rendimenti dell'allevamento di bestiame da latte e scoraggiano molti potenziali allevatori dall'intraprendere questa attività.

Nella contea di Meru, una delle quarantasette contee del Kenya, la produzione lattiero-casearia è relativamente sviluppata, grazie al suo clima favorevole, e fornisce lavoro a migliaia di persone e latte di qualità per il consumo. Tuttavia, l'aumento della popolazione ha ridotto la disponibilità di pascoli, portando gli allevatori a utilizzare un sistema di allevamento intensivo, con il 77,5% dei produttori che pratica la "zero grazing" (bestiame allevato in stalle con alimentazione trasportata), il 12,4% un sistema semi-intensivo e il 10,1% il pascolo aperto. Questa diffusione dell'allevamento intensivo implica la necessità di una formazione costante su gestione degli spazi, alimentazione, riproduzione, salute animale e tecniche di mungitura.

Il piano di sviluppo per il settore agricolo è incorporato nel Piano di Sviluppo Integrato della Contea di Meru (*County Integrated Development Plan - CIDP*, 2018-2022), incentrato sul rafforzamento delle cooperative agricole, dando priorità al miglioramento della sicurezza alimentare e nutrizionale, nonché incoraggiando e sostenendo l'agricoltura intelligente dal punto di vista climatico attraverso iniziative di conservazione del suolo e dell'acqua.

L'iniziativa *MAZIWA (latte) – Miglioramento delle cooperative della filiera lattiero-casearia nella contea di Meru, Kenya*, approvata con Delibera n. 103 del 21/12/2017 del Direttore dell'AICS, si inserisce nel quadro del Piano sopra citato e vuole migliorare lo stato socio-economico e contribuire alla ripresa economica dei piccoli agricoltori residenti nelle contee di Meru, Embu e Tharaka Nithi, potenziando le cooperative identificate, in modo da ottimizzare la produzione locale attraverso un'agricoltura sostenibile, promuovere la creazione di posti di lavoro, aumentare il reddito medio e migliorare lo stato di sicurezza alimentare dei beneficiari e rafforzare il sistema di gestione e produzione delle cooperative di produttori della filiera lattiero-casearia nella contea di Meru.

L'iniziativa si è proposta di migliorare la gestione e la produzione delle cooperative lattiero-casearie, attraverso una serie di interventi mirati a rafforzare le competenze tecniche e manageriali degli allevatori, potenziare le infrastrutture per la raccolta e la trasformazione del latte e favorire la creazione di meccanismi sostenibili di supporto alla produzione.

Un aspetto centrale del progetto riguarda il potenziamento della *governance* e delle capacità imprenditoriali delle cooperative. Grazie a un percorso di formazione specifico, i membri delle cooperative hanno acquisito competenze nella gestione finanziaria, nell'accesso al credito e nelle strategie di *marketing*. In particolare, il progetto mira a rafforzare cinque cooperative di produttori di latte della Contea di Meru, attraverso attività di formazione su tecniche di allevamento avanzate, l'uso di sementi, l'adozione di pratiche igienico-sanitarie più efficaci e la diffusione di tecniche di inseminazione artificiale per il miglioramento genetico del bestiame. Inoltre, il progetto mira a costruire e attrezzare nuovi impianti di trasformazione del latte, permettendo di migliorare la qualità del prodotto e aumentarne il valore di mercato. Il progetto prevede altresì l'introduzione di strumenti digitali per la tracciabilità della produzione e per migliorare l'efficienza della logistica del trasporto del latte.

L'allegata scheda descrittiva contiene le informazioni relative al documento previsionale. Il documento di progetto relativo all'iniziativa da valutare è allegato, invece, alla comunicazione con cui viene inviata la Lettera d'Invito. Inoltre, nella fase di *Desk Analysis* descritta nelle disposizioni gestionali e piano di lavoro, verrà fornita ulteriore documentazione dopo la comunicazione ufficiale di avvio ai lavori.

1.b. Utilità della valutazione

L'obiettivo è di valutare i risultati raggiunti dall'iniziativa, e soprattutto il suo impatto, sia al fine di garantire trasparenza e *accountability* che per avere indicazioni utili per orientare le future strategie di cooperazione allo sviluppo e la programmazione, nonché per migliorare la qualità degli interventi.

La valutazione d'impatto, che avviene a quattro anni dalla conclusione dell'iniziativa, tenendo conto dell'utilità attesa è finalizzata a:

- verificare quale impatto ha prodotto nel breve periodo il modello di sviluppo agricolo/zootecnico-economico, per valutare la replicabilità in futuro di iniziative simili;
- valutare l'impatto dell'iniziativa sulla sicurezza alimentare e sui livelli di nutrizione;
- valutare come l'iniziativa abbia contribuito ad aumentare la redditività del settore e la competitività del sistema produttivo, nonché come essa abbia inciso sulle esportazioni;
- valutare l'impatto sociale dell'iniziativa e, in particolare, come essa abbia determinato un miglioramento delle condizioni di vita complessive della popolazione e sul processo di emancipazione delle donne;
- evidenziare quale impatto abbia avuto l'iniziativa sul livello di occupazione della popolazione con particolare attenzione ai soggetti vulnerabili e come essa abbia influito sulle condizioni di sicurezza degli ambienti di lavoro;
- valutare l'impatto dal punto di vista ambientale dell'iniziativa, anche sotto il profilo della promozione dell'agricoltura sostenibile.
- analizzare se l'impatto del progetto sull'accesso all'istruzione ha riguardato in modo equo sia i figli maschi che le figlie femmine degli allevatori, tenendo conto dell'obiettivo di misurare l'impatto di genere.

- verificare se i posti di lavoro creati dal progetto siano stati mantenuti e se i lavoratori impiegati alla conclusione del progetto siano ancora attivi.

