Enabel

Final Evaluation of the Beekeeping Value Chain Support (BEVAC)

TAN180351T

Tanzania

H. Cathala, Particip

C. Makoye, Particip

A.K. Richard, Particip

Consortium Particip and Technopolis

Final report

May 2026

Belgian development agency

enabel.be

This evaluation was carried out as part of the cooperation between Tanzania and Belgium.

The report was drawn up by independent external experts.

The opinions expressed in this document represent the views of the authors and are not necessarily shared by Enabel, the Belgian Cooperation or the authorities of Tanzania.

Table of contents

1 Acronyms 6

2 Cooperation programme sheet 9

3 Acknowledgements 10

4 Evaluation team 10

5 Background and context 11

5.1 Contribution to national and sectoral strategies 11

5.2 Key elements of the intervention strategy 11

5.3 Determining contextual factors 13

5.4 Governance of the intervention 14

5.5 Main changes compared to the Technical and Financial Document (TFD) 15

6 Objectives and methodology 16

6.1 Objectives and scope of the BEVAC Final Evaluation 16

6.2 Methodology 17

6.3 Limitations and constraints 19

7 Analysis and findings 20

7.1 Performance analysis 20

7.2 In-depth analysis 24

8 Conclusions 70

8.1 Conclusion 1 – Strategic relevance remains high due to sustained policy alignment and adaptive positioning 70

8.2 Conclusion 2 – The holistic value chain approach is the primary driver of coherence and effectiveness 70

8.3 Conclusion 3 – Early efficiency constraints highlight weaknesses in initial design realism, but adaptive management enabled strong recovery 70

8.4 Conclusion 4 – High effectiveness reflects both the quality of outputs and the relevance of implementation approaches 71

8.5 Conclusion 5 – Market-led and private sector engagement has been a decisive factor in driving transformation 71

8.6 Conclusion 6 – The programme has generated significant impact, but many higher-level effects remain in consolidation phase 71

8.7 Conclusion 7 – Sustainability prospects are satisfactory but uneven, with key dependencies on public systems and institutional capacity 72

8.8 Conclusion 8 – Inclusiveness has improved but structural barriers continue to limit equitable benefit distribution 72

8.9 Conclusion 9 – The main added value of BEVAC lies in its catalytic and systemic role rather than isolated outputs 72

9 Recommendations 73

9.1 Recommendation 1: Refine targeting and adapt tools (incl. digital) to local capacities and contexts to enhance relevance and inclusiveness 73

9.2 Recommendation 2: Consolidate the holistic value chain approach by strengthening coordination mechanisms among public, private and development actors 73

9.3 Recommendation 3: Ensure realistic design and scaling by aligning geographical scope, resources and timelines in future interventions 74

9.4 Recommendation 4: Deepen market integration by strengthening aggregation, quality control and access to finance for smaller actors 74

9.5 Recommendation 5: Sustain and scale private sector engagement through structured public–private partnerships and investment facilitation 75

9.6 Recommendation 6: Consolidate impacts through targeted support to ensure full operationalisation of infrastructure and services 75

9.7 Recommendation 7: Strengthen institutional sustainability by securing long-term financing and governance of extension services 76

9.8 Recommendation 8: Enhance inclusiveness by reducing barriers to technology, finance and information for the most vulnerable groups. 76

9.9 Recommendation 9: Strengthen sector governance by supporting a unified and representative beekeeping platform 76

9.10 Recommendation 10: Institutionalise learning and adaptive management through strengthened M&E systems and knowledge-sharing platforms 77

10 Lessons learned 78

10.1 Lesson 1 – A holistic, market-led value chain approach is critical to transform subsistence sectors 78

10.2 Lesson 2 – Private sector engagement is a key driver of sustainability and scaling 78

10.3 Lesson 3 – Adaptive management is essential in complex value chain programmes 78

10.4 Lesson 4 – Decentralised extension systems improve outreach but require sustainable financing models 78

10.5 Lesson 5 – Localised input supply chains enhance accessibility and economic inclusion 79

10.6 Lesson 6 – Aligning environmental conservation with economic incentives increases effectiveness 79

10.7 Lesson 7 – Strong M&E systems are essential but must include deeper livelihood analysis 79

10.8 Lesson 8 – Institutional anchoring enhances ownership but requires strong coordination mechanisms 79

Table of figures

Figure 1: BEVAC Implementation model 12
Figure 2: Map of BEVAC intervention areas 13
Figure 3: BEVAC organisational chart 14
Figure 4: Summary of the evaluation process 17
Figure 5: Overview of BEVAC supported infrastructure 35
Figure 6: BEVAC support outreach 38
Figure 7: Overall trend in adoption of Good Beekeeping Practices 39
Figure 8: Beekeeper income sources (left) and income increase from beekeeping activities (right) 52
Figure 9: Average beneficiary household income derived from beekeeping 52
Figure 10: Number of SMEs that have gained new markets 55
Figure 11: Gender dimensions in the VC 62

Table of tables

Table 1: Summary of stakeholders met 18

Table of photos

Photo 1: A traditional hive 25
Photo 2: Product diversification 27
Photo 3: Tanzania Top-Bar hives 28
Photo 4: Apiary 29
Photo 5: Local tailor made protection gear 36
Photo 6: Small equipment (smoker) 40
Photo 7: Bee products 41
Photo 8: A Stand apiary in Pemba 63
Photo 9: Roadside honey kiosk 65

1 Acronyms

ADAP	Association for the Development of Protected Areas
AFD	Agence Française de Développement
AFDP	Agriculture and Fisheries Development programme
APW	African People & Wildlife
AU–IBAR	African Union – Inter-African Bureau for Animal Resources
B2B	Business-to-business
BEVAC	Beekeeping Value Chain Support
BK VC	Beekeeping value chain
BSO	Business Support Organisation
BSPK	Beekeeping Support Project in Kigoma
BTI	Beekeeping Training Institute
CIDA	Canadian International Development Agency
CSMIS	Cooperative Supervision Management Information System
Danida	Danish Cooperation Agency
DBO	District Beekeeping Officer
EO	Expected Output
EU	European Union
EU OPSYS	European Union Operational System
FAO	United Nations Food and Agriculture
FBD	Forest and Beekeeping Division
FBMIS	Forestry and Beekeeping Management Information System
FEGGE	Feminist Entrepreneurs Growing Green Economies
FFS	Farmer Field School
FORVAC	Forest and Value Chains Development Program
FYDP	Five-Year Development Plan
GCCA+	Global Climate Change Alliance Plus
GIZ	German Development Agency - Deutsche Gesellschaft für Internationale Zusammenarbeit

GoT	Government of Tanzania
HACCP	Hazard Analysis and Critical Control Points
HEAT	Honey Exporters Association of Tanzania
ICIPE	International Centre for Insects Physiology and Ecology
IFAD	International Fund for Agricultural Development
ITC	International Trade Center
KIU	Kangeme, Itebulanda and Utenge (bee reserve)
KJP	Kigoma Joint Programme
LB	Lead Beekeeper
LGA	Local Government Authorities
M€	Million euros
M&E	Monitoring and evaluation
MIT	Ministry of Industry and Trade
MNRT	Ministry of Natural Resources and Tourism
MSME	Micro, small and medium enterprise
MTR	Mid-term Review
MUVU	Mfumo wa Usimamizi wa Vyama vya Ushirika
NABERM	National Beekeeping Research Master plan
NMB	National Microfinance Bank
NPC	National Programme Coordinator
NSGRP	National Strategy for Growth and Reduction of Poverty
PASS	Private Agricultural Sector Support (trust)
PEBA	Pemba Beekeeping Association
PIU	Programme Implementation Unit
PMU	Programme Management Unit
PSC	Programme Steering Committee
RAS	Regional Administrative Secretariat
RNRO	Regional Natural Resource Officer
ROM	Results-Oriented Monitoring
SAKIRP	Sustainable Agriculture Kigoma Regional Project

SDC	Swiss Development Corporation
SDG	Sustainable Development Goal
SIDO	Small Industries Development Organisation
SOA	Zanzibar School of Agriculture
SUZA	State University of Zanzibar
TABEDO	Tanzania Beekeeping Development Organisation
TAFORI	Tanzania Forestry Research Institute
TAWA	Tanzania Wildlife Authority
TBS	Tanzania Bureau of Standards
TC	Technical Committee
ToC	Theory of Change
TFD	Technical and Financial Document
TFF	Tanzanian Forestry Fund
TFS	Tanzania Forest Services
ToT	Training of Trainers
TTB	Tanzania Top-Bar
TZS	Tanzanian Shilling
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
VAT	Value Added Tax
ZEEA	Zanzibar Economic Enhancement Agency

2 Cooperation programme sheet

Title	Beekeeping Value Chain Support (BEVAC)
Project code	CA number: TZ/FED/426-887 Enabel Reference: TAN180351T
Project zone	Tanzania (Tabora, Kigoma, Katavi, Singida, Shinyanga and Pemba Island)
Priority sector(s) Global challenge(s)	Climate Action & Environment, Social & Economic Empowerment
Partner country	Tanzania
Partner institution	International Trade Centre (ITC)
Total budget	Euro 9,900,000 (funded 100% by the European Union - EU)
Start date & end date of the specific agreement	01.09.2021 to 29.02.2026
Start date & expected end date of implementation	01.09.2021 to 29.02.2026
Impact	To contribute inclusive economic growth and poverty reduction in Tanzania
Outcome	Competitiveness of the inclusive and environmentally sustainable beekeeping value chain (BK VC) is strengthened
Outputs	**EO1.** An environment conducive to the engagement of BK VC actors in updating regulatory and institutional frameworks is fostered. **EO2.** Efficiency of the sustainable and high-quality BK VC is improved. **EO3.** Domestic and export markets of beekeeping products are boosted
Period covered by the evaluation	2021-2025

3 Acknowledgements

The evaluation team extends its sincere appreciation to all stakeholders met during the mission, including Enabel staff, government authorities, private-sector actors, business support organisations, and beneficiaries. Their availability, openness, and valuable insights were essential in informing the analysis and ensuring a comprehensive and evidence-based assessment of the BEVAC programme. In particular, we thank Deogratius Kimena for all the support provided in the organisation and operationalisation of the mission.

4 Evaluation team

- Hubert CATHALA, International consultant, agricultural economist, team leader
- Casmir MAKOYE, National consultant, agricultural economist
- Allen K. RICHARD, National consultant, MSc in Management of Natural Resources for Sustainable Agriculture

5 Background and context

5.1 Contribution to national and sectoral strategies

The Beekeeping Value Chain Support (BEVAC) program is strategically designed to align with the United Republic of Tanzania's overarching economic and environmental goals. At the national level, the intervention directly supports Tanzania's Five-Year Development Plan (FYDP), which advocates for aggressive industrialisation to boost processing, value addition, and job creation. By transforming beekeeping from a subsistence activity into a commercialised value chain, BEVAC contributes to the National Strategy for Growth and Reduction of Poverty (NSGRP) by diversifying rural income streams and lifting smallholder producers out of poverty.

Sectorally, the programme is a critical vehicle for implementing the National Beekeeping Policy of 1998 and its Implementation Strategy (2021–2031), which emphasise the conservation of honeybees and their habitats alongside increased production of quality bee products for international markets. The intervention also aligns with the Beekeeping Act No. 15 of 2002, particularly regarding the establishment of bee reserves and the promotion of biodiversity. A significant national milestone supported by the programme is the government's "Achia Shoka, Kamata Mzinga" (Drop the Axe, Take the Beehive) campaign. This initiative underscores the strategic link between environmental conservation and beekeeping, promoting apiculture as a sustainable economic alternative to deforestation.

Furthermore, BEVAC enhances Tanzania's international standing in the apiculture sector. Beyond supporting Tanzania's participation in major apiculture events around the world, the programme also supports the Tanzania National Brand "Made in Tanzania" and the launch of the Tanzania Honey Trademark in collaboration with TanTrade, ensuring that Tanzanian bee products meet the traceability and quality standards required for penetration into the European Union (EU) and Middle Eastern markets.

5.2 Key elements of the intervention strategy

The core objective of BEVAC is to enhance the beekeeping industry's contribution to inclusive economic growth and poverty reduction in Tanzania. The programme's Theory of Change (ToC) is built on the premise that addressing barriers in production, processing, and market access will lead to increased competitiveness and market penetration. The intervention logic is structured around three primary expected outputs (EO):

- EO1: Institutional Capacity and Enabling Environment: Fostering a regulatory framework conducive to private sector engagement and strengthening institutions for research, quality assurance, and training.
- EO2: Value Chain Efficiency: Improving the capacities of beekeepers and cooperatives to produce high-quality honey while enhancing the management of bee reserves and apiaries.
- EO3: Market Access and Trade: Boosting domestic and export markets through brand enhancement, trade facilitation, and business-to-business (B2B) linkages.

BEVAC employs a market-led approach, nesting its interventions within established private-sector marketing arrangements to ensure a "market pull" for smallholder products. A key pillar of the strategy is technical modernisation and social inclusion, transitioning beekeepers from traditional,

physically demanding bark hives to modern Tanzania Top-Bar (TTB) hives. This shift is particularly designed to empower women and youth, as modern hives can be managed near homesteads without the need for hazardous tree climbing.

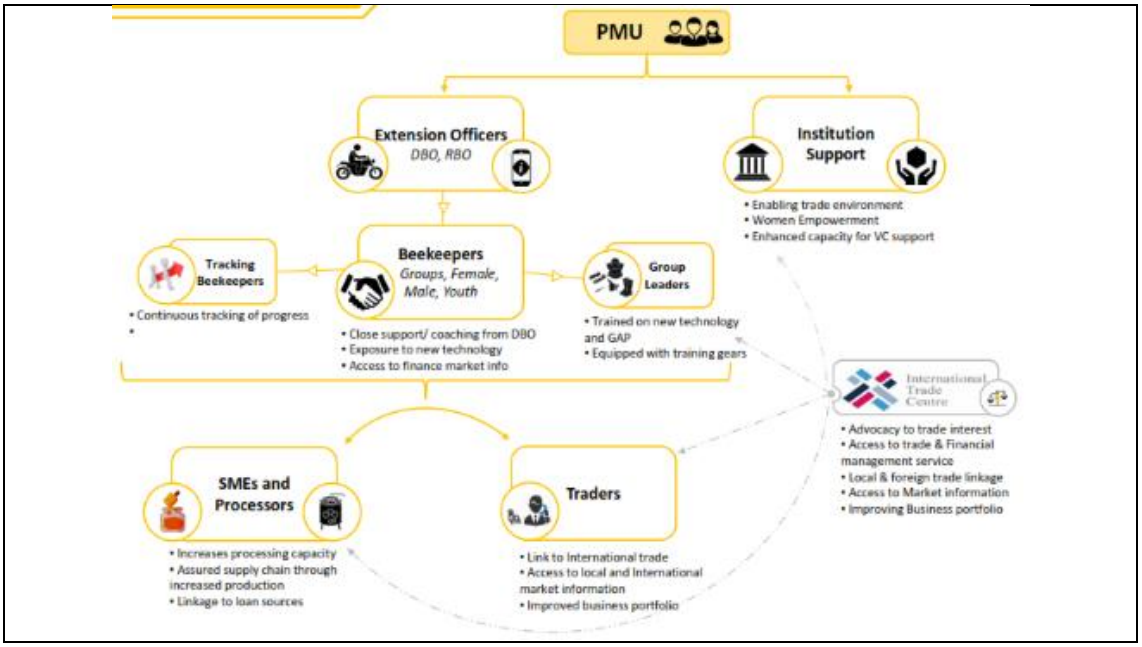
The programme uses a decentralised extension model to reach its target of 10,000 beekeepers. This includes the Farmer Field School (FFS) methodology and the empowerment of "Lead Beekeepers" (LBs) who provide peer-to-peer training and mentorship within their communities. To ensure ownership and financial sustainability, BEVAC adopts a cost-sharing model, typically requiring a 20–30% contribution from beneficiaries for equipment like hives and protective gear.

The implementation involves a complex network of public and private actors:

- Enabel: The lead implementing agency responsible for overall management and EOs 1 and 2.
- International Trade Centre (ITC): A specialised partner responsible for market access, trade facilitation, and EO 3.
- Ministry of Natural Resources and Tourism (MNRT): The line ministry and primary institutional anchor, specifically through the Forest and Beekeeping Division (FBD).
- Tanzania Forest Services (TFS): Responsible for managing national bee reserves and enforcing beekeeping regulations.
- Private Sector "Lead Firms": Companies like Upendo Honey, Jambo Asali, and AfriLife serve as market off-takers, providing beekeepers with guaranteed demand and quality incentives.
- Business Support Organisations (BSOs): Sector associations such as Tanzania Beekeeping Development Organisation (TABEDO), Api-Support, Pemba Beekeeping Association (PEBA), and Honey Exporters Association of Tanzania (HEAT) are strengthened to advocate for beekeepers' interests and facilitate policy dialogue.
- Academic Institutions: The Beekeeping Training Institute (BTI) and the Zanzibar School of Agriculture (SOA) collaborate on curriculum development and technical training.

The BEVAC programme is structured according to the following implementation model (1):

Figure 1: BEVAC Implementation model



Source: Enabel

5.3 Determining contextual factors

The intervention context is defined by both the high potential and the significant structural challenges of the Tanzanian apiculture sector. Beekeeping is a traditional economic activity in Tanzania, employing over 2 million people and positioning the country as the second-largest honey producer in Africa. However, the sector operates at less than 25% of its potential, with 95% of production relying on low-scale traditional methods.

In terms of the environmental and geographical context, the programme operates across seven regions (Tabora, Kigoma, Katavi, Singida, Shinyanga, North Pemba, and South Pemba), encompassing diverse ecological zones like the Miombo woodlands and unique thickets such as the Itigi thickets. These areas are under constant threat from agricultural encroachment, illegal logging, and livestock keeping. Consequently, securing legal access to forage through the gazettement of village bee reserves is a determining factor for the programme's success.

Figure 2: Map of BEVAC intervention areas



Source: Enabel

In relation to climate and productivity challenges, the beekeeping value chain is highly vulnerable to climate-related shocks, such as persistent droughts that lead to colony "absconding" and reduced honey yields. BEVAC must therefore focus on climate-smart agriculture and resilience-building practices, such as providing alternative water sources for bees and managing forage areas to mitigate these risks.