1.c. Obiettivi generali

La valutazione dovrà esprimere un giudizio generale, adeguatamente motivato, sulla rilevanza degli obiettivi dell'iniziativa in relazione alle esigenze locali prioritarie nonché alla coerenza con le altre iniziative della Cooperazione italiana e degli altri donatori.

In base ai risultati raggiunti, tenendo conto anche degli indicatori elencati nel quadro logico, si valuterà l'efficacia dell'intervento, l'efficienza nell'utilizzo delle risorse a disposizione e la sostenibilità dei benefici conseguiti.

Al di là dei risultati immediati, si dovrà cercare di valutare soprattutto l'impatto dell'iniziativa valutata e descrivere quali cambiamenti essa abbia contribuito a determinare, o si possa ipotizzare che contribuirà a determinare, in via diretta o indirettamente, nell'ambito del contesto sociale, economico e ambientale nonché in relazione al raggiungimento degli obiettivi indicati nella scheda descrittiva allegata ed in relazione agli altri indicatori di sviluppo.

Si dovranno evidenziare gli effetti, anche solo potenziali, su benessere collettivo, diritti umani, eguaglianza di genere e ambiente e sottolineare il contributo ad eventuali cambiamenti di carattere strutturale e duraturo in sistemi o norme. Si dovrà analizzare in che misura e secondo quali meccanismi l'intervento abbia contribuito ai cambiamenti riscontrati come pure l'influenza di fattori esterni quali il contesto politico e le condizioni economiche e finanziarie.

La valutazione esaminerà anche il grado di logicità e coerenza del disegno del progetto e ne valuterà la validità complessiva.

Le conclusioni della valutazione saranno basate su risultati oggettivi, credibili, affidabili e validi, tali da permettere alla DGCS di elaborare misure di *management response*. Il rapporto finale di valutazione dovrà inoltre evidenziare le eventuali lezioni apprese e buone pratiche nonché fornire raccomandazioni utili per la realizzazione di futuri progetti simili. Sempre sulla base di quanto emerso dalla valutazione, potranno essere fornite raccomandazioni di carattere generale per migliorare la programmazione e la gestione degli interventi di cooperazione.

Attraverso le raccomandazioni e le lezioni apprese, la valutazione darà infatti notizie utili atte ad indirizzare al meglio i futuri finanziamenti di settore, a migliorare la programmazione politica dell'aiuto pubblico allo sviluppo e la gestione degli interventi programmati, dalla fase di progettazione alla realizzazione, includendo l'attività di monitoraggio e valutazione.

La diffusione dei risultati della Valutazione permetterà inoltre di rendere conto al Parlamento circa l'utilizzo dei fondi stanziati per l'Aiuto Pubblico allo Sviluppo ed all'opinione pubblica italiana circa la validità dell'allocazione delle risorse governative disponibili in attività di cooperazione. I risultati della valutazione e le esperienze acquisite saranno condivise con le principali Agenzie di cooperazione e con i partner locali. La valutazione favorirà anche la "*mutual accountability*" tra partner in relazione ai reciproci impegni.

Infine, mediante il coinvolgimento dei Paesi partner in ogni fase del suo svolgimento, la valutazione contribuirà al rafforzamento della loro capacità in materia di valutazione.

Il team di valutazione potrà suggerire e includere altri aspetti che siano congrui con lo scopo della valutazione.

2. Metodologia della valutazione

2.a. Principi generali e approccio

- La valutazione deve essere in linea con i più elevati standard internazionali di riferimento e tiene conto delle rilevanti linee guida della cooperazione italiana.

Le valutazioni realizzate dalla DGCS si basano sui seguenti principi: utilità, credibilità, indipendenza, imparzialità, trasparenza, eticità, professionalità, diritti umani, parità di genere e sul principio del *leave no-one behind*.

La valutazione deve essere condotta con i più elevati standard di integrità e rispetto delle regole civili, degli usi e costumi, dei diritti umani e dell'uguaglianza di genere e del principio del "non nuocere". A questo riguardo, si raccomanda di non inserire nei rapporti, che saranno oggetto di pubblicazione, nominativi individuali degli attori locali (beneficiari, persone intervistate a qualunque titolo, etc.), foto che ritraggono singoli individui identificabili né altre informazioni da considerare sensibili nel contesto della specifica valutazione (es.: partner attuatori facilmente identificabili). Ciò al fine di tenere conto dei rischi derivanti dal contesto di sicurezza in cui si inserisce la valutazione. La presenza di foto dovrà essere presa in considerazione con la massima attenzione alla protezione ed alla dignità della persona.

Le tematiche trasversali (tra cui diritti umani genere, ambiente) dovranno avere la dovuta considerazione ed i risultati della valutazione in questi ambiti dovranno essere adeguatamente evidenziati con una modalità trasversale.

- Per valutare quanto gli interventi abbiano inciso sulla capacità di concedere i diritti umani e di pretenderne il godimento, si utilizzerà lo *Human Rights Based Approach*.

Più in generale, il team di valutazione userà un *Results Based Approach* che comprenderà l'analisi di varie fonti informative e di dati derivanti da documentazione di progetto, relazioni di monitoraggio, interviste con le controparti governative, con lo staff del progetto, con i beneficiari diretti, sia a livello individuale sia aggregati in *focus group*.

A questo scopo, il team di valutazione intraprenderà una missione in Kenya.

Il processo di valutazione dovrà essere focalizzato sull'utilità attesa della valutazione.

- Il team di valutazione dovrà adottare metodologie sia qualitative che quantitative in modo tale da poter triangolare i risultati ottenuti con l'utilizzo di ciascuna di esse. Nella scelta delle metodologie da utilizzare, il team di valutazione dovrà tenere conto degli obiettivi che la valutazione si propone nonché delle dimensioni e caratteristiche degli interventi.

In ogni caso, si dovrà esplicitare quali metodi si utilizzano sia per la valutazione che per la raccolta dei dati e la loro analisi, motivando la scelta e chiarendo le modalità di applicazione degli stessi.

Le metodologie utilizzate dovranno essere in accordo con tutti i principi enunciati in precedenza nei punti a e b. In particolare, la prospettiva di genere dovrà sempre essere integrata (alla luce del tipo di intervento valutato) e con modalità che dovranno essere indicate nella proposta tecnica presentata (ad esempio, la presenza nel team di personale di sesso femminile o comunque esperto in materia di genere, raccolta ed analisi dei dati in maniera disaggregata per genere etc.).

Nella fase di avvio della valutazione, i valutatori dovranno:

- 1- tenere in considerazione, la teoria del cambiamento, compatibilmente con le modalità di impostazione progettuale degli interventi;
- 2- proporre le principali domande di valutazione e le domande supplementari, in maniera puntuale e tenendo conto delle caratteristiche specifiche degli interventi;
- 3- elaborare la matrice di valutazione, che, per ciascuna delle domande di valutazione e domande supplementari che si è deciso di prendere in considerazione, indichi le tecniche che si intendono utilizzare per la raccolta dei dati e fornisca altre informazioni quali i metodi di misura, eventuali indicatori, la presenza o meno di *baseline* e quanto altro opportuno in base alle esigenze della valutazione;
- 4- stabilire le modalità di partecipazione degli stakeholder alla valutazione con particolare attenzione ai beneficiari e ai gruppi più vulnerabili.

2.b. Qualità

Il team di valutazione userà diversi metodi (inclusa la triangolazione) al fine di assicurare che i dati rilevati siano validi.

La valutazione dovrà conformarsi ai *Quality Standards for Development Evaluation* dell'OCSE/DAC.¹

2.c. Criteri

I criteri di valutazione, citati in precedenza, sono quelli definiti in ambito OCSE-DAC, assieme ai principi base per il loro utilizzo. Nel rimandare alle fonti OCSE-DAC per maggiori dettagli², di seguito si evidenziano i principali aspetti di ciascun criterio:

- **Rilevanza:** Il team di valutazione dovrà verificare in che misura l'obiettivo ed il disegno dell'iniziativa rispondano (e continuino a rispondere in presenza di mutate circostanze) ai bisogni, le politiche e le priorità dei beneficiari globali, del Paese e delle istituzioni del partner.
- **Coerenza:** Si verificherà la compatibilità dell'intervento con altri interventi nel settore, all'interno dello stesso Paese, sia da parte della cooperazione italiana che da parte di altri Paesi.
- **Efficacia:** La valutazione misurerà il grado e l'entità in cui gli obiettivi dell'iniziativa, intesi in termini di risultati diretti ed immediati, siano stati raggiunti o si prevede lo saranno, con attenzione ai diversi risultati all'interno dei vari gruppi di beneficiari.
- **Efficienza:** La valutazione analizzerà se l'utilizzo delle risorse sia stato ottimale, o si prevede lo sarà, per il conseguimento dei risultati del progetto sia in termini economici che di tempistica ed efficienza gestionale.
- **Impatto:** Si analizzeranno gli effetti significativi dell'intervento, positivi e negativi, previsti o imprevisi o prevedibili, in un ambito più ampio ed in un lasso di tempo più lungo rispetto ai

¹ https://www.oecd.org/en/publications/dac-quality-standards-for-development-evaluation_9789264083905-en.html

² Per le definizioni dei Criteri OCSE si rinvia al seguente link <https://www.oecd.org/en/topics/sub-issues/development-co-operation-evaluation-and-effectiveness/evaluation-criteria.html>

risultati diretti ed immediati. Nel valutare l'impatto si considereranno quindi gli effetti in ambito sociale, economico ed ambientale nonché relativi alle tematiche più importanti: benessere delle comunità, diritti umani, uguaglianza di genere etc.

- **Sostenibilità:** Si valuterà la potenziale continuità nel medio e nel lungo termine dei benefici dell'iniziativa, sia di quelli già prodottisi che di quelli che potranno derivarne in futuro.

2.c. Quesiti valutativi

I quesiti valutativi dovranno essere formulati soprattutto in funzione dell'utilità e degli obiettivi della valutazione. Anche l'interpretazione specifica dei criteri OCSE-DAC, nonché di eventuali criteri aggiuntivi, dipenderà da cosa la valutazione mira ad evidenziare e dall'utilizzo che della valutazione stessa si intende fare. Le domande sull'efficacia e sull'impatto dovranno basarsi sul livello degli *outcome* e degli impatti specifici generati, anziché su specifici output e sull'impatto globale, difficilmente quantificabile.

Per meglio valutare l'impatto, una parte dei quesiti dovranno essere del tipo causa-effetto. Alcune domande dovranno essere indirizzate a tematiche trasversali (povertà, diritti umani, questioni di genere o ambientali etc.).

In ogni caso, i quesiti (principali e supplementari) dovranno essere formulati quanto più possibile in maniera dettagliata, facendo riferimento alle specifiche caratteristiche degli interventi, in forma chiara e con un taglio operativo che tenga anche conto della concreta possibilità di darvi una risposta.

2.d. Coinvolgimento degli stakeholder:

I metodi utilizzati dovranno essere il più partecipativi possibile, prevedendo in tutte le fasi il coinvolgimento dei destinatari "istituzionali" della valutazione, del Paese partner, dei beneficiari degli interventi ed in generale di tutti i principali stakeholder.

In un'ottica di maggiore consapevolezza, il team di valutazione dovrà coinvolgere gli stakeholder locali durante l'esercizio di valutazione, attraverso la condivisione delle informazioni raccolte.

Inoltre, al termine della visita sul campo, le informazioni utili alla valutazione raccolte saranno condivise dal team con gli stakeholder locali.