In terms of socio-economic barriers, a primary contextual constraint is the exclusion of women and youth from the production node of the value chain. Traditionally, beekeeping was viewed as a "male activity" because of the physical requirement to climb trees to harvest bark hives. BEVAC addresses this by introducing accessible technologies that allow these groups to engage in beekeeping as a professional career. Furthermore, a pervasive "dependency syndrome" among beekeepers, accustomed to free handouts from past donor projects, presented a challenge to adopting the programme's business-oriented, cost-sharing approach.

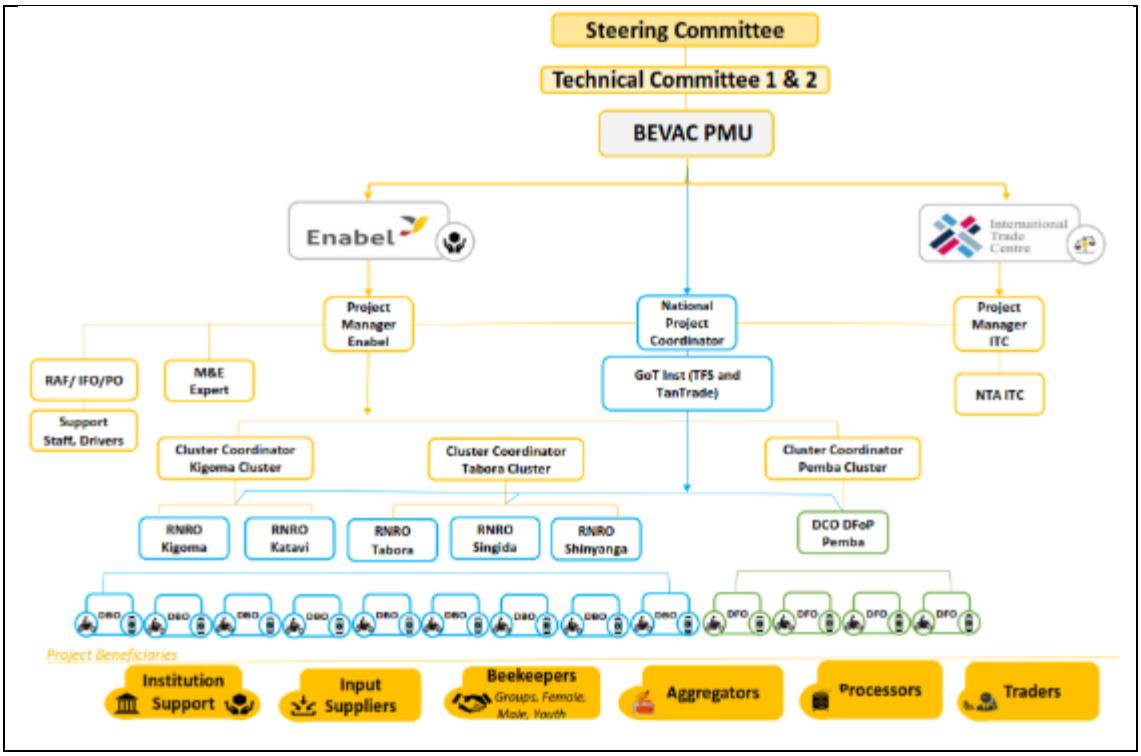
5.4 Governance of the intervention

The EU funded programme, implemented by Enabel, is anchored within the MNRT in Dodoma, with its primary Programme Management Unit (PMU) located in Tabora. This location was chosen for its central proximity to the mainland's high-production regions. The governance framework is designed to ensure both high-level policy alignment and effective local execution:

- Programme Steering Committee (PSC): Chaired by the MNRT, the PSC provides strategic oversight and validates the overall policy direction. Members include representatives from the Ministry of Industry and Trade (MIT), the Ministry of Finance, the EU Delegation, and Enabel.
- Technical Committees (TCs): Two specialised committees provide operational guidance. TC1 focuses on production, capacity building, and value addition, while TC2 handles market access, trade, and business development.
- Programme Implementation Unit (PIU): At the regional level, the programme is anchored in the Regional Secretariat to ensure coordination with local government authorities.

As far as its implementation is concerned, for administrative and logistical efficiency, BEVAC adopts a "cluster approach," dividing the large intervention area into three clusters: Tabora, Kigoma, and Pemba Island. Each cluster is managed by a Cluster Coordinator who works directly with the Regional Administrative Secretariat (RAS) and Local Government Authorities (LGAs).

Figure 3: BEVAC organisational chart



Source: Enabel

The implementation relies heavily on government extension systems. BEVAC trains and equips District Beekeeping Officers (DBOs) and Regional Natural Resource Officers (RNROs) with motorcycles and smartphones to deliver services to beekeepers. This method ensures that extension services are embedded within local government structures for long-term continuity. For data-driven

decision-making, the programme utilises the Forestry and Beekeeping Management Information System (FBMIS) and Kobo Toolbox for real-time mobile data collection and monitoring.

5.5 Main changes compared to the Technical and Financial Document (TFD)

Since its inception in 2021, BEVAC has undergone several significant strategic and operational adjustments to adapt to the evolving context:

1. **Extension of duration and budget increase**: The programme was originally planned for a duration of 37 months, which was found to be unrealistic for complex value chain development. In October 2023, the European Union approved a no-cost extension, extending the programme to a total of 54 months (ending February 28, 2026). Additionally, the budget was increased by €400,000, bringing the total to 9.9 million euros (M€). These additional funds were primarily allocated to furnishing the female student dormitory at BTI and providing extra resources for capacity building and programme capitalisation.
2. **Realignment of the logical framework**: Following the Mid-Term Review (MTR) and a Results-Oriented Monitoring (ROM) mission, the programme's logical framework was completely overhauled in June 2024. The original indicators were criticised for being too activity-based (e.g., number of people trained). The revised framework was realigned vertically and horizontally to comply with EU OPSYS core indicators, incorporating higher-level outcome indicators such as international trade flows, certification standards compliance, and household income growth.
3. **Strategic reorientation of policy support:** While the original document foresaw a full revision of the National Beekeeping Policy for the mainland, the government's publication of the Beekeeping Policy Implementation Strategy (2021–2031) made this redundant. Consequently, the programme shifted its focus to developing five policy briefs on specific barriers, such as Value Added Tax (VAT) on processing equipment and beekeepers' rights to access protected areas, which have proven more effective for targeted advocacy.
4. **Shift in extension and training models**: The programme initially underestimated the practical experience of government extension staff, requiring a shift to first provide fundamental training to DBOs before they could effectively support beekeepers. Furthermore, based on lessons learned, the programme moved away from a generic training approach toward a more tailored livelihood-based strategy. This included the introduction of the youth volunteer model within cooperatives to strengthen governance and digital record-keeping, a component not fully detailed in the initial TFD.
5. **Implementation Phasing**: The inception phase, originally planned for six months, was extended to ten months due to the time required for comprehensive studies like the Value Chain Assessment and Baseline Survey. This delayed the programme's first full operational year to the period of September 2022 to September 2023. Additionally, coordination between Enabel and ITC was strengthened following the MTR to eliminate parallel monitoring and evaluation (M&)E procedures and integrate trade indicators into the programme's primary mobile data systems.

6 Objectives and methodology

The Final Evaluation of the Beekeeping Value Chain Support (BEVAC) programme is designed as a summative, theory-informed evaluation aimed at assessing the programme's performance over its full implementation period while generating strategic guidance for future interventions. In line with the Terms of Reference (ToR) and as detailed in the inception report, the evaluation combines accountability and learning functions, structured around internationally recognised evaluation standards, notably the OECD-DAC criteria.

6.1 Objectives and scope of the BEVAC Final Evaluation

The evaluation pursues two interrelated objectives. First, it seeks to inform strategic orientation by identifying the conditions under which the programme's positive results can be consolidated and scaled, particularly in relation to improved market access, enhanced resilience of beekeepers, and the strengthening of value chain competitiveness. Second, it aims to ensure accountability and support institutional learning by assessing overall performance, with a particular emphasis on effectiveness and observed effects, and by examining the added value of BEVAC's intervention modalities in contributing to inclusive economic growth.

To operationalise these objectives, the evaluation is structured around a set of 16 evaluation questions (EQs), further disaggregated into sub-questions and indicators, as defined in the evaluation matrix annexed to the inception report. These EQs cover the main dimensions of programme performance and are explicitly aligned with the OECD-DAC criteria of relevance, coherence, effectiveness, efficiency, impact, and sustainability. Particular analytical emphasis is placed on effectiveness and observed results, while also integrating cross-cutting priorities such as gender equality, youth inclusion, environmental sustainability, climate resilience, decent work, digitalisation, and private sector development. The EQs also explore unintended effects and the extent to which BEVAC's approaches have contributed to systemic changes in the beekeeping value chain.

The scope of the evaluation is defined along temporal, geographical, and thematic dimensions. Temporally, it covers the entire duration of the programme from 2021 to 2025/2026. Geographically, it encompasses 19 districts across seven regions of Tanzania, including both mainland regions and Pemba Island. Thematically, it addresses all components of the intervention, including institutional capacity building, value chain efficiency, market access and trade, as well as cross-cutting environmental and social dimensions. While the evaluation considers the programme as a whole, it places particular emphasis on outcome-level results, including commercialisation dynamics, quality certification, and the resilience of beekeepers and micro, small and medium enterprises.

The primary users of the evaluation include the European Union Delegation, Enabel as the implementing agency, and relevant Government of Tanzania (GoT) institutions, particularly the MNRT and the MIT. These actors are expected to use the findings to inform strategic decisions, policy development, and the design of future interventions. Secondary users include development partners, private sector actors, business support organisations, research institutions, and value chain stakeholders, who may draw on the evaluation's findings to inform their own programming, partnerships, and investment decisions. The evaluation is expected to deliver a set of validated findings, conclusions aligned with the DAC criteria, and actionable recommendations, alongside

lessons learned that can guide future programming and support the transition to a subsequent phase.

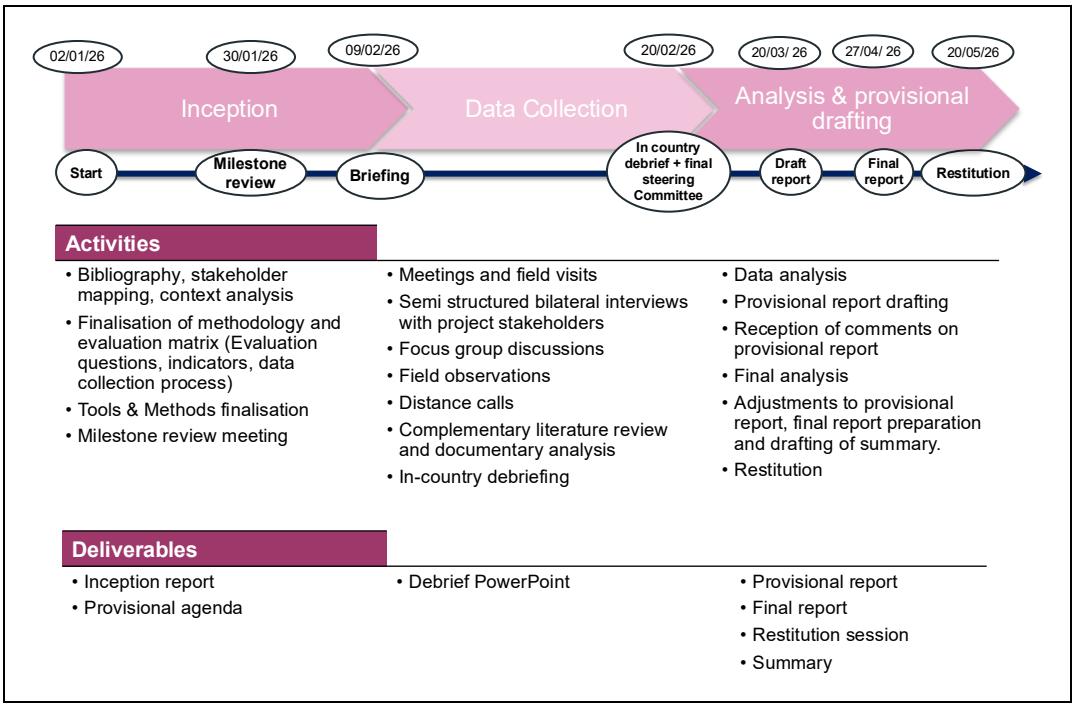
6.2 Methodology

The methodological approach adopted for the evaluation is based on a mixed-methods and theory-based design, combining qualitative and quantitative data to ensure a comprehensive and balanced assessment. The analysis is grounded in the programme's theory of change, which serves as the analytical framework for examining causal pathways between inputs, outputs, outcomes, and observed effects. Given the complexity of the intervention and the multi-actor nature of the value chain, the evaluation relies on a light contribution analysis approach rather than strict attribution, aiming to establish a plausible and evidence-based narrative of BEVAC's contribution to observed changes.

The evaluation team comprised one international expert, the team leader, responsible primarily for consultations with strategic and institutional stakeholders in Dar es Salaam and Dodoma, and two senior national experts, who conducted parallel data collection processes across different regional clusters. This division of labour was intended to ensure adequate coverage of the programme's extensive geographical scope within the constraints of a 12-day field mission, while also enabling the timely consolidation of findings for presentation at the final Steering Committee meeting.

Data collection follows a structured sequence, divided into 3 main phases: i) inception; ii) data collection in the field; and iii) analysis, report writing and restitution. It thus begun with a comprehensive review of programme documentation and contextual materials, followed by the finalisation of the evaluation matrix and data collection tools. Fieldwork was conducted during a 12-day mission, complemented by remote data collection where necessary, particularly in Pemba (which was not visited). The process concluded with data analysis, reporting, and validation through debriefing sessions. This sequencing ensures coherence between the analytical framework, data collection, and interpretation of findings.

Figure 4: Summary of the evaluation process



Source: Evaluation team

A combination of complementary methods is used to collect and analyse data. Documentary analysis provides a foundation for understanding the intervention logic, implementation progress, and sectoral context. Semi-structured interviews are conducted with key informants at national, regional, and local levels, including government institutions, implementing partners, private sector actors, and technical stakeholders. Focus group discussions are organised with beneficiaries, including beekeepers, women, youth, and cooperative members, to capture perceptions of change, validate quantitative findings, and explore livelihood impacts. Field observations allow for direct assessment of infrastructures, production practices, and aggregation systems. Where physical access was limited, particularly in insular or remote areas, telephone and online interviews were used to complement in-person data collection.

The evaluation applies a convergent triangulation strategy, whereby qualitative and quantitative data are analysed in parallel and systematically compared. Evidence is cross-validated across different sources, including primary and secondary data, and across different stakeholder perspectives. This approach strengthens the reliability of findings by identifying convergences and divergences in the evidence and by providing explanatory insights into observed trends. Data collection tools and interview guides are adapted to the specific characteristics of each stakeholder group, ensuring that information gathered is both relevant and sufficiently detailed.

The sources of information used in the evaluation include programme design documents, annual progress and results reports, monitoring data, results-oriented monitoring outputs, and findings from the MTR, as well as external sectoral studies and policy documents. These secondary sources are complemented by primary data collected through interviews, focus groups, and field observations. While the availability of documentation is generally adequate, several challenges are encountered, including uneven quality of monitoring data, limited availability of outcome-level indicators, restricted access to certain stakeholders, and potential biases associated with self-reported information. These limitations are addressed through triangulation and by combining multiple sources of evidence to ensure a balanced assessment.

Table 1: Summary of stakeholders met

Enabel	Value chain actors	Tanzanian authorities	Other stakeholders
• Programme team Country Director	• Cooperatives / BK Groups (14) • Processing units (3) • Processing MSME (2) • Traders (7 – 2 women) • Carpenters (3) • Tailors (2) • BSO (3) – TABEDO, Api-Support, PEBA • Women group • Youth group (4)	• MNRT – DFOB • MAINL - Department of Forestry (Pemba) • District beekeeping officers (3) • BTI • TFS • DED (5) • DC (6) • SUZA • School of Agriculture	• ITC EU

Source: Evaluation team

The sampling strategy adopted for fieldwork is purposive and designed to maximise analytical relevance rather than statistical representativeness. Given the geographical scope and time

constraints, field visits are limited to a selection of districts that are considered representative of different implementation contexts and levels of programme maturity. Priority is given to areas where production systems, certification processes, and market linkages are more advanced, allowing for a more robust assessment of outcome-level changes and commercialisation dynamics. The sampling also ensures the inclusion of diverse stakeholder groups, including institutional actors, private sector participants, and beneficiaries. Although the sample is not statistically representative, it is sufficiently diversified to support analytical generalisation and to provide meaningful insights into programme performance across different contexts.

6.3 Limitations and constraints

The evaluation is subject to several constraints and limitations that influence both data collection and analysis. The limited duration of the field mission necessitates a selective approach to site visits and stakeholder consultations. The wide geographical coverage of the programme requires the evaluation team to operate in parallel, with different experts focusing on different regions and stakeholder groups. In Pemba, logistical constraints lead to a greater reliance on remote data collection, which may limit the depth of contextual understanding. In addition, some key stakeholders[1] were not consulted due to time constraints, and certain outputs, particularly recently completed infrastructures, such as the BTI female dormitory and several honey collection centers, cannot yet be fully assessed in terms of their long-term impact. These limitations are mitigated through careful planning, the use of complementary data sources, and systematic triangulation, although they may affect the depth of analysis in specific areas.

Throughout the evaluation process, strict ethical standards are applied. Participation in interviews and focus groups is voluntary and based on informed consent, with respondents fully informed of the purpose of the evaluation and the use of the information collected. Confidentiality and anonymity are ensured, and sensitive data are handled in accordance with applicable data protection principles. Particular attention is given to the inclusion of vulnerable groups, including women and youth, ensuring that their perspectives are captured in a respectful and non-discriminatory manner.

[1] MIT, TBS, ZBS, Tan Trade, TAFORI, TAWIRI, IFAD, FORVAC, TAWA, Small Industries Development Organisation (SIDO), RNROs, HEAT, TPSF, some offtakers (Upendo Honey…), financial institutions, Njiro laboratory…

7 Analysis and findings

7.1 Performance analysis

RELEVANCE	A	B	C	D

The relevance of the BEVAC programme is assessed as good, reflecting strong alignment with national policies, donor priorities, and the needs of the beekeeping value chain, while leaving room for more tailored interventions.

At the strategic level, BEVAC is well aligned with Tanzanian policy frameworks, including the National Beekeeping Policy and related legislation, and responds directly to a government request to support the sector in specific areas. It also aligns with EU and Belgian development priorities and contributes to key Sustainable Development Goals. Continued political commitment to beekeeping as a driver of rural livelihoods, economic growth, and environmental conservation further reinforces its relevance.

The programme effectively addresses the main constraints of the value chain, including low productivity, limited product quality, weak aggregation systems, and restricted market access. Its comprehensive value chain approach, combined with appropriate geographical targeting in major honey-producing regions, strengthens its capacity to respond to sector needs.

BEVAC also takes well into account physical and social contextual factors. It addresses institutional capacity gaps, particularly in extension services, promotes inclusion of women and youth through adapted technologies, and integrates environmental sustainability through support to bee reserves and conservation practices.

The programme's relevance has been reinforced through adaptive management, notably following the MTR, which led to adjustments in the logical framework and an extension of the implementation period to better consolidate results.

However, some limitations persist. Certain investments may not fully address priority bottlenecks, the emphasis on export markets may overlook domestic opportunities, and digital tools are not always adapted to local capacities. Additionally, a more differentiated understanding of regional contexts and livelihood systems would enhance the targeting and effectiveness of interventions.

COHERENCE	A	B	C	D

The coherence of the BEVAC programme is assessed as very good, reflecting a high level of internal consistency and strong complementarities with both government initiatives and external interventions. The programme demonstrates a well-integrated and mutually reinforcing design, with only limited areas of tension that do not significantly affect overall performance.

Internally, BEVAC adopts a holistic value chain approach, supporting all segments from production and aggregation to processing and market access. These components are closely interconnected, ensuring that progress in one area reinforces outcomes in others. The programme is also strongly embedded within GoT structures, working in close coordination with agencies such as TFS, Tanzania Wildlife Authority (TAWA), and Tanzania Forestry Research Institute (TAFORI) through dedicated technical

committees. This institutional anchoring enables alignment with public policies and ensures that BEVAC builds upon and complements existing government investments and initiatives.

The programme further benefits from strong continuity within Enabel's portfolio, drawing on previous interventions and leveraging established approaches in areas such as access to finance, cooperative development, and monitoring systems.

Externally, BEVAC demonstrates high coherence with a wide range of donor-funded programmes and initiatives. The project was designed to be complementary to several other EU-funded initiatives. It actively coordinates with interventions supported by the EU, International Fund for Agricultural Development (IFAD), United Nations Food and Agriculture Organisation (FAO), and other partners, particularly in areas such as research, environmental conservation, and capacity building. Synergies with EU programmes and regional initiatives further enhance its contribution to broader sectoral objectives such as natural resource management and environmental conservation, climate action and resilience, inclusive economic growth and poverty reduction, industrialization, value addition and trade, gender equality and youth empowerment, or the achievement of Sustainable Development Goals (SDG). Collaboration with private sector actors is also well managed, with the programme focusing on facilitation and capacity building rather than duplicating existing investments.

Some challenges remain, including differences between subsidy-based and market-based approaches, coordination tensions among partners, and policy inconsistencies – between beekeeping policy and forest protection and/or protected area policies – affecting access to beekeeping areas. However, these issues remain limited and do not significantly undermine the programme's overall coherence.

EFFICIENCY	A	B	C	D

The efficiency of the BEVAC programme is assessed as good, reflecting a marked improvement over time despite significant early implementation challenges. The first phase of the programme was characterised by delays, coordination issues, and suboptimal resource utilisation, notably due to a prolonged inception period, procurement bottlenecks, and high staff turnover. However, following the MTR, the programme underwent a substantial operational transformation that significantly enhanced both economic and operational efficiency.

Key efficiency gains were achieved through strategic adjustments, including the establishment of a Shared Service Hub to streamline administrative and procurement processes, and the pooling of expertise across Enabel programmes. The localisation of the supply chain further improved cost-effectiveness, reducing equipment costs while generating local employment. The decentralised extension model, relying on DBOs and Lead Beekeepers, enabled large-scale outreach at relatively low cost.

The extension of the programme duration from 37 to 54 months was critical in addressing initial delays and aligning implementation timelines with the realities of value chain development. This allowed for accelerated delivery in later stages, reflected in high levels of progress and budget execution, with a greater share of resources directed towards field-level activities.

Operational efficiency also improved through the realignment of the Logical Framework[2], the strengthening of monitoring systems, and enhanced coordination between partners, particularly between Enabel and ITC. These changes contributed to more results-oriented management and better integration of programme components.

Despite these improvements, structural constraints remain. The large geographical scope continues to stretch resources and limit sustained field engagement, while staff turnover and coordination complexities persist. Delays in infrastructure completion and concerns over the cost-effectiveness of certain investments, such as the BTI dormitory, underused demonstration apiaries or new processing facilities in areas which already had some, also affect overall efficiency.

EFFECTIVENESS	A	B	C	D

The effectiveness of the BEVAC programme is assessed as very good, reflecting a high level of achievement of planned outputs and a significant contribution to the transformation of Tanzania's beekeeping value chain. Despite a slow start marked by delays and operational constraints, the programme demonstrated strong recovery following the MTR, achieving approximately 92% of its result indicators and 97% of planned activities.

BEVAC was particularly effective in strengthening the policy and institutional framework, with key reforms such as the removal of VAT on processing equipment, simplified export procedures, and integration of beekeeping into national policies. Institutional capacities were reinforced through stronger cooperatives, revitalised sector organisations, and the establishment of critical infrastructures such as the Njiro laboratory and BTI dormitory.

At the production level, the programme achieved extensive outreach and capacity building, reaching nearly 10,000 beekeepers and significantly improving the adoption of good practices and extension service coverage. Environmental results were especially strong, with large areas of bee forage secured, contributing to both conservation and livelihood resilience. The localisation of input supply further enhanced accessibility and stimulated local economies.

Progress in market access was also notable, with dozens of Micro, Small and Medium Enterprises (MSME) entering new markets, improved branding and certification, and increased participation in trade fairs. However, the translation of these gains into sustained trade flows remains gradual.

The programme also generated positive unintended effects, including increased investor interest and knowledge diffusion, alongside some risks such as inequalities in access to technologies and tensions around resource management.

Key challenges remain, including uneven adoption of modern technologies, partial operationalisation of infrastructure, and limited depth of market integration. Overall, BEVAC has laid a strong foundation for a commercial and sustainable value chain, though further consolidation is required.

[2] This adjustment was undertaken thanks to an external monitoring mission financed by the EU and through the assistance provided by external consultants engaged by the EU to support the Logical Framework review.

SUSTAINABILITY	A	B	C	D

The sustainability of the BEVAC programme is assessed as good, indicating a strong likelihood that its benefits will continue beyond programme closure, supported by its systemic and market-oriented approach. The programme has successfully combined institutional anchoring, technical capacity building, localised service provision, and environmental integration, creating a solid foundation for long-term sector development.

Financial sustainability is particularly strong, driven by increased productivity, higher incomes, and profitable business models. The localisation of input supply and strong private sector engagement – through lead firms and market linkages– ensure continued economic incentives and reduce dependency on external support.

Technical sustainability is satisfactory, with widespread adoption of Good Beekeeping Practices and decentralised knowledge systems embedded at community level. However, the long-term sustainability of extension services remains uncertain due to continued reliance on externally funded operational costs.

Institutional sustainability is more uneven. While policy reforms, government ownership, and integration into public systems provide a solid foundation, coordination challenges persist, cooperatives have varied degrees of robustness, and sector organisations such as TABEDO remain relatively weak. The absence of a strong unified sector voice limits collective action.

Environmental sustainability is strong, supported by the protection of large forage areas and positive synergies between conservation and livelihoods, although climate-related risks remain. Community involvement in the management of reserves has strengthened local governance and ownership, enhancing the sustainability of conservation efforts.

More generally, the integration of conservation and economic development creates a strong foundation for long-term sustainability. By ensuring that communities derive direct benefits from protecting natural resources, the intervention increases the likelihood that conservation practices will continue beyond the programme period.

Key uncertainties concern the long-term viability of major investments (e.g. BTI, Njiro laboratory, Tanzania Honey Trademark) and risks related to extension financing, infrastructure management, market volatility, and climate change. Indeed, their business model is not clear and there is limited hindsight to judge the soundness of their management and governance. Besides, instruments and materials for knowledge acquisition at BTI also face significant challenges regarding financial maintenance, technical relevance to traditional practices, and affordability. Continued efforts are required to consolidate these gains and ensure inclusive and resilient outcomes.

In addition, the long-term sustainability of conservation efforts depends on the continued effectiveness of local governance structures and the availability of resources for monitoring and enforcement.

IMPACT	A	B	C	D

The impact of the BEVAC programme is assessed as very good, reflecting its substantial contribution to economic, environmental, social, and institutional transformations within Tanzania's beekeeping sector. Although many higher-level effects are still maturing, the programme has initiated strong structural changes that provide a solid foundation for long-term sustainability.

Economically, BEVAC has improved livelihoods through increased productivity, quality, and market access. Average household income of beneficiary beekeepers rose significantly, supported by improved practices and diversification into products such as beeswax, bee venom and propolis. The programme also stimulated market transformation, attracting private investments and strengthening Tanzania's position in regional and international markets. Spillover effects further benefitted local economies, particularly through job creation linked to local equipment production.

Environmentally, the programme achieved significant impact by securing extensive forage areas and integrating beekeeping into forest conservation. Over 477,000 hectares were protected, contributing to biodiversity preservation, reduced deforestation, and enhanced climate resilience. Improved beekeeping practices also strengthened ecosystem services such as pollination.

Socially, BEVAC contributed to increased participation of women and youth by removing traditional barriers and promoting entrepreneurship. However, access to modern technologies remains uneven, limiting inclusiveness.

At the institutional level, the programme strengthened policy frameworks, public services, and market systems, notably through improved regulation, increased extension capacity, and enhanced traceability mechanisms.

Overall, BEVAC has catalysed the transition towards a more commercial and sustainable value chain, though continued efforts are needed to consolidate and scale these impacts.

7.2 In-depth analysis

This section analyses more in depth the specific evaluation questions proposed by the Terms of Reference (ToR) as well as cross-cutting issues.

7.2.1 EQ1 – Relevance: To what extent the intervention is still relevant to the policies and sectorial actions defined by the Tanzania government and especially by the Ministry of Natural Resources and Tourism, MIT, and the Ministry of Agriculture?

BEVAC remains highly relevant to Tanzanian policies, closely aligned with MNRT, MIT, and agricultural priorities. Strong and continued government support – reinforced by initiatives like "Drop the Axe, Take the Beehive" and new trade agreements – has elevated the sector's importance. The programme contributes to conservation, value addition, trade, and rural livelihoods, while adapting to evolving policy and market contexts.

The BEVAC intervention remains **highly relevant** to the policies and sectoral actions defined by the GoT, including those of the MNRT, the MIT, and the Ministry of Agriculture. Its design and implementation are closely aligned with national development priorities, and its continued relevance is reinforced by sustained political commitment and recent policy developments that further elevate the importance of the beekeeping sector.

A key factor underpinning this strong relevance is that **the government has remained consistent in its support**, and several recent actions have upgraded the sector's priority status and reinforced the programme's strategic value. Initiatives such as the national *"Achia Shoka, Kamata Mzinga"* ("Drop the Axe, Take the Beehive") campaign explicitly position beekeeping as a cornerstone of sustainable forest management and rural economic development. Similarly, the inclusion of bee products in emerging international trade agreements, notably with China, signals a growing recognition of the sector's export

potential and strategic economic importance. These developments confirm that BEVAC is not only aligned with existing policies but also remains fully consistent with evolving government priorities.

With regard to the MNRT, BEVAC is directly anchored within the ministry's mandate and serves as a key operational instrument for implementing the National Beekeeping Policy and its associated implementation strategy. The intervention supports the dual objectives of conservation and production, which are central to the ministry's approach. By facilitating the establishment and formalisation of bee reserves and promoting sustainable resource management, the programme contributes directly to the enforcement of the Beekeeping Act and to broader forest conservation goals. Its integration into MNRT structures, including support to research (Njiro laboratory) and training (BTI), further reinforces its institutional relevance and ensures alignment with long-term sector development plans.

Photo 1: A traditional hive



Source: Evaluation team

The programme is equally **relevant to the MIT, particularly in relation to industrialisation, value addition, and trade promotion** objectives. Through its focus on improving product quality, strengthening processing capacity, and facilitating access to international markets, BEVAC directly contributes to Tanzania's ambition to move up the value chain and increase export competitiveness. Collaboration with TanTrade and support to national branding initiatives – such as the Tanzania Honey Trademark – align closely with MIT's efforts to promote "Made in Tanzania" products. In addition, the programme's role in supporting compliance with international standards and addressing non-tariff barriers enhances its relevance to trade facilitation and private sector development agendas.

Although beekeeping falls institutionally under MNRT, BEVAC also demonstrates strong **cross-sectoral relevance to the Ministry of Agriculture**. By contributing to rural income diversification, climate resilience, and ecosystem services such as pollination, the programme supports key agricultural priorities related to food security and sustainable production systems. The promotion of inclusive approaches – particularly targeting women and youth – further aligns with broader government objectives on social inclusion and employment creation.

The intervention's relevance is also evident in **its engagement with the Revolutionary Government of Zanzibar**, where it **has contributed to policy reform and capacity building**. The revision of the Zanzibar Forest Policy to integrate beekeeping, as well as partnerships with local institutions such as the State University of Zanzibar (SUZA), demonstrate responsiveness to regional policy frameworks and priorities.

More broadly, BEVAC's continued relevance is reinforced by its ability to adapt to changing contexts and emerging opportunities. Its support to sector preparation for international events such as Apimondia 2027, as well as its responsiveness to regulatory and environmental changes (e.g. protected area status adjustments), illustrate its alignment with both current and forward-looking policy directions.

In conclusion, the BEVAC intervention remains strongly relevant to Tanzanian government policies and sectoral strategies. Its alignment with MNRT, MIT, and agricultural priorities, combined with sustained political support and recent policy developments, confirms its strategic importance. The programme not only responds to existing frameworks but also contributes actively to shaping the future direction of the beekeeping sector as a driver of inclusive economic growth and environmental sustainability.

7.2.2 EQ2 – Relevance: To what extent is the intervention still responding to the needs of households targeted, especially the beekeepers, in terms of resilience, economic empowerment and environmental sustainability?

BEVAC remains highly relevant to targeted households, improving resilience, income, and environmental sustainability. It has shifted from foundations to tangible gains, with better practices, diversified incomes, and stronger market access. B2B extension and demonstration apiaries enhanced practical learning. However, high technology costs, partial infrastructure use, and reliance on programme support limit full responsiveness and inclusiveness.

The BEVAC intervention remains **highly relevant to the needs of targeted households**, particularly beekeepers, in terms of resilience, economic empowerment, and environmental sustainability. Evidence from recent evaluations and results monitoring confirms that the programme has evolved from laying foundational systems to generating **tangible and measurable benefits** at household level. It is important to underline that recent assessments (2024–2025) demonstrate **a clear shift towards strengthened livelihood resilience, income generation, and ecological protection**. Moreover, the **transition toward a B2B extension model and the establishment of 35 demonstration apiaries providing localised, practical and hands-on learning, as well as market driven approaches, have further increased the intervention's relevance** by aligning support mechanisms with the realities and expectations of producers. Such relevance has bred good ownership.

While some **challenges remain** – particularly in terms of inclusiveness, infrastructure utilisation, and sustainability of support systems – the intervention clearly provides a robust and adaptable framework for continued development of the sector and for improving rural livelihoods in Tanzania. It would be interesting to analyse further, from a beekeeper point of view, the advantages and disadvantages of improved hives as opposed to traditional ones; indeed, a significant proportion of beekeepers still maintain cheap traditional hives which in some cases offer quite competitive yields; despite the project's efforts to reduce the cost of improved hives (particularly through working with local carpenters), the cost of improved hives still represents a barrier to adoption by some beekeepers.

7.2.2.1 Strengthening household resilience

The intervention has **responded effectively to the need for greater resilience among rural households**, particularly in the face of climate variability and economic uncertainty. Beekeeping in Tanzania is highly sensitive to environmental conditions, with erratic rainfall and prolonged dry seasons often leading to

colony losses. BEVAC has addressed this vulnerability through the promotion of Good Beekeeping Practices, including improved hive management, water provision, and harvesting techniques that preserve colony health.

These practices have **contributed to significant improvements in colony retention rates**, enabling households to maintain more stable production levels even under adverse climatic conditions. By strengthening the technical capacity of beekeepers, the intervention has enhanced their ability to adapt to shocks and reduce the risk of income loss.

In addition, BEVAC has supported **livelihood diversification within the apiculture sector**, encouraging households to engage not only in honey production but also in the production of beeswax, propolis, pollen, bee venom and derived products such as candles and cosmetics. This diversification provides an important buffer against fluctuations in honey yields and prices, thereby reinforcing household resilience.

Photo 2: Product diversification



Source: Evaluation team

Financial inclusion has also been a critical component of resilience-building. By facilitating access to credit through partnerships with financial institutions, the programme has enabled beekeepers to invest in improved equipment and expand their activities. Over 800 beneficiaries have accessed financial services, reducing dependence on informal financing and increasing their capacity to absorb shocks.

7.2.2.2 Economic empowerment and livelihood improvement

The intervention has made a **substantial contribution to economic empowerment**, with clear evidence of increased incomes, improved productivity, and enhanced participation in markets. Household income among beneficiaries has increased significantly, reflecting the combined effects of higher yields, better quality products, and improved market access.

The introduction of modern beekeeping technologies, particularly Tanzania Top-Bar hives, has played a central role in these gains. These technologies offer **significantly higher productivity compared to traditional methods** and, when combined with improved practices, enable beekeepers to produce more consistently and at higher quality standards. This, in turn, increases their bargaining power and access to higher-value markets.