I principali stakeholder sono:

- Meru County Government (Department of Agriculture);
- Don Bosco Association (Mutuati);
- IPSIA - Istituto Pace, Sviluppo, Innovazione Acli;
- Comune di Padova;
- EDUS OdV– Educazione e Sviluppo – Trento;
- Meru County Investment Development Corporation (MCIDC);
- Kenya Dairy Board;
- Meru University of Science and Technology;
- Meru Dairy Cooperatives.

2.e. Profilo del team di valutazione

Il servizio di valutazione dovrà essere svolto da un team di valutazione, composto da almeno 3 membri, incluso il *team leader*, il quale sarà il referente della DGCS per l'intera procedura e parteciperà alle riunioni ed ai seminari previste dal piano di lavoro.

Il *team leader* dovrà avere i seguenti requisiti minimi:

- Diploma di laurea triennale;
- Padronanza della lingua italiana, parlata e scritta;³
- Padronanza della lingua inglese, parlata e scritta;
- Esperienza in attività di valutazione di iniziative di cooperazione allo sviluppo (almeno 3 anni);
- Esperienza in coordinamento di team multidisciplinari (almeno 1 anno).
- Conoscenza approfondita della metodologia RBM e degli strumenti e modalità di intervento della Cooperazione italiana.

Gli altri due membri obbligatori del team dovranno possedere i seguenti requisiti minimi:

- Diploma di laurea triennale;
- Padronanza della lingua inglese, parlata e scritta;
- Esperienza in attività di valutazione di iniziative di cooperazione allo sviluppo (almeno 1 anno);
- Conoscenza della gestione del ciclo del progetto e dei progetti di cooperazione allo sviluppo.

Il team di valutazione dovrà essere *gender oriented* e quindi includere almeno un esperto locale donna in qualità di membro obbligatorio del team stesso.

Il team di valutazione dovrà inoltre disporre delle seguenti competenze, che potranno essere possedute da uno o più membri obbligatori o aggiuntivi:

- Competenze in ambito economico-finanziario relative allo sviluppo rurale e industriale del settore agroalimentare;
- Conoscenza del Paese e del contesto istituzionale;
- Conoscenza della lingua swahili come lingua veicolare;
- Competenza in interviste, ricerche documentate, raccolta e analisi dei dati;
- Competenza adeguata in tematiche trasversali;
- Ottime capacità analitiche, redazionali e di presentazione dei dati.

Il team di valutazione potrà includere esperti locali in qualità di membri del team stesso, preferibilmente con conoscenza della lingua

3. Prodotti dell'esercizio di valutazione

Si elencano di seguito gli output dell'esercizio.

- Un **Rapporto d'Avvio in lingua italiana** (intorno alle 20 pagine), da trasmettere alla stazione appaltante entro la scadenza concordata in occasione dell'incontro di avvio della valutazione presso la DGCS (generalmente 20 giorni). Il documento dovrà includere la descrizione dell'ambito della valutazione, dei quesiti valutativi principali e supplementari, dei criteri e degli indicatori che verranno utilizzati per rispondere alle domande, delle metodologie che si intendono utilizzare per la raccolta e l'analisi dei dati e per la valutazione in generale, della definizione del

³ Per padronanza si intende qui, come in seguito, una conoscenza della lingua in questione al livello C del QCER (non sono richiesti formali attestati)

ruolo e delle responsabilità di ciascun membro del team di valutazione, del piano di lavoro comprensivo del cronoprogramma delle attività e delle modalità di svolgimento delle visite sul campo.

- Un **Rapporto finale** (max 50 pagine allegati esclusi) **in lingua italiana e tradotto in inglese**. Oltre che in **formato Word e Pdf (max 3Mb)**, i rapporti nelle 2 lingue dovranno essere forniti, **in formato cartaceo rilegato in brossura, nella misura di 4 copie per ciascuna lingua (8 copie complessivamente)**. La redazione e la traduzione in lingua dovranno essere di un livello qualitativo professionale. Il Rapporto dovrà inoltre contenere elementi di infografica che facilitino la lettura e diano immediata evidenza delle risultanze della valutazione. Ulteriori indicazioni in merito al formato e alla struttura del rapporto sono fornite nella relativa scheda descrittiva.
- Una **Sintesi del Rapporto Finale** (max 20 pagine), **in lingua italiana e tradotto in inglese**. Oltre che in **formato Word e Pdf (max 3Mb)**, le sintesi nelle 2 lingue dovranno essere fornite **in formato cartaceo rilegato in brossura, nella misura di 4 copie per ciascuna lingua (8 copie complessivamente)**. Le copie cartacee dovranno essere dotate di copertina plastificata. La redazione e la traduzione in lingua dovranno essere di un livello qualitativo professionale. Il Rapporto dovrà inoltre contenere elementi di infografica che facilitino la lettura e diano immediata evidenza delle risultanze della valutazione. Nella versione sintetica del rapporto si dovranno necessariamente includere l'ambito e gli obiettivi della valutazione, l'approccio metodologico, le principali conclusioni e le raccomandazioni.
- **Documentazione fotografica** (in alta definizione) sull'iniziativa valutata e sul suo contesto, a sostegno delle conclusioni della valutazione, fornita su supporto informatico.
- **Due presentazioni Power Point**, rispettivamente in italiano ed in inglese per illustrare le principali risultanze della valutazione (da utilizzare anche a supporto dei seminari programmati).
- **Seminario di presentazione della bozza del rapporto finale presso il MAECI-DGCS.**
- **Seminario di presentazione del rapporto finale in loco.**

Seguono:

- **Scheda descrittiva del progetto;**
- **Disposizioni gestionali e piano di lavoro;**
- **Scheda relativa a formato e struttura del Rapporto di valutazione.**