Photo 3: Tanzania Top-Bar hives



Source: Evaluation team

The intervention has also contributed to **inclusive economic empowerment**, particularly for women and youth. By removing physical barriers associated with traditional beekeeping practices – such as tree climbing – and promoting ground-based systems, BEVAC has enabled broader participation in the sector. Women are increasingly involved not only in production but also in value addition and marketing activities, while youth engagement has been strengthened through targeted training and entrepreneurship support.

The **artisan model** further enhances economic empowerment by creating local employment opportunities and reducing the cost of equipment. The training of carpenters and tailors has stimulated local economies and improved access to essential inputs, reinforcing the sustainability of economic gains.

7.2.2.3 Environmental sustainability and natural resource management

The intervention remains highly relevant in addressing the need for **environmentally sustainable livelihoods**. By linking beekeeping to forest conservation, BEVAC aligns economic incentives with environmental protection, transforming local communities into active stewards of natural resources.

The **establishment and formalisation of large areas of bee forage** – covering hundreds of thousands of hectares – **provide both ecological and economic benefits**. These measures protect forests from deforestation and agricultural encroachment while ensuring the availability of resources necessary for sustained production.

The promotion of modern beekeeping practices has also contributed to **reducing environmentally harmful activities**, such as tree cutting for hive construction and destructive harvesting techniques. In addition, improved colony management practices enhance resilience to climate variability, further supporting sustainable resource use.

Beyond direct benefits to beekeeping, the intervention contributes to broader ecosystem services, particularly pollination, which supports agricultural productivity and biodiversity conservation.

7.2.2.4 Increased relevance through adaptive approaches

The relevance of the intervention has been further strengthened through **adaptive implementation approaches**. The shift towards a B2B extension model reflects a move away from purely public, supply-driven extension towards more **market-oriented and peer-driven systems**, which are better aligned with the needs and incentives of beekeepers.

The establishment of **demonstration apiaries** has enhanced the practical relevance of training by providing hands-on learning opportunities tailored to local conditions. This approach facilitates the adoption of improved practices and ensures that knowledge transfer is grounded in real-world experience.

Photo 4: Apiary



Source: Evaluation team

These adaptations demonstrate the programme's **capacity to respond dynamically to emerging needs** and to refine its approach based on evidence and stakeholder feedback.

7.2.2.5 Remaining challenges and limits to responsiveness

Despite its strong relevance, the intervention still faces several challenges in fully addressing household needs. The **cost of modern technologies remains a significant barrier** for the most vulnerable households, limiting equitable access to productivity gains. While local production has reduced costs, affordability remains an issue for some groups.

The **operationalisation of aggregation infrastructure**, such as honey collection centres, is **not yet fully achieved**, reducing their potential to improve market access and bargaining power. Similarly, continued reliance on programme-supported extension services raises **questions about the sustainability of outreach**.

In addition, the intervention could benefit from a more **differentiated understanding of household strategies**, particularly in regions where beekeeping is a secondary activity integrated with other livelihoods.

7.2.3 EQ3 – Coherence: To what extent has the intervention generated synergies and complementarities and has benefited by complementary advantages generated by the interaction with other actions and initiatives implemented in the same region and sector?

BEVAC shows very strong coherence, generating synergies across the value chain and with GoT support. It complements donor programmes and Enabel's past work, and collaborates effectively with private actors, creating a market-led system. Some tensions remain, notably with forest policies and institutional roles, but overall complementarities enhance effectiveness and sustainability.

The BEVAC intervention demonstrates a **very high level of coherence**, having effectively generated synergies and complementarities with a wide range of initiatives operating in the same sector and geographic areas. Its design and implementation reflect a deliberate effort to position the programme as a **connector and integrator** within Tanzania's beekeeping ecosystem, ensuring that its actions reinforce – and are reinforced by – existing programmes, institutions, and market actors. Overall, the intervention has not operated in isolation but has actively leveraged complementary advantages, thereby enhancing both its effectiveness and its sustainability.

Its integrated value chain approach, strong institutional anchoring, and strategic partnerships with donors and private actors have contributed to **a more coordinated** coherent **and effective sectoral development framework that maximises impact**. The programme's ability to act as a facilitator – rather than as a standalone implementer, building on existing initiatives – has enhanced its effectiveness and increased the likelihood of sustainable impact. While some coordination challenges and policy inconsistencies remain, these do not significantly undermine the overall coherence of the intervention.

7.2.3.1 Internal coherence and integration across the value chain

A defining feature of BEVAC is its strong **internal coherence, whereby all segments of the value chain are supported**, from production and input supply to aggregation, processing, and market access. This integrated approach has enabled the intervention to create **mutually reinforcing effects** across its components. Improvements in production capacity have been complemented by investments in quality control, institutional strengthening, and market linkages, ensuring that gains at one level translate into benefits across the entire system.

In addition, the programme has achieved **strong synergies and satisfactory coordination with GoT** support to beekeeping. By embedding its activities within government structures and aligning with national programmes, BEVAC has avoided duplication and maximised complementarities with public investments. For instance, rather than developing parallel infrastructure, the programme has often focused on operationalising existing government facilities and strengthening their linkages with producers and markets.

7.2.3.2 Complementarity with government and institutional Actors

BEVAC's strong institutional anchoring has facilitated **extensive complementarities with government-led initiatives**. Collaboration with key agencies – including MNRT, TFS, TAWA, TAFORI, and TanTrade – has ensured that programme activities are closely **aligned with national priorities** and benefit from existing institutional capacities.

For example, the establishment of village bee reserves and zonation in protected areas has been carried out in coordination with TFS and TAWA, linking conservation efforts with livelihood development. Similarly, collaboration with TAFORI has supported the development of scientific tools such as the honey flora map and profiling studies, which underpin branding and market differentiation strategies.

The programme has also **complemented government efforts in trade facilitation and quality assurance** through partnerships with TanTrade and the Tanzania Bureau of Standards (TBS). These collaborations have strengthened export readiness and enhanced the credibility of Tanzanian bee products in international markets.

7.2.3.3 Synergies with development partners and donor-funded initiatives

BEVAC has demonstrated strong **external coherence**, with **clear complementarities with a wide range of activities financed by other donors** (including the EU, IFAD, FAO, Finland, Swiss Development Corporation - SDC, United Nations Development Programme - UNDP, and Canadian International Development Agency - CIDA). Rather than duplicating efforts, the programme has positioned itself strategically within the broader development landscape.

In particular, the BEVAC project was designed to be complementary to several other EU-funded initiatives in Tanzania and the wider region, focusing on areas ranging from trade facilitation to environmental conservation and research. Key EU-funded projects that BEVAC creates synergies with include:

- **EU-EAC Market Access Upgrade Programme (MARKUP):** BEVAC actively builds on the achievements of MARKUP, particularly in documenting trade procedures and launching the Tanzania Trade Portal. BEVAC Sub-output 3.1 contributes directly to a result area in the MARKUP logframe, and the project utilizes a pool of "Quality Champions" (quality and food safety consultants) previously trained under MARKUP to support SMEs in the beekeeping sector.
- **Agriconnect:** This is a major EU-funded project supporting value chains such as coffee, tea, and horticulture, with which BEVAC maintains general coherence in agricultural development.
- **Plant Health Programme:** Implemented by the FAO with EU support, this program seeks to ensure Tanzanian agricultural produce is fit for entry into the EU market, aligning with BEVAC's goal of increasing exports to Europe.
- **DCI-FOOD (EU AU-IBAR Project):** Known as the "African reference laboratory for the management of pollinator bee diseases and pests for food security," this project established a central reference laboratory at ICIPE in Kenya. It provides significant cross-learning opportunities for the National Beekeeping Research Laboratory at Njiro, which BEVAC is upgrading.
- **Global Climate Change Alliance Plus (GCCA+):** This program supports eco-villages in Tanzania, including activities in Tabora and Pemba, focused on beekeeping as an adaptation strategy to climate change. BEVAC seeks synergies with these eco-villages, particularly in the mobilization of smallholder producers for commercialization.
- **Green and Smart Cities Sasa:** Within the 2021-2027 Multiannual Indicative Programme, this Enabel-led action plan focuses on financial and non-financial ecosystems and TVET in regions like Pemba Island, where BEVAC is also active.
- **Historical Eco-Village Projects:** The EU previously supported five eco-village projects (2015–2019) that conducted beekeeping activities across different agro-ecological zones, providing a foundational context for BEVAC's current work.
- **FUNGUO Innovation Programme:** Co-funded by the EU, this multi-partner initiative is designed to provide catalytic funding for Tanzania's innovation and entrepreneurship ecosystem. BEVAC has linked its access-to-finance interventions for bee products with this program to support SMEs.

Additionally, BEVAC participates in an informal platform on sustainable forest management, where the EU coordinates with other major development partners including Finland, Norway, the World Bank, and Switzerland to ensure broad sectoral complementarity in areas such as such as natural resource management and environmental conservation[3], climate action and resilience[4], inclusive economic growth and poverty reduction[5], industrialization, value addition and trade[6], gender equality and youth empowerment[7], or the achievement of SDGs[8]. Besides, by integrating with programs such as Agriconnect, GCCA+, and the FUNGUO Innovation Programme, BEVAC reinforces these systemic sectoral shifts across the agricultural and natural resource landscapes in Tanzania.

In addition, coordination with Finland's Forest and Value Chains Development Program (FORVAC) programme has enabled alignment with national research priorities, while collaboration with IFAD-supported initiatives in Zanzibar has facilitated the scaling up of existing infrastructures and demonstration sites. Similarly, partnerships with the Swiss-funded Association for the Development of Protected Areas (ADAP) initiatives have combined community-based forest management with beekeeping development, creating integrated conservation models.

A particularly effective form of complementarity has been the upstream-downstream alignment between BEVAC and other programmes. While BEVAC focuses on strengthening production and organisational capacity, other initiatives – such as those providing matching grants to private firms – support downstream market actors. This division of labour enhances overall value chain performance and ensures that different segments are adequately addressed.

7.2.3.4 Synergies with Enabel's previous and ongoing work

The intervention has also benefited from strong synergies with Enabel's own portfolio, including **synergies with Enabel's work in Kigoma and past support to beekeeping**. By building on existing infrastructure, networks, and knowledge, BEVAC has been able to accelerate implementation and deepen impact.

S**ynergies within the broader Enabel portfolio** should also be underlined. BEVAC has built on previous initiatives, such as the Beekeeping Support Project in Kigoma, and adapted approaches from other programmes (SAKIRP mainly but also Maisha Bora: Northern Tanzania Food Security Program), notably in areas such as financial inclusion, cooperative development, and digital monitoring systems. This continuity has enhanced efficiency and ensured that lessons learned are effectively capitalised upon.

---

[3] BEVAC is specifically aligned with the objectives of the focal sector of Agriculture under the 11th EDF National Indicative Programme (NIP) for Tanzania, which seeks to enhance the management of natural resources, including forests, and ecosystem services. The intervention contributes to the "Planet" pillar of the European Consensus on Development by protecting the environment and safeguarding forest heritage as a prerequisite for the value chain. Furthermore, it supports national campaigns like "Achia Shoka, Kamata Mzinga" (Drop the Axe, Take the Beehive) to provide economic alternatives to deforestation.

[4] A primary sectoral objective is the promotion of sustainable agriculture development and climate adaptation. BEVAC's design integrates climate change mitigation and adaptation, aligning with SDG 13 (Climate Action) and SDG 15 (Life on Land). The project focuses on increasing the resilience of beekeeping to climate-related stresses, such as erratic rainfall, which is a major constraint in the sector.

[5] The intervention is a key vehicle for achieving the National Strategy for Growth and Reduction of Poverty (NSGRP) and Tanzania's Five-Year Development Plan (FYDP). Its overall objective is to enhance the beekeeping industry's contribution to inclusive economic growth and poverty reduction. By supporting smallholder beekeepers and Micro, Small, and Medium Enterprises (MSMEs), the project aims to surpass per capita income levels and lift rural households above the daily poverty line.

[6] The project aligns with the National Trade Policy (2023–2033) and the Integrated Industrial Development Strategy, which advocate for industrialization to boost processing and value addition. Synergies with the EU-EAC Market Access Upgrade Programme (MARKUP) further the objective of removing trade barriers and enhancing the export competitiveness of Tanzanian bee products in regional and international markets, particularly the EU.

[7] BEVAC aligns with the Gender Policy of the East African Community (2018), specifically focusing on Gender Equality in Employment and the Labour Force. It contributes to the "Prosperity" pillar of the European Consensus on Development by creating decent jobs and fostering entrepreneurship for women and youth. The intervention explicitly seeks to dismantle traditional physical barriers to participation, such as tree climbing, to ensure social inclusion.

[8] The intervention logic is designed to contribute to a broad set of global objectives, specifically: SDG 1: Ending poverty; SDG 5: Achieving gender equality and empowering women; SDG 8: Promoting decent work and sustainable economic growth; SDG 9: Building resilient infrastructure and fostering innovation; SDG 12: Ensuring sustainable consumption and production patterns; SDGs 13 and 15: Climate and life on land.

Moreover, the integration of approaches developed under previous projects – such as cooperative strengthening, financial inclusion mechanisms, and digital monitoring tools – has enhanced both efficiency and coherence. In addition, staff pooling across Enabel programmes has allowed the programme to access specialised expertise without duplicating resources.

These internal complementarities have been instrumental in ensuring continuity and in embedding BEVAC within a broader strategic framework for rural development and value chain support.

7.2.3.5 Private sector integration and market system synergies

One of the most significant areas of complementarity lies in the programme's engagement with the private sector. BEVAC has established **collaboration with various private sector initiatives** (including Asilia, Ifoneo, Upendo Honey, Tanzifarm, Afrilife, Sahara Company, and Jambo Asali), creating strong linkages between producers and markets.

This collaboration has been central to the development of a **market-led approach**, where private firms act as lead actors providing market access, quality standards, and investment. By aligning its interventions with existing business models, BEVAC has avoided market distortions and ensured that production increases are matched by demand.

The programme has also facilitated the emergence of complementary relationships between different actors within the value chain. For example, the training of local artisans to produce equipment complements the needs of beekeepers while creating new economic opportunities. Similarly, partnerships with financial institutions have improved access to credit, supporting both producers and MSMEs.

These synergies contribute to the development of a **self-sustaining market system**, where incentives for production, quality improvement, and investment are driven by market dynamics rather than programme support.

7.2.3.6 Financial and institutional synergies

The intervention has also leveraged **complementarities in the financial sector**. By working with institutions such as National Microfinance Bank (NMB), Private Agricultural Sector Support (PASS) Trust, and other financial actors, BEVAC has **facilitated access to credit and strengthened the financial viability of beekeeping enterprises**.

These partnerships complement technical support by enabling beneficiaries to invest in improved technologies and expand their activities. They also contribute to the formalisation of the sector and its integration into broader economic systems.

7.2.3.7 Identified incoherences and remaining challenges

Despite its strong performance in generating synergies, the intervention has encountered some challenges related to coherence and coordination.

A key issue relates to the interaction between beekeeping development and broader conservation policies. The programme's objective of securing forage areas has, at times, been **undermined by colliding forest protection strategies**, particularly when game reserves are upgraded to National Parks with stricter access restrictions. These tensions highlight the need for better alignment between conservation and livelihood objectives.

Another area of concern is the **potential conflict of interest between TAWIRI and TAFORI regarding the management of the National Beekeeping Research Laboratory in Njiro**. The resulting power play may affect the long-term governance and sustainability of key investments.

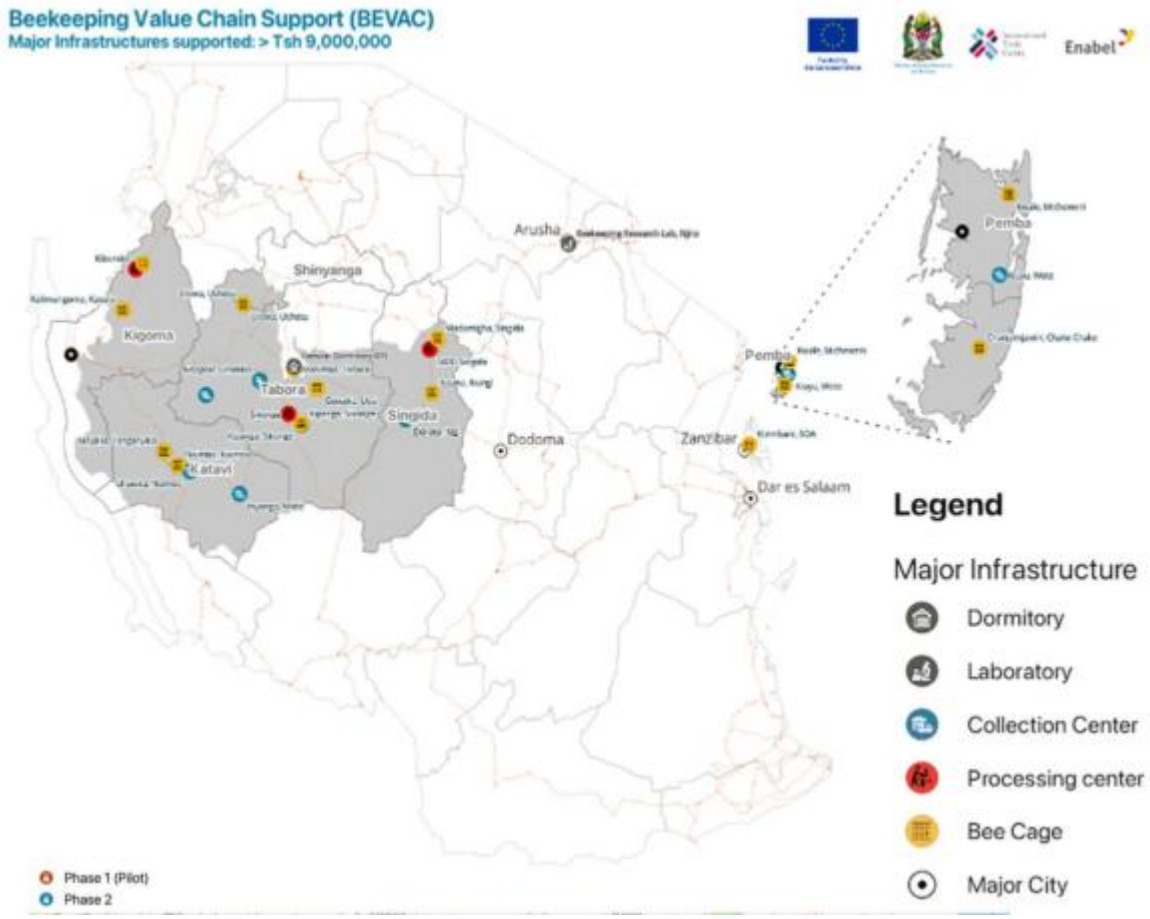
More broadly, differences in approaches – such as between subsidy-based government programmes and market-led private sector models – have required careful balancing. BEVAC has addressed these tensions through cost-sharing and blended financing mechanisms, but underlying divergences remain.