SCHEMA DESCRITTIVA PROGETTO

TITOLO DEL PROGRAMMA	“Maziwa - Miglioramento delle cooperative della filiera lattiero-casearia nella Contea di Meru”
LUOGO DEL PROGRAMMA	Kenya
LINGUA DEL PROGRAMMA	Inglese
DURATA EFFETTIVA	Aprile 2018 - Settembre 2021
CANALE DI FINANZIAMENTO	Progetto Promosso OSC (Bando 2017)
TIPOLOGIA	Dono
BUDGET TOTALE	Euro 1.845.596,62 (cofinanziamento AICS: 1.661.036,96 €; cofinanziamento OSC e Partner: 184.559,66 €)
ENTE ESECUTORE	Fondazione AVSI
OBIETTIVI DI SVILUPPO SOSTENIBILE (SDGs)	O2: Porre fine alla fame, raggiungere la sicurezza alimentare, migliorare la nutrizione e promuovere un’agricoltura sostenibile O8: Promuovere una crescita economica sostenuta, condivisa e sostenibile, un’occupazione piena e produttiva e un lavoro dignitoso per tutti O15: Proteggere, ripristinare e favorire un uso sostenibile dell’ecosistema terrestre

Contesto dell’iniziativa

L'agricoltura è il pilastro dell'economia del Kenya, contribuendo direttamente per il 24% al PIL del Paese. Il settore lattiero-caseario è un'area di sviluppo con un enorme potenziale che contribuisce in modo significativo alla crescita economica del Paese; il settore si basa su un'organizzazione cooperativistica, tale per cui circa il 60% dei piccoli agricoltori in Kenya si stima sia membro di una cooperativa. I principali ostacoli per lo sviluppo della filiera lattiero-casearia del Paese sono stati individuati nella scarsa produttività, nelle importanti perdite post-produzione, nella scarsa capacità di trasformazione, in una carente *governance* delle cooperative, nell'inaffidabilità dei canali di commercializzazione del prodotto finale e nell'inadeguatezza delle strutture di networking. Il progetto vuole migliorare lo stato socio-economico e contribuire alla ripresa economica di un minimo di 15.840 piccoli agricoltori residenti nelle contee di Meru, Embu e Tharaka Nithi, potenziando le cooperative identificate, in modo da ottimizzare la produzione locale, promuovere la creazione di posti di lavoro, aumentare il reddito medio e migliorare lo stato di sicurezza alimentare dei beneficiari.

Obiettivo generale e specifico

L'obiettivo generale è quello di contribuire a raggiungere la sicurezza alimentare, migliorare la nutrizione e promuovere un'agricoltura sostenibile.

L'obiettivo specifico è il miglioramento del sistema di gestione e produzione delle cooperative di produttori della filiera lattiero-casearia nella Contea di Meru.

Finanziamento

Il costo complessivo dell'iniziativa di oggetto è di Euro 1.845.596,62. Il contributo trasferito da AICS, pari a un importo complessivo di Euro 1.661.036,96, è stato corrisposto in tre tranches dal valore di Euro 709.218,29 (I rata), Euro 627.291,31 (II rata) e Euro 324.527,36 (III rata). Il restante 10% è stato finanziato dalla OSC Fondazione AVSI – AVSI e da altri due partner, IPSIA ed EDUS.

Descrizione strategia di intervento

La presente iniziativa, implementata dall'OSC Fondazione AVSI-AVSI, è stata attuata attraverso un approccio multi-stakeholder in collaborazione con esponenti sia del settore privato (oltre ad AVSI, anche IPSIA, Edus, Don Bosco, cinque cooperative lattiero-casearie) che pubblico (Governo della contea di Meru, l'Unione di Meru Comune di Padova). La forma di partenariato pubblico-privato ha dato esiti positivi. Il progetto si è rivolto in particolare ai piccoli agricoltori con un'attenzione costante alle categorie più vulnerabili della filiera (donne e bambini). Più specificamente, il progetto ha promosso una crescita economica sostenuta e inclusiva, opportunità di lavoro piene e produttive per le donne e i giovani, contribuendo alla creazione di redditi dignitosi.

Risultati da conseguire

I risultati attesi sono:

Risultato 1 Aumento produzione e qualità del latte

Risultato 2 Capacità di conservazione e trasformazione latte e derivati migliorata

Risultato 3 Capacità di gestione risparmio e marketing delle cooperative

Risultato 4 Rafforzamento networking del sistema di produttori e cooperative

Risultato 5 Aumentati uso e consapevolezza sulla produzione di energia da fonti rinnovabili.

Elenco dei beneficiari

I beneficiari diretti dell'iniziativa sono 2863 tra allevatori appartenenti a 5 cooperative lattiero-casearie e governatori del settore privato attivi nella filiera che beneficeranno dei servizi di formazione professionale creato in Kenya.

Variazioni intervenute

L'iniziativa, dalla durata prevista di 36 mesi, è stata oggetto di tre varianti non onerose: la prima variante, approvata il 22.08.2018, ha visto la sostituzione di una delle cinque cooperative individuate nella fase di progettazione; la seconda proroga, approvata il 4.02.2020, riguarda una modifica delle linee budget, senza variazioni di costi, e un'estensione di 3 mensilità della seconda e terza annualità. La terza infine, approvata il 7.5.2021, autorizza un'estensione di tre mensilità sull'ultima annualità, a causa dei rallentamenti dovuti al COVID-19.