7.2.4 EQ4 – Effectiveness: To what extent has the intervention delivered quality outputs according to what was expected, useful and robust enough to build upon a productive and effective beekeeping value chain?

BEVAC delivered high-quality outputs (97% completed), building a strong beekeeping value chain. It combined policy reform, infrastructure, training, and market access, with a sustainable local supply model. Outputs are coherent and robust, linking production to markets. However, high technology costs and partial infrastructure use limit full impact.

The BEVAC intervention has delivered outputs that are, overall, of **high quality, useful, and sufficiently robust to support the development of a productive and effective beekeeping value chain in Tanzania**. Despite initial implementation delays, the programme demonstrated strong recovery and consolidation, achieving a high level of delivery across all components. It is important to underline that **BEVAC delivered high-quality, useful outputs, completing 97% of planned activities. It established a robust foundation for a commercialised value chain by delivering essential infrastructure, training in Good Beekeeping Practices, and creating a conducive regulatory and certification context. Its localised supply model strengthens sustainability. Moreover, it has secured a solid base for future growth by securing 61,000 hectares of bee reserves and linking 49 MSMEs to international and national markets**. These results indicate that the intervention has not only met its expected outputs but has also generated a coherent and durable system capable of supporting long-term sector development of a productive, competitive, and sustainable beekeeping value chain in Tanzania.

Figure 5: Overview of BEVAC supported infrastructure



Source: Enabel

7.2.4.1 Institutional and enabling environment outputs

The intervention has produced **high-quality institutional outputs** that address fundamental constraints in the beekeeping sector. **Policy and regulatory reforms** – such as the integration of beekeeping into Zanzibar's forest policy and the removal of VAT on processing equipment – **have improved the enabling environment** and reduced barriers to investment. These outputs are particularly robust as they are embedded within national frameworks and are therefore likely to endure beyond the programme's lifespan.

Strategic investments in infrastructure further reinforce this institutional foundation. The upgrading of the National Beekeeping Research Laboratory at Njiro enhances Tanzania's capacity to meet international standards through advanced testing and traceability systems. Similarly, the **expansion of training capacity** at the BTI strengthens the human resource base of the sector. These investments are not only technically sound but also aligned with long-term sector needs.

The development of digital tools, notably the FBMIS, adds another layer of robustness. By enabling real-time data collection and analysis, this system supports evidence-based decision-making and improves sector governance.

7.2.4.2 Production-level outputs and practical relevance

At the production level, BEVAC has delivered outputs that are **directly relevant and applicable to the needs of beekeepers**, enhancing their usefulness and uptake. The training of nearly 10,000 beekeepers in Good

Beekeeping Practices has resulted in improved productivity, better colony management, and higher-quality products.

The programme's emphasis on **practical, hands-on learning**, particularly through demonstration apiaries and peer-to-peer approaches, ensures that knowledge is effectively internalised and applied. This strengthens the durability of outputs, as skills and practices are retained within communities.

A particularly notable achievement is the **localised artisan supply model**, which addresses a key constraint in the sector: access to affordable equipment. By training local carpenters and tailors, the intervention has created a sustainable supply chain that reduces costs and ensures availability of inputs. This model enhances both the usefulness and sustainability of outputs by **embedding production capacity within local economies**.

Photo 5: Local tailor made protection gear



Source: Evaluation team

The **establishment and protection of bee forage areas and reserves** further contribute to the robustness of production outputs. By securing access to essential natural resources, the programme ensures that **productivity gains can be sustained** over time.

7.2.4.3 Market-oriented outputs and value chain integration

BEVAC's outputs related to market access and trade facilitation are critical in ensuring that increased production translates into tangible economic benefits. The development of the Tanzania Honey Trademark **strengthens product differentiation and traceability, enhancing the competitiveness** of Tanzanian honey in international markets.

Support to MSMEs in achieving compliance with international standards, including Hazard Analysis and Critical Control Points (HACCP) certification, has enabled **access to high-value markets**. Participation in international trade fairs has generated concrete business opportunities, demonstrating the practical value of these outputs.

These market-oriented outputs are particularly robust because they are integrated into existing market systems. By creating a **"market pull" effect**, the intervention ensures that production is driven by demand, reducing the risk of oversupply and enhancing the sustainability of the value chain.

7.2.4.4 Coherence and integration of outputs

A key strength of the intervention lies in the **integration and coherence of outputs across the value chain**. Rather than addressing isolated constraints, BEVAC has adopted a holistic approach that links production, processing, marketing, and institutional development.

This integrated approach **ensures that outputs reinforce each other**. For example, improvements in production are supported by access to markets and by regulatory frameworks that facilitate trade. Similarly, investments in infrastructure are complemented by capacity building and institutional strengthening.

Such coherence enhances the overall robustness of the intervention, as it reduces the likelihood that outputs remain underutilised or fail to generate intended outcomes.

7.2.4.5 Usefulness for long-term sector development

The outputs delivered by BEVAC provide a **strong foundation for long-term sector transformation**. By addressing key structural constraints – such as access to inputs, knowledge, markets, and supportive policies – the intervention creates conditions for sustained growth.

The emphasis on **local ownership and market-based mechanisms** further enhances the usefulness of outputs. The development of business plans for cooperatives and linkages with financial institutions support the transition towards commercial sustainability.

In addition, the focus on inclusiveness – particularly through gender-sensitive technologies and youth engagement – ensures that the **benefits of the value chain are accessible to a broader range of stakeholders**.

7.2.4.6 Limitations and remaining gaps

Despite the overall high quality of outputs, some limitations affect their full utilisation. The **cost of modern technologies** (including improved hives) **remains a barrier** for some beekeepers, limiting the pace of adoption. Similarly, the partial operationalisation of certain infrastructures, such as honey collection centres, reduces their immediate effectiveness.

The **sustainability of some outputs** – particularly extension services – **depends on continued public investment, which is not yet fully secured**. These challenges highlight the need for further consolidation to maximise the impact of delivered outputs.

7.2.5 EQ5 – Effectiveness: To what extent have the beekeepers benefited from the output delivered (capacity development, coaching and equipment), strengthening their productivity and contributing to their resilience?

BEVAC significantly benefited beekeepers by improving skills, access to equipment, and market integration. It reached 9,996 beekeepers, with strong adoption of improved practices and higher productivity. Income and resilience increased through better colony management, diversification, and access to finance. However, high technology costs and reliance on programme-supported extension limit full and equitable impact.

The BEVAC intervention has **significantly benefited beekeepers** through its combined delivery of capacity development, coaching, and improved equipment, resulting in measurable gains in productivity and strengthened resilience. The scale and quality of outreach – reaching **9,996 beekeepers (99.9% of target)**, with **4,615 trained intensively in Good Beekeeping Practices** and extension coverage increasing from **56% to 87%** – demonstrate both breadth and depth of impact. Overall, the intervention has enabled a transition

from low-productivity, subsistence-oriented practices to more **professionalised, market-oriented production systems**, while also enhancing the ability of households to cope with environmental and economic shocks.

Figure 6: BEVAC support outreach



Source: Enabel

7.2.5.1 Strengthened extension and knowledge transfer

A central driver of these benefits has been the strengthening of extension services and knowledge dissemination systems. The intervention adopted participatory and decentralised approaches, notably through **FFS, demonstration apiaries, and the introduction of a B2B model**. This approach has ensured that training is practical, continuous, and adapted to local conditions.

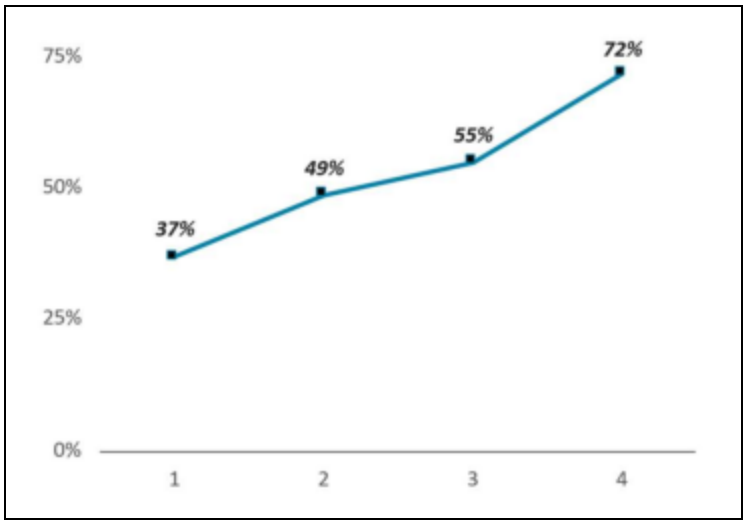
The expansion of extension coverage to 87% has significantly **improved access to advisory services**, enabling more frequent interaction between beekeepers and extension agents. At the same time, the use of Lead Beekeepers and youth volunteers has strengthened "last-mile" delivery, particularly in remote areas and among women, who previously faced barriers in accessing training.

These approaches have resulted in **high levels of knowledge uptake**, with a large majority of beneficiaries reporting improved skills in apiary management, harvesting, and post-harvest handling.

7.2.5.2 Adoption of improved practices and productivity gains

Capacity development has translated into **substantial changes in production practices**, with a marked increase in the adoption of Good Beekeeping Practices – from 37% at baseline to approximately 72%. These practices include improved hive inspection, colony management, non-destructive harvesting, and better hygiene standards.

Figure 7: Overall trend in adoption of Good Beekeeping Practices



Source: Enabel

Such changes have directly contributed to improved productivity. Colony occupancy rates increased from 59% to 75%, reflecting **better colony retention and management**. **Yields have also improved**, even under conditions of climatic variability, indicating that the practices promoted are both effective and resilient.

Importantly, training has enabled beekeepers to **move away from destructive and inefficient traditional methods** towards more sustainable and productive systems, thereby strengthening both short-term outputs and long-term viability.

7.2.5.3 Coaching and professionalisation of beekeeping

Beyond technical training, BEVAC has provided targeted coaching aimed at transforming beekeeping into a **viable business activity**. The deployment of Beekeeping Business and Training Coaches has supported producers in **understanding market requirements, improving product quality, and engaging more effectively with buyers**.

Coaching at the level of producer organisations has **strengthened governance, financial management, and collective marketing capacities**. This has enhanced the ability of cooperatives to aggregate production, negotiate prices, and access financial services.

Youth-focused coaching initiatives have also contributed to the creation of new enterprises and the expansion of production capacity, reinforcing the role of beekeeping as a source of employment and entrepreneurship.

7.2.5.4 Access to equipment and technological upgrading

The provision and localisation of **improved equipment have been key to unlocking productivity gains**. The introduction of **Tanzania Top-Bar hives** has significantly increased production potential, with yields far exceeding those of traditional hives.

The cost-sharing approach adopted by the programme has enabled many beekeepers to acquire improved equipment, while the development of a **local artisan supply model** has reduced costs and improved accessibility. Locally produced hives and protective gear are more affordable and easier to maintain, enhancing sustainability.

Additional equipment – such as protective suits, smokers, and quality control tools – **has improved both the safety and quality of production.** These tools enable more efficient harvesting, reduce contamination, and support compliance with market standards.

Photo 6: Small equipment (smoker)



Source: Evaluation team

The construction of honey collection centres has further contributed to improved market access and bargaining power, although their full operational potential has yet to be realised.

7.2.5.5 Income growth and economic benefits

The combined effects of improved skills, equipment, and market access have resulted in **significant income gains** for beekeepers. Average annual household income from beekeeping increased from approximately TZS 1.29 million at baseline to TZS 1.73 million by 2025.

These gains are particularly noteworthy in comparison to non-beneficiary households, which experienced declining incomes over the same period. This suggests that the intervention has not only increased incomes but also provided a **degree of protection against broader economic and environmental shocks**.

Beekeeping has also become a more central component of household livelihoods, with many beneficiaries reporting it as a primary or significant source of income.

7.2.5.6 Contribution to household resilience

The intervention has made a strong contribution to **household resilience**, addressing both environmental and economic vulnerabilities.

From an environmental perspective, training in climate-resilient practices has significantly **improved colony survival rates**, increasing from 23% to 82%. Practices such as water provision, improved hive placement, and retention of honeycombs during dry periods help maintain production under changing climatic conditions.

From an economic perspective, the **promotion of product diversification** – **into beeswax, propolis, and value-added products** – **reduces dependence on a single income source** and enhances financial stability. **Access to finance** has further **strengthened resilience** by enabling investment in improved technologies and expansion of activities.

Photo 7: Bee products



Source: Evaluation team

Social resilience has also been enhanced through increased participation of women and youth, broadening income sources within households and improving financial autonomy.

7.2.5.7 Remaining constraints

Despite these significant benefits, some constraints continue to limit the extent of impact. The **cost of modern technologies** remains a barrier for poorer households, slowing the pace of adoption and potentially creating disparities among producers.

Traditional practices also persist in some areas, reflecting both cultural preferences and risk aversion. In addition, the sustainability of extension services remains dependent on continued public support, particularly for operational costs; this limits the scaling up of results.

The partial operationalisation of aggregation infrastructure further limits the full realisation of benefits related to market access and price negotiation.

7.2.6 EQ7 – Efficiency: To what extent have the approaches/tools adopted facilitated the implementation and helped to overcome bottlenecks encountered? Which of the approaches have been the most successful and effective to allow the outcomes achievement?

BEVAC's approaches effectively addressed key bottlenecks through a holistic value chain strategy linking production to markets. Decentralised extension (B2B, FFS), local artisan supply, and market tools (trade fairs, Honey Trademark) improved adoption, access, and prices. Policy dialogue enabled reforms. These integrated, market-led tools were key to achieving outcomes, though sustainability challenges remain.

The BEVAC intervention adopted a range of **complementary approaches and tools** that, taken together, significantly facilitated implementation and helped overcome major bottlenecks, particularly through their integrated, decentralised, and market-oriented design. It is important to underline that **the holistic value chain approach – integrating production, aggregation, quality control, and market access, and addressing constraints related to technical capacity, production factors (land and capital), institutional and regulatory frameworks, and weak market linkages – facilitated implementation and helped address early constraints**. This integrated logic ensured that challenges were not addressed in isolation but as part of an interconnected system, thereby increasing the effectiveness and coherence of interventions.

A key strength of this approach was its ability to **reduce the risk of supply-driven interventions without buyers or conducive prices**, a common weakness in agricultural development programmes. By linking production support directly to market opportunities, BEVAC ensured that productivity gains translated into economic benefits, thus reinforcing incentives for adoption and sustainability.

7.2.6.1 Decentralised and adaptive implementation approaches

One of the major bottlenecks at the outset was the **large geographical scope and limited institutional capacity**, which constrained outreach and coordination. The adoption of a **cluster-based coordination model** allowed the intervention to decentralise operations and tailor implementation to regional contexts. This approach improved communication with local authorities and facilitated more responsive and context-specific interventions.

In parallel, the introduction of **staff pooling and shared services** helped address administrative and logistical delays, particularly in procurement and financial management. These mechanisms improved operational efficiency and enabled the programme to accelerate implementation after initial delays.

7.2.6.2 Strengthening extension systems and knowledge transfer

A critical bottleneck identified early in the intervention was the **limited reach and effectiveness of extension services**. BEVAC addressed this through a combination of innovative tools, including Farmer Field Schools (FFS), demonstration apiaries, and a **B2B extension model**.

The strengthening of extension services and the provision of **hands-on Good Beekeeping Practice training directly addressed productivity constraints**. By focusing on practical, field-based learning, these approaches ensured that knowledge was not only transmitted but also applied. The use of demonstration apiaries allowed beekeepers to observe and experiment with improved practices, increasing confidence and adoption rates.

The B2B model proved particularly effective in extending outreach to remote areas and in engaging women and youth, who often face barriers in accessing formal extension services. As a result, extension coverage increased significantly, and the adoption of improved practices rose accordingly.

7.2.6.3 Localised input supply and overcoming technology barriers

Another major bottleneck was the **high cost and limited availability of modern beekeeping equipment**, which constrained the adoption of improved practices. BEVAC addressed this through the development of **localised input supply models**, notably by training carpenters and tailors to produce beehives and protective equipment.

This approach effectively **overcame equipment shortages and high costs, accelerating the adoption of improved practices**. By reducing the price of key inputs and ensuring their local availability, the intervention removed a critical barrier to entry for many beekeepers. At the same time, it created local economic opportunities and strengthened the sustainability of the supply chain.

The artisan model is widely recognised as one of the most successful tools of the intervention, as it combines economic incentives with practical problem-solving and long-term sustainability.

7.2.6.4 Market accompaniment and overcoming market access barriers

Market access has traditionally been a major constraint in the beekeeping sector, with producers often lacking reliable buyers and facing difficulties in meeting quality standards. BEVAC addressed this through a set of **market accompaniment tools**, including support to trade fair participation, business-to-business linkages, and the development of the **Tanzania Honey Trademark**.

These interventions **helped overcome market access barriers and improve prices**, by connecting producers and MSMEs to both regional and international markets. Trade fairs provided exposure to new buyers, while branding and certification tools enhanced product differentiation and credibility.

Importantly, these approaches ensured that market development was not treated as a secondary outcome but as an integral part of the value chain. This reinforced the market-led nature of the intervention and ensured that production gains were aligned with demand.