PIANO DI LAVORO

Desk Analysis	In questa prima fase i valutatori esamineranno la documentazione riguardante il progetto. Dopo la firma del contratto la DGCS fornirà al team di valutazione ulteriore documentazione relativa all'iniziativa oggetto della valutazione. Nella riunione d'avvio, il team incontrerà i rappresentanti degli uffici della DGCS, gli esperti/funzionari dell'Agenzia ed altri stakeholder rilevanti.
Rapporto d'avvio	Il team dovrà predisporre il Rapporto d'avvio (vedi pag. 9), che sarà soggetto ad approvazione da parte della DGCS, entro la scadenza concordata in occasione dell'incontro di avvio della valutazione presso la DGCS (generalmente 20 giorni).
Visita sul campo	Coordinandosi con il MAECI, l'Ambasciata d'Italia e la Sede dell'AICS a Nairobi, il team di valutazione visiterà i luoghi dell'iniziativa, intervisterà le parti interessate e i beneficiari e raccoglierà ogni informazione utile alla valutazione. Il team di valutazione si recherà sul campo per un periodo stimato di 15 giorni complessivi (la durata effettiva sarà determinata dall'offerente). Il suddetto periodo dovrà essere coperto da almeno uno dei membri obbligatori. La presenza in loco del team leader, anche per un periodo circoscritto, è incentivata con l'attribuzione di relativo punteggio in sede di valutazione dell'offerta tecnica (Piano di lavoro). Al termine della visita sul campo, le informazioni utili alla valutazione raccolte saranno condivise dal team con gli stakeholder locali.
Bozza del rapporto di valutazione	Il team predisporrà la bozza del rapporto di valutazione, che dovrà essere inviata per l'approvazione da parte della DGCS.
Commenti delle parti interessate e feedback	La bozza di rapporto sarà sottoposta ai soggetti interni alla DGCS, ai rappresentanti dell'Agenzia e altri eventuali stakeholder individuati dalla DGCS per questa finalità. Commenti e feedback saranno comunicati ai valutatori invitandoli a dare i chiarimenti richiesti e fare eventuali contro-obiezioni.
Seminario presso la DGCS	La DGCS organizzerà un Seminario per la presentazione da parte del team della bozza del rapporto di valutazione, per l'acquisizione di eventuali commenti e feedback da parte dei soggetti di cui al paragrafo precedente, utili alla stesura del rapporto definitivo.
Rapporto finale e documentazione accessoria	Il team di valutazione, tenendo conto dei commenti ricevuti, definirà il rapporto finale e lo trasmetterà alla DGCS, per l'approvazione. Il rapporto può includere i commenti degli stakeholder. Al rapporto saranno allegati i ToRs, la lista completa dei quesiti valutativi con relativi indicatori e fonti e l'elenco della documentazione consultata. Assieme al rapporto dovrà essere fornito il materiale fotografico e l'ulteriore documentazione prodotta nel corso della valutazione: i questionari, i documenti specifici prodotti per gli approfondimenti di particolari tematiche o linee di intervento, le fonti informative secondarie utilizzate, le tecniche di raccolta dei dati nell'ambito di indagini ad hoc, le modalità di organizzazione ed esecuzione delle interviste, la definizione e le modalità di quantificazione delle diverse categorie di indicatori utilizzati, le procedure e le tecniche per l'analisi dei dati e per la formulazione delle risposte ai quesiti valutativi, inclusa la Matrice di Valutazione etc.
Seminario in loco	Il team di valutazione organizzerà, in coordinamento con la DGCS, un seminario per la presentazione alle controparti del rapporto finale di valutazione. I risultati della valutazione verranno presentati ai principali interlocutori locali: soggetti istituzionali, enti esecutori, rappresentanti dei beneficiari etc. I costi organizzativi del seminario (incluso affitto della sala, catering, eventuali rimborsi per lo spostamento dei partecipanti locali) saranno integralmente a carico dell'offerente. Le modalità organizzative di massima del seminario dovranno essere illustrate nell'offerta del concorrente e concordate in tempo utile nel dettaglio con la DGCS.

FORMATO E STRUTTURA DEL RAPPORTO DI VALUTAZIONE

Rilegatura	In broccura con copertina plastificata recante l'indicazione del titolo dell'iniziativa anche nella parte laterale.
Carattere	Arial o Times New Roman, corpo 12 minimo
Copertina	Il file relativo alla prima pagina sarà fornito dall'Ufficio III della DGCS assieme ai contenuti da inserire nella prima pagina (modalità di aggiudicazione, disclaimer etc.)
Lista degli acronimi	Sarà inserita una lista degli acronimi utilizzati
Localizzazione degli interventi	Inserire una carta geografica relativa alle aree oggetto dell'iniziativa.
Sintesi iniziale	Quadro sintetico di contesto, ambito ed obiettivi della valutazione, metodologia di raccolta e analisi dati, principali conclusioni e raccomandazioni. Segnalare che del rapporto finale è disponibile una versione sintetica. (Max 5 pagine)
Contesto	- Situazione Paese (Max 2 pagine), basata su informazioni rilevate da fonti internazionali accreditate. - Breve descrizione delle politiche di sviluppo attive nel Paese, con particolare riferimento alla cooperazione italiana, e della sua situazione politico-istituzionale, socio-economica e culturale.
Ambito ed obiettivo	- Descrizione delle iniziative valutate che includa logica e strategia di base, obiettivi generali e specifici, risultati previsti e stato di realizzazione dei singoli progetti - Obiettivi generali e specifici della valutazione.
Quadro teorico e metodologico	- I criteri di valutazione. - La metodologia utilizzata e la sua applicazione, segnalando le eventuali difficoltà incontrate. - Le fonti informative e il loro grado di attendibilità.
Presentazione dei risultati	La presentazione dei risultati della valutazione dovrà articolarsi sulla base dei quesiti formulati dall'offerente e delle relative risposte (adeguatamente documentate).
Conclusioni	Le conclusioni, fondate sui risultati della valutazione, includeranno un giudizio chiaro e motivato in merito a ciascuno dei criteri di valutazione e dovranno tenere conto di quanto richiesto nella sezione Utilità dei ToRs e delle tematiche trasversali.
Raccomandazioni	Le raccomandazioni, relative ad aspetti specifici delle iniziative valutate o a carattere generale, devono comunque essere fondate sulle risultanze e le conclusioni della valutazione. Sono indirizzate ai destinatari istituzionali e finalizzate al miglioramento delle strategie della cooperazione italiana e dei progetti futuri. Per facilitare la management response devono essere limitate nel numero (indicativamente non più di 10 raccomandazioni principali) e prevedere una formulazione sintetica che evidenzii chiaramente l'azione da svolgere, accompagnata da un eventuale ulteriore testo esplicativo.
Lezioni apprese e buone pratiche	Sono fondate sulle risultanze della valutazione e possono andare al di là del ristretto ambito del progetto.
Allegati inseriti nel rapporto	In calce al rapporto devono essere inseriti i ToRs, la lista completa dei quesiti valutativi con relativi indicatori e fonti e l'elenco della documentazione consultata. Ulteriori allegati possono essere inseriti se non contengono dati potenzialmente sensibili (nominativi individuali ed altre informazioni che possono essere usate per identificare individui). Nel rapporto può anche essere inserito l'elenco di tutta la documentazione accessoria prodotta (questionari etc.), inclusa quella non allegata.

ANNEX 2: EVALUATION QUESTIONS AND INFORMATION SOURCES

DIMENSION OF THE ANALYSIS			EVALUATION QUESTIONS			KII			FGD	Case study	Direct Observation	Desk and secondary data analysis
						Leader and partner	Local institutions	Other stakeholders	Farmer	Coop.		
RELEVANCE	Relevance to the context and beneficiaries	Did the project's objectives and design address the real needs of the beneficiaries? Were these needs a priority for the beneficiaries? To what extent do these needs remain a priority in the current context? Which circumstances have changed, and what new needs have emerged?										
	Relevance to institutions	Did the project's objectives and design address the real needs of the local institutions involved?										
	Relevance of the ToC and RBM	Was the project's Theory of Change clearly and correctly defined? Were the priorities and needs of the stakeholders adequately reflected in the project's objectives and in its Theory of Change? How were the actions adapted to better respond to these needs?										
	Inclusiveness	Did the project's objectives and design respond to the real needs of the women beneficiaries (both direct and indirect)? Did the project take into account the needs and priorities of women?										
COHERENCE	External coherence	To what extent was the project consistent with other initiatives promoted by Italian cooperation in the same region? Was the project consistent with other initiatives promoted by different actors in the same region? Was the project complementary and coordinated with these initiatives?										
	Alignment with international, national, and local policies	Was the project consistent with the Meru County Integrated Development Plan (CIDP, 2018–2022)? Is the project aligned with current dairy value chain policies and with the County's current development policies?										
	Coherence of the ToC and RBM	To what extent were the project activities coherent with each other? Were the project objectives and implementation consistent with the SDGs identified during the design phase? To what extent were external contextual factors taken into account when defining the project actions?										
	Inclusiveness	Were the project objectives and design consistent with a gender-sensitive approach (see paragraph 3) and aligned with the principle of "leaving no one behind"?										
EFFECTIVENESS	Achievement of results	What were the main difficulties or challenges encountered that hindered or complicated the achievement of the expected results?										
	Effectiveness of the ToC and RBM	Was the project's Logical Framework and its indicators properly defined? To what extent were the Logical Framework and indicators designed according to a Results-Based Management (RBM) approach?										
	Inclusiveness	To what extent does the intervention generate different results for the various target groups?										

DIMENSION OF THE ANALYSIS			EVALUATION QUESTIONS						
			KII			FGD	Case study	Direct Observa	Desk and second
			Leader and partner	Local institutions	Other stakeholders	Farmer	Coop.	tion	ary data analysis
IMPACT	Long-term changes	Has the intervention generated significant effects, both positive and negative, foreseen or unforeseen, in a broader scope and over a longer time period compared to the direct and immediate results? Has the intervention contributed concretely to the achievement of Sustainable Development Goals 2, 8, and 10 (particularly regarding indicators 2.4, 8.2, and 10.1)? Which external factors to the project (primarily the political and economic-financial context) have influenced, positively or negatively, the observed changes?							
	Impact on the social sphere	Impact on the overall living conditions of the target population Impact on the empowerment process of women within the target population Impact on access to education for the sons and daughters of livestock farmers (also in terms of female empowerment) Impact on pre-existing local systems or norms							
	Impact on the economic sphere	Impact on food security in the target counties and on nutritional levels. Impact on the modernization and health of the beneficiary cooperatives, and more broadly on the agricultural/livestock-economic development model. Potential spill-over effects of knowledge between the direct beneficiaries of the intervention and other community members who did not directly benefit (indirect beneficiaries). Impact on the profitability of the sector and the competitiveness of the production system, including effects on export levels. Impact on job creation and maintenance within the value chain and, more broadly, on employment levels of the target population, with particular attention to women and vulnerable groups. Impact on the safety conditions in workplaces along the value chain.							
	Impact on the environmental sphere	Impact on the level of environmental sustainability of the value chain Impact on the introduction of agroecological practices aimed at climate resilience (e.g., soil conservation, water availability and protection of water bodies, waste management and valorization of by-products) Impact on the use of renewable energy and on energy security within value chain activities							
	Inclusiveness	Did the project lay the foundations for transformative changes, in terms of the inclusion of vulnerable groups, in the long term?							
	Efficiency	Human and	Were the number and type of human resources involved sufficient to						