7.2.6.5 Institutional strengthening and policy dialogue

The intervention also addressed bottlenecks related to the **institutional and regulatory environment**. Fragmented advocacy and complex trade procedures were limiting sector development. BEVAC facilitated Public-Private Dialogues and supported the creation of a unified advocacy platform ("One Voice"), bringing together key sector organisations.

These approaches led to **tangible policy reforms**, including the removal of VAT on processing equipment and the simplification of export procedures. By improving the enabling environment, the intervention reduced transaction costs and enhanced competitiveness, thereby supporting the achievement of higher-level outcomes.

7.2.6.6 Digital tools and data systems

The upgrading of digital systems, particularly the **FBMIS**, represents another effective tool. By incorporating mobile data collection and geospatial tracking, the system has improved monitoring, data quality, and decision-making.

This has enabled more effective management of the sector and provided a foundation for evidence-based planning, although the full potential of these tools is still being realised.

7.2.6.7 Transition from subsidised approaches to cost-sharing models

The transition from subsidised approaches to cost-sharing models has been challenging for some beneficiaries. Indeed, it proved difficult for many beneficiaries due to a long-standing **"dependency syndrome"** fostered by previous development projects. The BEVAC intervention systematically introduced requirements for **local contributions** – typically ranging from **20% to 30%** – to ensure ownership and sustainability, which met with varied levels of resistance and implementation delays.

Specific examples of these challenging transitions include:

- **Lagging infrastructure construction (Mlele district):** The construction of a honey collection center at Inyonga in the Mlele district lagged significantly behind schedule because the beekeepers' cooperative was **slow to mobilize the required local financial contribution**.
- **Reluctance to adopt modern hives:** Many beekeepers, accustomed to past free distributions, did not engage in **autonomous investments** in improved technology. They often preferred to "wait and see" if free handouts would occur before paying for modern Tanzania Top-Bar (TTB) hives, which cost significantly more (**TZS 70,000–80,000**) than traditional log hives (**TZS 5,000–10,000**).
- **Stakeholder resistance and unrealistic demands:** In some intervention areas, local leaders and stakeholders resisted the project strategy, instead demanding **direct project funds for their own priorities**, such as 100% subsidies for beehive construction or interest-free loans for industrial building, which were outside the project's commercial logic.

- **Dependency on extension allowances:** The project initially heavily subsidized the activities of District Beekeeping Officers (DBOs) by providing **top-up allowances, fuel, and airtime**. Moving toward a model where national authorities or beekeepers themselves cover these costs remains a speculative sustainability risk, as the commitment of government staff often fluctuated based on whether project per diems were higher than standard government rates.
- **Slow mobilization for self-financed events:** While some actors eventually began **self-financing their participation** in multi-stakeholder workshops and leadership elections, the initial shift away from project-paid attendance required significant "education and communication" to align expectations with the project's strategy.
- **Challenges in loan readiness:** Despite the availability of credit guarantee schemes, beekeepers' organizations and SMEs often struggled to move from a grant-seeking mindset to a **business-oriented approach**, with many losing interest in loans once they realized the rigorous profitability assessments and compliance requirements involved.

In summary, while the **cost-sharing model** successfully filtered for the most committed participants, it inherently **slowed the pace of implementation** as project teams spent considerable time overcoming the expectation of 100% external funding.

7.2.6.8 Most effective approaches for outcome achievement

Among the various tools and approaches adopted, several stand out as particularly successful in enabling the achievement of outcomes:

- **The integrated market linkage strategy**, which aligns production with demand and ensures that value chain actors are connected to viable markets;
- **Decentralised extension systems (B2B, FFS, demonstration apiaries)**, which have been critical in scaling up the adoption of improved practices;
- **Local supply chain development (artisan model)**, which has removed key barriers to technology adoption and strengthened sustainability;
- **Institutional strengthening and policy dialogue**, which have addressed structural constraints and improved the enabling environment.

These approaches share a common feature: they combine **technical, economic, and institutional dimensions**, ensuring that interventions are both practical and systemic.

Despite their effectiveness, some challenges remain. The sustainability of extension services is still dependent on public financing, and some infrastructure investments faced delays. In addition, while market access has improved, not all producers are equally integrated into higher-value markets. This may limit the scaling up and longer-term cost effectiveness of the project.

7.2.7 EQ8 – Efficiency: Which choices made in the coordination, governance and partnerships established have been successful or unsuccessful to facilitate the progress of the action?

BEVAC's governance and partnerships were largely effective. Cluster coordination, MNRT integration, and the "One Voice" platform improved alignment, ownership, and policy results. Strong partnerships with private sector, research, and finance actors supported progress. However, weak initial design, financial

control tensions, partner coordination issues, and allowance misalignment caused delays, later mitigated through adaptive management.

The BEVAC intervention has relied on a **complex and evolving coordination, governance and partnership framework**, which has played a decisive role in facilitating – or, at times, constraining – the progress of implementation. Several **strategic choices, particularly in relation to decentralisation, institutional anchoring, and market integration, have proven highly effective** in addressing the programme's geographical scope, institutional complexity, and market-oriented objectives, while others generated operational frictions that required adjustment over time.

Successful approaches have enabled the programme to navigate complex operational environments and to achieve **significant results across the value chain**. At the same time, initial **weaknesses** – **particularly in programme design, financial governance, and partner coordination** – highlight **the importance of robust preparation** and clear alignment among stakeholders. The subsequent adjustments demonstrate that these challenges were largely mitigated over time, allowing the intervention to regain momentum and deliver on its objectives.

7.2.7.1 Successful choices in coordination and governance

A key success factor has been the adoption of a **decentralised cluster-based coordination model**, dividing the intervention into Tabora, Kigoma, and Pemba clusters. Given the wide geographical coverage, this structure enabled more effective supervision, reduced operational costs, and allowed for **context-specific adaptation** of activities. It also strengthened coordination with LGAs, facilitating implementation at district and community levels.

Another critical governance choice was the **integration of a National Programme Coordinator (NPC) from the MNRT** within the PMU. This ensured continuous alignment with government priorities and facilitated communication with national authorities. As a result, the intervention benefited from **strong institutional anchoring and ownership**, which proved essential for advancing policy reforms and securing political support.

The programme also made an important contribution to sector coordination through the establishment of the **"One Voice" platform**, bringing together key business support organisations (TABEDO, Api-Support, HEAT, and PEBA). By harmonising previously fragmented advocacy efforts, this platform enabled more effective engagement in Public-Private Dialogues and contributed directly to policy achievements such as VAT removal on equipment and simplified export procedures.

In terms of operational governance, the **introduction of a Shared Service Hub** in 2024 represented a significant improvement. By pooling expertise in finance, procurement, and administration across projects, this mechanism helped address earlier delays and improved efficiency, particularly during peak operational periods.

7.2.7.2 Effective partnership models

Several partnerships have been instrumental in facilitating the progress of BEVAC. Collaboration with **training and research institutions**, including the BTI, the University of Dar es Salaam, and SUZA, has strengthened the technical foundation of the sector. These partnerships ensured that training materials were locally relevant and contributed to the institutionalisation of beekeeping education.

Partnerships with financial institutions, such as PASS Trust and the NMB Foundation, have also been effective in addressing access to finance constraints. Through financial literacy programmes and dedicated

support mechanisms, these partnerships enabled a significant number of beneficiaries to access credit and invest in their activities.

The **private sector lead-firm model** has been another highly successful choice. By embedding the intervention within existing market structures and collaborating with firms such as Upendo Honey and Jambo Asali, BEVAC ensured a strong market orientation. This approach facilitated reliable market access, incentivised quality improvements, and contributed to the commercialisation of the value chain.

In addition, the programme established **complementarities with other donor-funded programmes**, enhancing coherence and avoiding duplication. Coordination with initiatives such as FORVAC and ADAP allowed for integrated approaches combining conservation, production, and value chain development.

More generally, a notable strength of the BEVAC intervention has been its ability to **adapt governance and coordination arrangements over time**. Following the MTR, several corrective measures were introduced, including the strengthening of operational systems, improved partner coordination, and enhanced institutional engagement[9].

These adjustments allowed the programme to overcome initial bottlenecks and accelerate implementation, demonstrating a **capacity for learning and adaptation within the governance framework**.

7.2.7.3 Unsuccessful choices and governance challenges

Despite these successes, several governance and coordination choices proved less effective, particularly during the early phases of implementation.

A major limitation was the **low quality at entry**, with initial assessments underestimating the **capacity constraints of key partners**, including cooperatives and business support organisations. As a result, the programme had to reorient its initial strategy towards more basic capacity building, delaying progress on higher-level objectives. The lack of "quality at entry" was also characterised by an unrealistic implementation timeline and a superficial initial assessment of the value chain's complexity. The programme design focused heavily on theory and modern beehive technology, which were often unaffordable and poorly adapted to the reality that 95% of Tanzanian beekeeping relies on traditional methods. **Financial governance was hampered by lengthy procurement processes and friction over allowance rates** that were not initially aligned with GoT scales, discouraging the participation of seconded government staff. Furthermore, partner coordination suffered from institutional tensions regarding financial control and decision-making power between Enabel, the ITC, and government partners, leading to parallel monitoring systems and a lack of integrated field presence for market-access activities.

The programme also suffered from significant **institutional frictions and administrative rigidities**. A primary critical concern was the **tension regarding financial control** and decision-making between Enabel, as the primary implementer, and government partners. This led to led to perceptions among government

[9] Following the Mid-Term Review (MTR), the BEVAC project implemented several critical corrective measures to improve implementation efficiency and ensure the consolidation of results. Most significantly, the project period was extended from 37 to 54 months (now ending February 2026), providing a more realistic timeframe to achieve set objectives. The logical framework was completely realigned with EU OPSYS core indicators, shifting the monitoring system from a purely activity-based focus to one that tracks higher-level outcomes and livelihood impacts. Operationally, the intervention introduced Beekeeping Business and Training Coaches and a "Lead Beekeeper" model to bridge the gap between producers and SMEs while expanding the reach of extension services.
To address administrative bottlenecks, Enabel launched a Shared Service Hub in 2024 to accelerate procurement and financial flows and eventually aligned its allowance rates with Government of Tanzania circulars to restore the commitment of seconded government staff. Furthermore, the project transitioned from a quota-based gender approach to conducting a "Deep Gender Analysis" to inform a more transformative strategy. Finally, a greater emphasis was placed on the operationalisation and business-minded management of existing infrastructure, such as aggregation centers and the Njiro Laboratory, to ensure long-term financial sustainability.

partners of limited ownership and influence. Furthermore, the project's efficiency was repeatedly undermined by **high staff turnover** at the PMU level – including the resignation of the Project Manager, M&E experts, and cluster coordinators – which led to a loss of institutional memory and significant implementation delays. Although the committees were designed to meet semi-annually or annually, stakeholders criticized the **infrequency of PSC meetings**, which hampered timely decision-making, and warned against the committees' occasional tendency to **micromanage** rather than focusing exclusively on strategic steering. Coordination challenges were further evident in the **weak integration of monitoring systems** between Enabel and ITC, resulting in parallel reporting procedures that made it difficult for the PMU to track market-access results holistically. Finally, the governance system struggled to maintain the commitment of seconded government staff due to **grievances over allowance rates** that were not initially aligned with national scales, a factor that discouraged participation and slowed the delivery of field-level results. These tensions affected collaboration and slowed decision-making processes during the first half of the programme.

The institutional anchorage of the BEVAC project within the **MNRT** and the **TFS** agency creates a strategic mismatch between its conservation mandates and the commercial requirements of a competitive value chain. While beekeeping is traditionally a forest-based activity in Tanzania, it is functionally an **agricultural and trade-oriented enterprise**; however, its placement within the forestry administration often prioritizes **environmental conservation** over business development. This bias is most visible at the extension level, where **DBOs** often double as forest or environmental officers, leading to a focus on habitat protection while leaving them significantly **under-equipped in marketing, cooperative extension, and business management skills**. Furthermore, this forestry-centric anchorage limits the project's ability to effectively address the **marketing muscles** and trade facilitation needs of the private sector, as these functions traditionally reside within the **MIT** or agricultural departments that are better structured to handle market intelligence and international trade flows. This situation also led to power play between TAWARI and TAFORI in relation to management of the Njiro laboratory.

A further specific operational challenge was the **misalignment of allowance systems** between the programme and government standards. This created dissatisfaction among seconded staff and, in some cases, reduced their engagement in programme activities, as they prioritised better-remunerated assignments elsewhere.

Governance challenges were particularly evident in the initial implementation **in Pemba Island**, where the choice to work through a local NGO led to administrative delays and inefficiencies. This approach had to be revised, with direct implementation arrangements established later to restore progress.

To address these inefficiencies, **the project implementation period was extended from 37 to 54 months**, providing a more adequate timeframe for results to be consolidated. The M&E system underwent a major revision in 2024 to align with EU OPSYS standards and shift from purely activity-based indicators to tracking higher-level outcomes and livelihood impacts. Operationally, the project introduced **Beekeeping Business and Training Coaches** and a "Lead Beekeeper" model to bridge the gap between producers and market-ready SMEs while improving extension service reach. Furthermore, Enabel strengthened its internal support by launching a **Shared Service Hub in 2024** to accelerate procurement and payment flows, and eventually aligned its allowance rates with GoT circulars to restore commitment from government stakeholders.

7.2.7.4 Coordination challenges among implementing partners

Coordination between key implementing partners, notably Enabel and ITC, **was initially suboptimal**. **Parallel monitoring and evaluation systems** and limited integration of data created difficulties in tracking progress across different components of the intervention.

Although these challenges were gradually addressed through improved communication and harmonisation of procedures, they highlight the **importance of clear coordination frameworks and shared systems** in multi-partner interventions.

7.2.7.5 Partnership constraints and limitations

While partnerships have been central to the intervention, some limitations remain. For instance, the use of **land titles as collateral in financial partnerships proved less effective than expected**, as financial institutions remained cautious due to perceived risks. This limited the scale of credit access for some beneficiaries.

Similarly, the **transition to a market-led model encountered initial resistance from beneficiaries**, particularly those accustomed to fully subsidised interventions. The requirement for cost-sharing and commercial engagement required a shift in mindset, which took time to establish.

More broadly, some partnerships – particularly those involving coordination among multiple actors – remain partially **dependent on programme facilitation**, raising questions about their sustainability.

7.2.8 EQ9 – Sustainability: Based on the evidence detected, what has been the most profitable collaboration with institutional, non-governmental, profit-led organisations or micro-small-medium enterprises, established thanks to the intervention, that should be continued in a view of enhancing the value chain development and the commercialisation network?

BEVAC's most profitable collaboration combines lead firms (Jambo Asali, Asilia) and TanTrade, driving 2.05 M€ investments and global market links. The market-pull model ensures demand, quality, and offtake. Complementary artisan, financial, and BSO partnerships strengthen supply, access to finance, and policy. This integrated model supports sustainable value chain growth, though inclusiveness remains uneven.

The BEVAC intervention has fostered a range of partnerships across institutional, non-governmental, and private sector actors, but the evidence clearly points to a **set of highly synergistic collaborations** that have been particularly profitable and transformative for the development of the beekeeping value chain and its commercialisation network. Among these, it is essential to underline that **the most profitable BEVAC collaboration involves private-sector lead firms (e.g., Jambo Asali, Asilia Honey) and TanTrade. These partnerships triggered 2.05 M€ in investments and established critical international linkages, including Jambo Asali's joint venture in the UAE or Asilia's Hungarian joint venture. The emerging Tanzania Honey Trademark, created with TanTrade and TFS to brand "Made in Tanzania" products could further strengthen such dynamics.** Such partnerships **outline a "market-pull" model which ensures reliable market off-take while setting the quality standards needed for exports**. The synergy between institutional branding and profit-led investment provides a robust foundation for value chain growth beyond 2026. This integrated public–private–financial partnership model should be continued and deepened to consolidate market-driven incentives and scale sustainable commercialisation across the beekeeping value chain.

Overall, the BEVAC intervention has successfully established a set of **highly profitable and mutually reinforcing collaborations**, with the lead firm model at its core, supported by institutional, financial, and local supply chain partnerships.

7.2.8.1 The lead firm model: Core driver of commercialisation

The most profitable and impactful collaboration has been the **lead firm model**, involving export-oriented SMEs such as Jambo Asali, AfriLife, Upendo Honey, and Asilia Honey. These firms have acted as **anchors of the value chain**, connecting smallholder producers to domestic and international markets.

This model has generated **concrete commercial results**. Partnerships facilitated through BEVAC have enabled firms to secure **large-scale export contracts and** establish **international joint ventures**, significantly expanding Tanzania's presence in global markets. For instance, agreements for bulk exports of beeswax and honey products, as well as joint ventures in strategic markets such as the Middle East and Europe, demonstrate the depth of commercial integration achieved.

The profitability of this collaboration lies in its **"market pull" mechanism**, whereby private firms provide guaranteed offtake, quality requirements, and price incentives. This creates a virtuous cycle: b**eekeepers are incentivised to adopt improved practices to meet market standards, while firms secure reliable supply chains**. Unlike project-driven demand, this mechanism is inherently sustainable, as it is based on mutual economic interest.

In addition, **lead firms have contributed to embedded service provision**, including technical coaching, traceability systems, and input financing. These services strengthen the entire value chain while reinforcing commercial relationships.

7.2.8.2 Institutional and branding synergies: Role of TanTrade and TFS

The collaboration with institutional actors – particularly **TanTrade and the Tanzania Forest Services (TFS)** – has been critical in enhancing the commercial value of private sector engagement. The development of the **Tanzania Honey Trademark** represents a key innovation in this regard.

This branding initiative enables **Tanzanian honey** to be marketed as a **distinct, traceable, and high-quality product**, rather than as an undifferentiated commodity. By linking branding with certification and traceability systems, the initiative **enhances competitiveness** in international markets and supports **premium pricing.**

The synergy between institutional branding and private sector investment is particularly important. While private firms drive market expansion and product development, institutional actors provide the **credibility, regulatory framework, and national identity** required to access high-end markets. This combination significantly strengthens the sustainability and scalability of commercialisation efforts.

7.2.8.3 Complementary role of the artisan MSME network

A second highly profitable collaboration has been the development of a **localised artisan network**, involving carpenters and tailors trained to produce beekeeping equipment. This network has played a critical role in addressing one of the main constraints in the value chain: the high cost and limited availability of modern equipment.

By **reducing equipment costs and ensuring local availability**, this collaboration has:

- accelerated the adoption of improved technologies,
- created employment and income opportunities at community level,

- strengthened the resilience of the supply chain.

The artisan model complements the lead firm model by ensuring that producers can meet the quality and volume requirements of buyers. It also contributes to the **local economic embedding of the value chain**, enhancing sustainability.

7.2.8.4 Strengthening the enabling environment: The "One voice" platform

The drive towards the unification of business support organisations (TABEDO, Api-Support, HEAT, and PEBA) into the **"One Voice" platform,** though still work in progress**,** represents another important collaboration, particularly in terms of enabling environment and sector governance.

Despite its need for consolidation, this platform has facilitated **coordinated advocacy**, **leading to significant regulatory improvements** such as the removal of VAT on processing equipment and the simplification of export procedures. These reforms reduce costs and barriers for private sector actors, thereby enhancing profitability and competitiveness.

While this collaboration is less directly commercial than the lead firm model, it plays a critical supporting role by **ensuring that the policy environment is conducive** to value chain development.

7.2.8.5 Financial sector partnerships: Enabling commercial scaling

Partnerships with financial institutions, including NMB, PASS Trust, and others, have also been instrumental in supporting the commercialisation process. By **improving access to finance** and providing financial literacy training, these collaborations have enabled beekeepers and MSMEs to invest in equipment, expand production, and meet market demand.

The increase in access to financial services and loans has helped **address the aggregation capital gap**, which is essential for **linking producers to large-scale buyers**. This financial dimension is a key component of the integrated partnership model underpinning BEVAC.

7.2.8.6 Need for continuation

The most profitable collaborations identified share several **key characteristics** that justify their continuation and scaling:

- They are **market-driven**, based on economic incentives rather than external support;
- They integrate **multiple dimensions of the value chain**, from production to marketing;
- They create **mutually reinforcing relationships** between actors;
- They contribute to both **short-term profitability and long-term sustainability**.

The lead firm model, in particular, provides a **self-sustaining mechanism for value chain development**, as firms have a vested interest in maintaining and expanding their supply base. When combined with institutional support (branding, regulation) and local supply chains (artisan model), this creates a comprehensive and resilient system.

In addition, upcoming opportunities – such as Tanzania's positioning in international markets and events like Apimondia – further increase the strategic importance of these collaborations. Strengthening branding, certification, and market linkages will be critical to capitalising on these opportunities.

None the less, despite their success, these collaborations are not without challenges. The benefits of private sector engagement are still **unevenly distributed**, with more advanced SMEs and organised

producers better positioned to participate. Strengthening the capacity of cooperatives and smaller actors[10] remains essential to ensure inclusiveness.

In addition, some partnerships – particularly those involving institutional coordination – require further consolidation to ensure long-term sustainability beyond programme support.

7.2.9 EQ10 – Impact: To what extent have the programme's efforts in the conservation and management of beekeeping reserves and zones benefited the beekeepers and the surrounding communities?

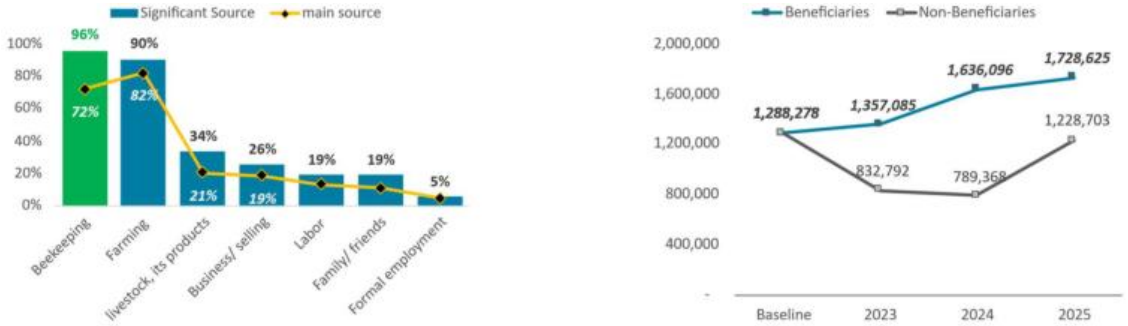
BEVAC's conservation approach greatly benefited beekeepers and communities by securing 61,000 ha of reserves and access to large protected zones. This improved productivity, resilience, and income while protecting ecosystems. It reduced conflicts, contributed to job creation, and strengthened local governance. Pollination services boosted agriculture. However, sustainability depends on governance and climate risks.

The BEVAC intervention has generated **substantial and multi-dimensional benefits** for both beekeepers and surrounding communities through its efforts in the conservation and management of beekeeping reserves and zones. By integrating environmental protection with livelihood development, the programme has created a **mutually reinforcing system in which conservation directly supports productivity, resilience, and socio-economic development**. *It is important to underline that* BEVAC's conservation efforts significantly benefited beekeepers by **securing 61,000 hectares of forage** across 33 village reserves and formalising legal access to massive beekeeping zones in the Moyowosi and Kigosi reserves. This secures production while **protecting habitats from agricultural encroachment and pesticides**. Ecosystem services like crop pollination are bolstered.

[10] In the context of the project, a smaller actor primarily refers to smallholder beekeepers and less advanced MSMEs that operate at the grassroots level of the value chain. These smaller actors can be defined through several specific characteristics that contribute to their difficulty in integrating into the modern value chain:

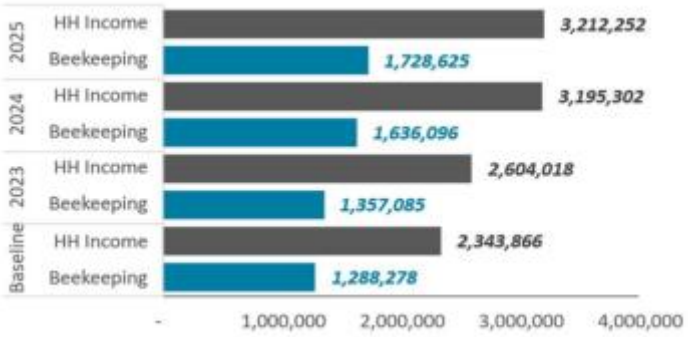
- **Lower absorption capacity**: Smaller actors are characterized by a limited ability to integrate the technical, managerial, or financial changes proposed by project interventions. Unlike "larger, more advanced companies" with complex operations and sufficient resources, smaller actors often lack the internal structure to adopt new business models quickly.
- **Limited financial resources and assets**: These actors typically lack "bankable assets" or collateral, which makes it nearly impossible for them to secure commercial bank loans for upgrading their equipment or scaling operations. They often operate under a "structural lack of finance," leaving them dependent on informal middlemen who pay cash on the spot rather than waiting for higher-value aggregation through cooperatives.
- **Technical and technological constraints**: Smaller actors represent the approximately 95% of the sector that still relies on traditional beekeeping methods, such as using bark or log hives and fire-based harvesting. For these individuals, the high cost of modern equipment (e.g., Tanzania Top-Bar hives, which cost ten times more than traditional hives) remains a significant barrier to entry and integration.
- **Digital and information isolation**: There is a significant digital divide that isolates smaller actors from the project's high-level results. Many smaller beekeepers and cooperatives: i) Do not own smartphones or computers; ii) Lack reliable internet access; and iii) Are unaware of or unable to use the digital marketing and price-tracking portals (like the MNRT or TanTrade platforms) developed for the sector.
- **Organizational weakness**: Smaller actors often belong to "loosely formed groups" or cooperatives that lack joint enterprises or tangible services for their members. These organizations frequently struggle with poor governance and financial management, leading to a lack of trust from members and making them less attractive partners for larger commercial buyers.
- **Focus on local vs. export** markets: While the project's "marketing muscles" were often directed toward international trade, smaller actors are generally confined to local lower-income consumer markets. They often lack the required quality certifications (like the TBS quality mark or HACCP) that are mandatory for entering more lucrative regional or international trade flows.

Figure 8: Beekeeper income sources (left) and income increase from beekeeping activities (right)



Source: Enabel

Figure 9: Average beneficiary household income derived from beekeeping



Source: Enabel

7.2.9.1 Securing production systems and reducing vulnerability

A fundamental benefit of the intervention has been the **securing of access to productive beekeeping areas**, which is critical in a context where apiculture is highly dependent on forest ecosystems. The formal establishment of village bee reserves and the zonation of protected areas have provided beekeepers with **legal recognition and long-term security over their production zones**.

This has reduced uncertainty and conflict over land use, particularly in areas where competing activities – such as agriculture, logging, or conservation restrictions – previously limited access. By clarifying rights and responsibilities, the intervention has enabled beekeepers to invest with greater confidence in their activities.

In addition, the protection of forage areas ensures the **availability and quality of floral resources**, which directly affects productivity. The preservation of these ecosystems reduces exposure to pesticides and environmental degradation, thereby supporting both yield and product quality, particularly for organic markets.

7.2.9.2 Enhancing productivity and climate resilience

The management of beekeeping reserves has had a direct impact on **productivity and resilience to environmental shocks**. By maintaining healthy ecosystems and promoting Good Beekeeping Practices within these areas, the intervention has **improved colony survival and stability of production**.

The availability of well-managed forage areas supports higher colony occupancy rates and more consistent honey yields. At the same time, training in adaptive practices – such as water provision and improved hive management – has strengthened the ability of beekeepers to **cope with climatic variability**.

The shift towards modern hives within these protected areas further enhances productivity while **reducing environmental pressure**. Unlike traditional bark hives, which contribute to deforestation, improved technologies allow for **sustainable intensification** of production.

None the less, climate change also poses ongoing **risks**, particularly **in terms of water availability and changes in vegetation pattern**s, which may affect the productivity of beekeeping systems.

7.2.9.3 Conservation of ecosystems and environmental benefits

The intervention has contributed significantly to the **protection of critical ecosystems**, including large forest reserves and unique habitats such as the Itigi thickets and mangrove forests. By linking conservation with economic incentives, BEVAC has transformed local communities into **active stewards of natural resources**.

This approach aligns with national strategies promoting sustainable land use and provides a viable alternative to environmentally harmful practices such as deforestation and charcoal production. The protection of these ecosystems also contributes to biodiversity conservation and supports long-term ecological stability.

In addition, the intervention enhances **ecosystem services**, particularly pollination. Healthy bee populations contribute to increased agricultural productivity in surrounding areas, benefiting farmers beyond the beekeeping community and supporting broader food security.

7.2.9.4 Socio-economic benefits for surrounding communities

The benefits of conservation efforts extend beyond individual beekeepers to the wider community. The establishment and management of reserves have stimulated the development of a **local beekeeping economy**, creating employment opportunities and generating additional income streams.

The training of artisans to produce equipment has created jobs and supported local enterprises, while increased beekeeping activity has stimulated demand for related services. These multiplier effects contribute to broader rural development.

The formalisation of beekeeping zones has also reduced **resource-use conflicts** between different groups, including farmers, pastoralists, and conservation authorities. In some cases, beekeeping activities have contributed to mitigating human-wildlife conflict, for example by deterring elephants from agricultural areas.

Community involvement in the management of reserves – through local committees and village game scouts – has strengthened **local governance and ownership**, enhancing the sustainability of conservation efforts.

However, despite these significant benefits, some challenges remain. The expansion of protected areas and changes in land status can occasionally create tensions if access to resources is restricted without adequate consultation or compensation.

7.2.9.5 Strengthening long-term sustainability and future opportunities

The integration of conservation and economic development creates a strong foundation for **long-term sustainability**. By ensuring that communities derive direct benefits from protecting natural resources, the intervention increases the likelihood that conservation practices will continue beyond the programme period.

Emerging opportunities, such as participation in **carbon credit schemes**, further enhance the potential for long-term economic benefits. By monetising ecosystem services, these mechanisms could provide additional incentives for conservation and diversify income sources.

The approach also supports **inclusive participation**, particularly for women and youth. The establishment of accessible apiaries within reserves removes traditional barriers to entry and enables broader engagement in the sector.

However, the long-term sustainability of conservation efforts depends on the continued effectiveness of local governance structures and the availability of resources for monitoring and enforcement.

7.2.10 EQ12 – Impact: To what extent have marketing accompaniment and market connection stimulated investment in Tanzania's beekeeping industry, and what are the knock-on effects on beekeepers and their organisations? To what extent have unexpected effects proved beneficial or detrimental to the reported performance?

Marketing support spurred 2.05 M€ in investment, boosting demand, jobs, and incomes (+28%). Market pull drove adoption of good beekeeping practices and strengthened organisations. Positive spillovers included youth peer training and rising regional market interest. However, tensions over zonation and risks of adulteration under high demand emerged, affecting sustainability.

Marketing accompaniment and strengthened market connections have been **highly effective in stimulating investment** and driving value chain transformation in Tanzania's beekeeping sector and in transforming production outcomes into commercially viable results. It is essential to underline that BEVAC's marketing accompaniment through international trade fairs triggered 2.05 M€ in private investments. Firms like Asilia Honey secured foreign capital, programmed to create 5,000 jobs while increasing demand for quality honey. This "market pull" incentivised beekeepers to adopt good beekeeping practices, contributing to raise average incomes by 28%. This demonstrates that market-oriented interventions have not only facilitated access to buyers but have also **mobilised capital, strengthened business confidence, and driven structural transformation of the value chain**.

7.2.10.1 Stimulation of investment through market linkages

The intervention's marketing strategy – particularly through participation in international trade fairs and export readiness support – has significantly **enhanced the visibility and credibility of Tanzanian bee products**. By supporting SMEs in meeting international standards (e.g. HACCP certification) and facilitating business-to-business interactions, the programme has enabled firms to **access new markets** and secure long-term commercial agreements.

Figure 10: Number of SMEs that have gained new markets



Source: Enabel

These connections have translated into **tangible investments**, both domestic and foreign, in processing, packaging, and export operations. The scale of investments reflects growing international trust in the sector and signals a shift from a subsistence-based activity to a **commercially attractive industry**.

At the same time, **improvements in the enabling environment** – such as simplified export procedures and branding initiatives – have reinforced these dynamics by reducing transaction costs and strengthening competitiveness. Investment is therefore not only a result of market exposure but also of a more favourable and predictable business environment.

7.2.10.2 Knock-on effects on beekeepers and organisations

The investment and market expansion generated through marketing accompaniment have produced **significant knock-on effects** at the level of beekeepers and their organisations.

First, the creation of a strong "market pull" has directly influenced production practices. Beekeepers have been incentivised to adopt Good Beekeeping Practices and improve quality standards in order to meet buyer requirements. This has contributed to increased productivity, better product quality, and improved price realisation.

Second, increased demand has led to **income growth and livelihood stabilisation**, with beekeeping becoming a more central and reliable source of income. The linkage between production and market demand has reduced uncertainty and enhanced the economic resilience of households.

Third, producer organisations have undergone a process of **institutional strengthening**, as they adapt to market requirements. Cooperatives and associations have improved their capacity in aggregation, quality control, and negotiation with buyers, although some challenges – such as limited access to working capital and risks of side-selling – remain.

Fourth, the expansion of market opportunities has stimulated **local economic activity and employment**, particularly through the development of supporting services such as equipment manufacturing and logistics. This has reinforced the broader economic impact of the value chain beyond primary production.

7.2.10.3 Beneficial unexpected effects

The intervention has also generated several **unexpected but beneficial effects** that have reinforced its performance. It is important to underline that unexpected beneficial effects included high investor interest in local and regional markets and a significant spillover, where trained youth mentored 1,121 peers.

The increased interest in local and regional markets represents an important diversification of commercial opportunities. In some cases, these markets have proven more accessible and profitable than distant export markets, providing additional pathways for value chain development.

The strong **peer-to-peer knowledge diffusion among youth** has amplified the impact of training and contributed to the rapid spread of improved practices. This spillover effect enhances the sustainability of capacity development and supports the emergence of a new generation of entrepreneurs within the sector.

Other positive spillovers include **diversification into new product lines** (e.g. apitherapy products) and indirect benefits such as improved agricultural productivity through enhanced pollination services.

7.2.10.4 Detrimental unexpected effects and emerging risks

Alongside these positive dynamics, some **detrimental or unintended effects** have emerged. It is important to underline that detrimental effects include discontent among traditional beekeepers regarding forest zonation and risk of product adulteration under high demand pressure.

The process of formalising beekeeping zones has, in some cases, generated tensions among traditional beekeepers who perceive restrictions or exclusion from previously accessible areas. These issues highlight the need for more inclusive and participatory approaches to resource management.

In addition, the rapid increase in demand and prices has created **risks related to quality control**, including the potential for product adulteration. If not adequately managed, such practices could undermine the reputation of Tanzanian honey in international markets and compromise long-term sustainability.

There are also indications that the rapid expansion of commercial opportunities may place pressure on weaker actors within the value chain, particularly those lacking access to finance or organisational capacity, potentially increasing inequalities.

7.2.11 EQ6 – Cross-cutting issue – Private sector development: To what extent has the private sector been involved in developing the beekeeping value chain? And to what extent has its contribution been valuable enough to ensure the marketing connection?

The private sector was central to BEVAC's market-led approach, driving value chain development through lead firms, MSMEs, and local artisans. Firms ensured offtake, created demand, and improved quality, enabling 49 MSMEs to access new markets and secure major export deals. Investments (over 2 M€), policy reforms, and local supply chains strengthened sustainability. However, benefits remain uneven, with smaller actors less integrated.

The private sector has played a **key and structuring role** in the development of the beekeeping value chain under BEVAC, being at the core of its "market-led" approach. Rather than treating markets as an outcome, the intervention has deliberately positioned private actors – processors, exporters, service providers, and artisans – as **drivers of value chain transformation**, ensuring that production improvements are directly

linked to demand. This approach has resulted in strong engagement across multiple segments of the value chain and has been instrumental in establishing and strengthening marketing connections.

Private sector involvement has been instrumental in transforming the beekeeping value chain from a fragmented and largely informal system into a more **structured, integrated, and commercially viable sector**. By linking production to markets, mobilising investment, supporting quality improvements, and contributing to policy reform, private actors have played a central role in ensuring that the intervention delivers not only increased production but also sustainable market access.