DIMENSION OF THE ANALYSIS			EVALUATION QUESTIONS			KII			FGD	Case study	Direct Observation	Desk and secondary data analysis
						Leader and partner	Local institutions	Other stakeholders	Farmer	Coop.		
	financial resources	efficiently manage the project's operations? Were the available financial resources allocated optimally to allow the achievement of the expected results?										
	Workplan and timeline	Were the planned timelines consistent with the actual implementation process? Were they respected? What were the reasons for any deviations from the work plan?										
	Governance and coordination	In what ways did the governance structure and the project's implementation modalities influence (positively or negatively) the results and their sustainability? To what extent were the different project partners able to provide added value and make their competencies complementary in achieving the results?										
	Inclusiveness	Were the human resources involved in the project selected with attention to gender and intersectionality?										
SUSTAINABILITY	Sustainability measures	What actions and what local capacities (financial, economic, social, environmental, and institutional) have been developed to ensure that these benefits are sustained over time?										
	Durability of results	To what extent have the positive effects of the intervention continued in the four years following its conclusion? In what ways did the project seek to ensure that these effects would occur? What are the main threats to the sustainability of the impact of a project like Maziwa (risk analysis)?										
	Inclusiveness	To what extent will the benefits of the intervention endure for the different target groups?										
LEARNING	Lessons learned	What lessons learned and good practices, useful for defining future strategies and interventions in the sector by AVSI, AICS, and local institutional stakeholders, can be derived from the Maziwa experience?										

SOURCES OF INFORMATION AND PRIMARY DATA COLLECTION TOOLS

DATA COLLECTION TOOLS	RESPONDENTS	
13 Semi-structured interviews– PARTNER	- AVSI Region and Kenya Representatives - AVSI Kenya Programs Director - AVSI MEAL Manager - AVSI Project Manager - AVSI Current Project Manager - IPSIA Desk officer Italy - IPSIA Project Manager (2018-2020) - IPSIA Country Coordinator Kenya - EDUS Responsible	- MERU COUNTY GOVERNMENT – Head of Department, Ministry of Agriculture, Livestock Development and Fisheries - MERU COUNTY GOVERNMENT – Livestock Production Officer - MERU COUNTY GOVERNMENT – Director of the Agricultural Sector Development Support Program (ASDSP) - DON BOSCO ASSOCIATION – Director
15 Semi-structured interviews– OCAL and INTERNATIONAL INSTITUTIONS and STAKEHOLDERS	- Meru County Government - Director of Department of Cooperatives and Project officer - Kenya Dairy Board Branch Manager - Meru Dairy Union Procurement and Extension manager, - Trainer of Trainers - Kenya Veterinary Association, Chairperson Eastern region - County nutritionist - Kenya Biogas Consultant	- Jenmart Farmer - Non-beneficiary Cooperative - Teacher from a school sensitized on Nutrition - Director of Companionship of Works Association (COWA) - Expert from CEVA - AICS Nairobi Representative - Italian Ambassador to Kenya - AICS Rome Representative
10 Case study interviews – COOPERATIVES	- Arithi: Secretary Manager and Chairperson - Meru North: Secretary Manager and Board Member - Mikinduri: Secretary Manager and Chairperson - Ngusishi: Secretary Manager and Chairperson - Nyaki Kiburine: VLSA Manager and Chairperson	
10 structured focus group discussions with 98 farmers	- Arithi: 19 farmers in 2 FGDs - Meru North: 20 farmers in 2 FGDs - Mikinduri: 18 farmers in 2 FGDs - Ngusishi: 19 farmers in 2 FGDs - Nyaki Kiburine: 21 farmers in 2 FGDs	
Direct observation: 5 cooperatives, 11 farmers, 3 collection centers. Project site visits.	- Arithi: cooperative and 3 farmers - Meru North: cooperative and 3 farmers - Mikinduri: cooperative, 2 farmers, 1 milk collection center - Ngusishi: cooperative, 3 farmers, 2 milk collection centers	- Nyaki Kiburine: cooperative and 1 farmer - Meru Dairy Union refrigerator - Meru Dairy Union processing plant - Meru Ushirika Day celebration

ANNEX 3: LIST OF CONSULTED DOCUMENTATION

- 2018.03.21 No. 131 Contract
- Addendum to AICS–AVSI Contract
- AVSI_Annex 1_Complete Application_Kenya 19-7-17
- AVSI-Kenya_Project Document
- AVSI-Kenya-Financial Plan
- Errata Corrigé_AVSI_Annex 9_Complete Proposal_Kenya – corrected
- Financial Plan_Kenya – corrected and approved
- Activity Start Communication
- Cover Letter
- Report_AICS_Maziwa_Semester I_Year III
- Updated Financial Report 23.08.19
- Declaration by Legal Representative
- Progress Report Maziwa Year II
- AVSI Certification – prog. 011510AVSIKEN – Year II
- COVID Declaration
- Financial Report Year II AICS Kenya Maziwa for AICS
- Declaration by Legal Representative
- AID 11510_Request for Balance Reimbursement_Aug2022_signed
- AVSI Certification – prog. 011510AVSIKEN – Maziwa – Year III
- Report Annexes
- Report
- Electrical Engineer Report
- Civil Engineer Report
- IPSIA Report
- Mission Report MAZIWA AICS Kenya
- ENV – MAZIWA Final Evaluation Report, February 2022.pdf
- Handing Over Document
- Financial Report Year III AICS Kenya Maziwa with 3-year schemes as of 30.09.21
- Narrative and Financial Report Maziwa Year III
- VNO Approval Year I
- AVSI_Financial Plan_Kenya – final – revised version
- Cooperative Request in Response to Beneficiary Change
- VNO Request Year I
- Support Letter from Meru County
- AICS Budget Modification Year II – v28.01.2020 last
- AICS Budget Modification Year III – v28.01.2020 last
- Annex 4 Variation and Extension Maziwa
- Annex 4 Variation and Extension Maziwa (second version)
- Authorization for Variation and Extension
- Completion Works BoQ
- New Construction BoQ
- 11510 AVSI KEN_Authorization for Extension_signed
- Request for Extension of Year III – Maziwa – AID011510
- Internal Evaluation

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