The combination of lead firm engagement, MSME development, and localised service provision has created a **multi-layered market system** that can support continued growth and integration into regional and international markets.

7.2.11.1 Central role of lead firms in structuring the value chain

A defining feature of private sector involvement has been the **engagement of lead firms**, including Upendo Honey, Jambo Asali, AfriLife, and others, which have acted as anchors for the value chain. These firms have provided a **"market pull" mechanism**, **ensuring that increased production is matched by reliable demand**.

This market pull has taken several concrete forms. First, it has provided **guaranteed offtake opportunities** for beekeepers, reducing market uncertainty and encouraging investment in production. Second, it has ensured **consistent demand for quality honey**, which has incentivised producers to adopt Good Beekeeping Practices and meet international standards. In this sense, private sector engagement has not only created market access but has also driven **improvements in production quality and practices**.

Lead firms have also contributed through **embedded services**, including technical coaching, quality control systems, and traceability mechanisms. These services **complement programme-supported training** and reinforce compliance with market requirements, particularly for export markets.

7.2.11.2 Strengthening the marketing connection

The contribution of the private sector has been particularly valuable in **bridging the gap between production and markets**, which is often a critical bottleneck in agricultural value chains. By 2025, **49 MSMEs had entered new markets**, including regional and international destinations, demonstrating the effectiveness of this approach.

Private sector engagement has facilitated access to trade fairs, business-to-business linkages, and export opportunities, leading to the establishment of **international supply agreements exceeding 3,200 tons of honey and related products**. These developments reflect growing confidence in Tanzanian honey and signal a shift towards more structured and reliable market channels.

The role of private actors in **branding and certification** has further strengthened the marketing connection. The development of the Tanzania Honey Trademark and the adoption of international standards such as HACCP have enhanced product differentiation and credibility, enabling access to higher-value markets. These mechanisms ensure that Tanzanian honey is not sold as a bulk commodity but as a traceable, quality-assured product.

7.2.11.3 Mobilisation of private investment

Private sector involvement has also been critical in mobilising **significant financial resources**, with investments exceeding 2 M€. These investments have supported the expansion of processing capacity, improvement of logistics, and development of export channels.

The presence of private investment is particularly important for sustainability, as it reflects **commercial confidence in the sector** and reduces reliance on public or donor funding. It also reinforces the market-driven nature of the value chain, ensuring that growth is based on economic viability rather than external support.

7.2.11.4 Localisation of supply chains through artisan engagement

Beyond large firms, the private sector has been engaged at the local level through the development of an **artisan-based supply model**. A total of 187 trained artisans – carpenters and tailors – have been integrated into the value chain, producing beehives, protective equipment, and other inputs.

This model has generated several important benefits:

- **Reduced costs of equipment by up to 37%**, improving affordability for beekeepers;
- Strengthened **local supply chains, ensuring availability of inputs** beyond the programme lifecycle;
- Created **employment and income opportunities** within rural communities;
- **Reduced dependency on imported** or programme-supplied **equipment**.

By embedding input supply within local economies, the intervention has enhanced both the **commercial robustness and sustainability** of the value chain.

7.2.11.5 Contribution to policy reform and enabling environment

The private sector has also played an important role in **advocacy and policy reform**, contributing to improvements in the enabling environment. Through business support organisations and collective platforms, private actors have influenced key regulatory changes, including the **removal of VAT on processing equipment** and the **simplification of export procedures**.

These reforms have **reduced transaction costs, facilitated investment, and improved competitiveness**. They also demonstrate the increasing capacity of the private sector to engage in policy dialogue and shape sector development.

7.2.11.6 Value and limitations of private sector contribution

The contribution of the private sector has been particularly valuable in ensuring that the value chain is **market-driven and commercially oriented**. The relationships established between beekeepers and lead firms are based on mutual economic interests, which provides a strong foundation for sustainability. Unlike project-driven mechanisms, these relationships are likely to continue as long as they remain profitable.

At the same time, the **benefits** of private sector engagement are **not evenly distributed**. The most advanced MSMEs and organised producers have been better positioned to take advantage of market opportunities, while smaller cooperatives still face challenges in accessing finance, meeting quality standards, and aggregating sufficient volumes.

In addition, some aspects of the value chain – particularly at the level of primary production – remain partially dependent on programme support, which may limit the immediate scalability of private sector-driven models.

7.2.12 EQ11 – Cross-cutting issue – Private sector development: To what extent has the partnership established with the private sector represented an added value to enhance the quality of the results and ease the outcome achievement?

Private sector partnerships added major value by driving a market-led approach. Lead firms ensured demand, quality, and offtake, enabling MSMEs to access new markets and secure exports. Investments (>2 M€), quality standards, and local supply chains strengthened results. Policy advocacy improved the enabling environment. However, benefits remain uneven, with smaller actors facing constraints.

Partnerships with the private sector have provided **substantial added value** in enhancing both the quality of BEVAC's results and the **efficiency with which outcomes have been** achieved. By placing private actors at the centre of implementation, the intervention effectively shifted from a supply-driven model to a **market-led approach**, ensuring that technical improvements in production translated into tangible economic outcomes. This alignment between production and demand has been critical in overcoming one of the main structural weaknesses of the sector: the disconnect between increased output and reliable market access.

The involvement of lead firms such as Upendo Honey, Jambo Asali and AfriLife has been particularly decisive. By providing predictable demand and enforcing quality requirements, these actors have directly incentivised producers to adopt Good Beekeeping Practices and comply with international standards. As a result, improvements in productivity and quality were not isolated technical achievements but were effectively converted into **market access, sales, and exports**. By 2025, 49 MSMEs had accessed new markets, and large-scale export agreements – amounting to over 3,200 tons of honey and related products – had been secured, illustrating the effectiveness of this approach in facilitating outcome achievement.

More specifically, export-oriented firms introduced requirements related to traceability, hygiene, and certification, driving the adoption of higher production standards across the value chain. This contributed to the development of quality assurance systems and branding tools such as the Tanzania Honey Trademark, which strengthen product differentiation and credibility in international markets. In this sense, private actors have played a key role in ensuring that the intervention's results meet market expectations and can compete globally.

Another important dimension of added value lies in the mobilisation of **private investment**, which exceeded 2 M€. These investments supported the expansion of processing capacity, the development of export channels, and the strengthening of business operations. This financial contribution has enabled the scaling up of results beyond what would have been possible through programme funding alone, reinforcing the sustainability of the value chain.

At the same time, private sector engagement has contributed to addressing key structural constraints through the **localisation of supply chains**. The training of 187 artisans to produce beekeeping equipment has reduced costs by up to 37%, improving accessibility to modern technologies and accelerating their adoption. This has not only strengthened production systems but also generated local employment and embedded economic benefits within rural communities. By ensuring that equipment is locally available and maintainable, this model enhances the long-term sustainability of technical improvements.

The contribution of the private sector has also extended to the **policy and regulatory environment**, where coordinated advocacy has led to significant reforms, including the removal of VAT on processing equipment and the simplification of export procedures. These changes have reduced barriers to business development and improved the overall competitiveness of the sector, further facilitating outcome achievement.

However, as mentioned above, **the benefits of private sector partnerships have not been evenly distributed** with more advanced actors reaping most benefits. In addition, limited access to **working capital remains a constraint for some** actors, affecting their ability to fully engage with lead firms. These factors highlight the need for continued support to ensure more inclusive participation in the value chain.

Overall, private sector partnerships have been instrumental in transforming BEVAC's results into sustainable outcomes by anchoring the intervention within a commercially viable ecosystem, improving quality standards, mobilising investment, and strengthening market linkages.

7.2.13 EQ13 – Cross-cutting issue – Environment & climate change: To what extent has the action been designed taking into consideration the protection of the environment and the safeguard of the forest heritage? To what extent has a preventive impact environmental strategy been taken into consideration from the design stage and all through implementation? To what extent have mitigation measures of climate change effects been considered?

BEVAC was designed with environmental protection at its core, linking beekeeping to forest conservation. It aligns with national policies and promotes reserves, sustainable hives, and land-use planning. Preventive measures limit deforestation, fires, and pesticide risks. Climate adaptation and mitigation (carbon, pollination) are integrated into the design.

The BEVAC intervention was **explicitly designed with environmental protection and the safeguarding of forest heritage at its core**, reflecting a clear strategic intent rather than an ex-post adjustment. From the outset, the programme is grounded in the principle that **beekeeping and ecosystem conservation are interdependent and mutually reinforcing**, positioning apiculture as a lever for sustainable natural resource management. The design logic treats forest conservation not as a parallel objective but as a **precondition for a productive and competitive value chain**, embedding environmental considerations throughout its Theory of Change.

7.2.13.1 Integration of environmental protection in programme design

Environmental protection is central to the programme's design, as reflected in its Specific Objective: *"Quality honey produced in an environmentally sustainable manner leads to increased market penetration."* This formulation clearly links environmental sustainability with economic performance, signalling that **market development is contingent upon responsible resource management**.

The design is strongly aligned with national policy frameworks, notably the National Beekeeping Policy (1998), the Beekeeping Act (2002), and the government's "Achia Shoka, Kamata Mzinga" campaign. This alignment demonstrates a deliberate intention to **use beekeeping as an alternative to deforestation**, by creating economic incentives for communities to preserve forests that serve as bee forage. In this sense, the programme design promotes a model where local populations become **custodians of forest ecosystems**.

At the strategic level, the intervention explicitly contributes to **SDG 13 (Climate Action) and SDG 15 (Life on Land)**, further anchoring environmental protection within its development rationale. The design also envisages the **legal protection of forage areas**, through the establishment of Village Beekeeping Reserves and the zonation of beekeeping activities within protected areas such as Moyowosi and Kigosi. This reflects a clear intent to secure long-term access to ecosystems while safeguarding them from competing land uses.

7.2.13.2 Preventive environmental impact strategy

A preventive environmental strategy is embedded in the design to ensure that the expansion of the beekeeping sector does not generate unintended ecological damage. This is reflected in a **"do-no-harm" approach**, which systematically integrates environmental safeguards into planned activities.

One of the most important design choices is the **transition from destructive to sustainable production practices**. Traditional bark and log hives, which require tree cutting or debarking, are replaced by modern hives such as the Tanzania Top-Bar hive, designed to use sustainable materials and reduce pressure on forests. This reflects a proactive effort to **decouple production growth from environmental degradation**.

The design also anticipates risks related to wildfire and pesticide exposure. It incorporates training in safer harvesting techniques, including the use of modern smokers to reduce the risk of uncontrolled fires. In addition, the geographical targeting strategy deliberately avoids areas with intensive pesticide use, thereby protecting both bee health and product quality.

Land-use planning is another key preventive element. The programme design emphasises the preparation of **Village Land Use Plans (VLUPs)** as a prerequisite for establishing reserves, ensuring that beekeeping activities are spatially regulated and compatible with other land uses. This forward-looking approach reduces the likelihood of conflicts and environmental degradation.

Furthermore, the inclusion of research on **stingless bees** reflects an intent to promote sustainable biodiversity management by replacing harmful practices such as debarking trees to capture wild colonies. This demonstrates that preventive strategies extend beyond immediate production concerns to broader ecosystem preservation.

7.2.13.3 Consideration of climate change mitigation and adaptation

Climate change considerations are clearly integrated into the programme design, reflecting the vulnerability of the beekeeping sector to changing environmental conditions.

On the adaptation side, the design incorporates **climate-resilient good beekeeping practices**. Training modules are specifically structured to help beekeepers cope with erratic rainfall and drought conditions, including practices such as providing water sources for bees and retaining honey reserves to sustain colonies during periods of scarcity. These measures aim to **reduce colony losses and stabilise production under climatic stress**.

On the mitigation side, the programme design recognises the role of forests as carbon sinks and includes the **long-term objective of linking bee reserves to carbon credit mechanisms**. This creates an incentive framework where maintaining forest cover generates both environmental and economic benefits.

The design also acknowledges the importance of **pollination services** as a contribution to ecosystem stability and agricultural productivity. By supporting bee populations, the intervention indirectly strengthens biodiversity and enhances the resilience of surrounding farming systems.

Environmental considerations are further reflected in infrastructure design, with requirements for **eco-friendly construction materials, energy-efficient systems, and reduced carbon footprints**. This indicates that environmental sustainability is integrated not only in production systems but also in physical investments.

7.2.14 EQ14 – Cross-cutting issue – Environment: To what extent has the intervention promoted the conservation of the beekeeping areas?

As noted earlier, BEVAC strongly promoted conservation through reserves, zonation, and sustainable practices. By linking livelihoods to forest protection and replacing destructive methods, it incentivised stewardship and ensured conservation was central to the intervention.

As already detailed in previous sections of this report, the intervention has **strongly promoted the conservation of beekeeping areas** through a combination of design choices and implementation measures. The action integrated conservation as a core principle, notably through the establishment of village bee reserves and the support to zonation within protected areas, ensuring both ecological protection and sustained access for beekeepers. By linking livelihoods to forest preservation, the intervention created incentives for communities to act as stewards of natural resources. In addition, the promotion of sustainable practices and non-destructive technologies further reinforced conservation objectives. These elements collectively demonstrate that conservation of beekeeping areas has been a central and consistently addressed dimension of the intervention.

7.2.15 EQ15 – Cross-cutting issues – Gender, youth & decent work: To what extent has the intervention promoted social economic empowerment and enhanced resilience of women and youth? To what extent have the principles of decent work been mainstreamed all along the intervention?

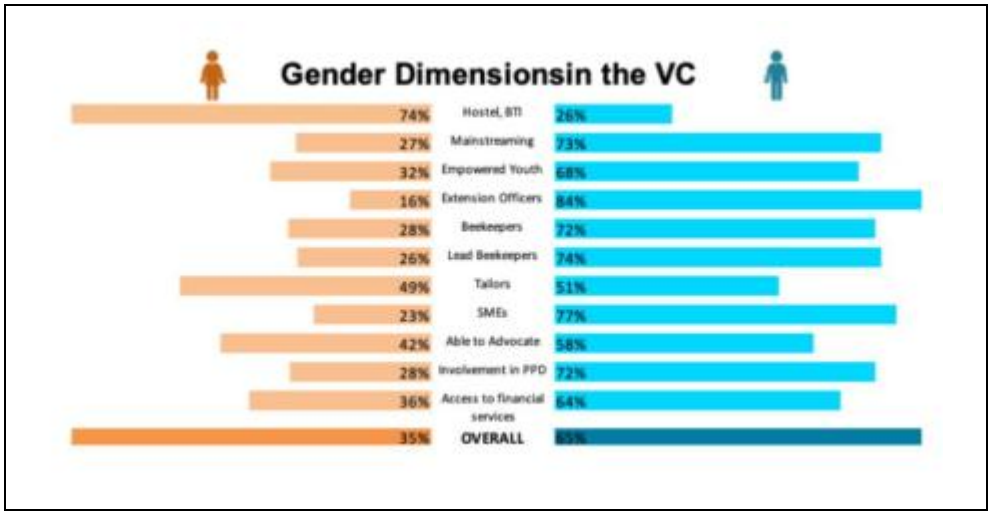
BEVAC improved women's access through adapted hives, boosting income and roles in processing, though barriers remain. Youth (40% of beneficiaries) gained skills, jobs, and entrepreneurship opportunities, with strong peer spillovers. Decent work improved via safer practices, fair pricing, and better work conditions, though focus remained on job creation over labour standards.

Overall, the intervention has made a **significant contribution to the socio-economic empowerment and resilience of women and youth**, while partially integrating principles of decent work, particularly in relation to safety, income, and professionalisation, though with scope for further strengthening in terms of inclusiveness and labour standards.

7.2.15.1 Gender equity

The BEVAC intervention has made **substantial progress in promoting the socio-economic empowerment of women**, although its transformative impact remains partial. Initially, the programme relied primarily on participation quotas, but following the Mid-Term Review, it adopted a more structured approach through a dedicated gender analysis aimed at addressing **structural barriers**, notably women's limited access to land, finance, and remote apiary sites.

Figure 11: Gender dimensions in the VC



Source: Enabel

A key design strength lies in the **adaptation of production systems to women's constraints**. By promoting Tanzania Top-Bar hives, stand apiaries, and bee cages, the intervention reduced the need for tree climbing and enabled women to manage apiaries closer to their homes. This significantly improved accessibility and allowed women to better balance economic activities with domestic responsibilities. However, in some contexts, modern hives are still placed in forested areas, meaning that physical and spatial barriers have not been entirely removed.

Photo 8: A Stand apiary in Pemba



Source: Evaluation team

These changes translated into **increased economic participation and financial autonomy**. Women have gained greater control over income and decision-making within households, with annual incomes for female-headed beekeeping households reaching approximately 1,044,578 Tanzanian Shilling (TZS) by 2025. Women have also positioned themselves strongly in **higher value-added segments**, particularly in processing and marketing products such as candles, soaps, and cosmetics, which provide more stable and diversified income streams.

The construction of a **female dormitory at the BTI** (148 beds) represents a significant structural investment, removing a key barrier to women's participation in technical training and contributing to the long-term professionalisation of women in the sector.

Despite these advances, the intervention cannot yet be considered fully gender transformative. Constraints such as limited access to capital, uneven participation in digital tools, and persistent social norms continue to affect women's full integration into all segments of the value chain.

7.2.15.2 Youth empowerment

The intervention has been particularly effective in promoting the **economic empowerment and resilience of youth**, recognising them as a key driver of innovation and sector transformation. Youth represent approximately **40% of beneficiaries**, reflecting both strong targeting and high uptake.

BEVAC has supported youth through **dedicated entrepreneurship and technical training programmes**, including modern apiary management, value addition, and business skills. A total of 216 young men and women were trained intensively, enabling them to establish income-generating activities across the value chain.

The intervention has contributed to transforming beekeeping into a **viable professional pathway for youth**, moving away from subsistence activities towards entrepreneurship. Youth-led initiatives have

demonstrated strong results, including the production of 32 tonnes of honey valued at approximately 260 million TZS and the manufacture of over 2,000 beehives.

The **artisan model** has been particularly impactful, providing youth with opportunities in equipment manufacturing and service provision. This not only creates employment but also strengthens the local supply chain, reducing dependency on external inputs. In addition, youth involvement in digital tools and cooperative management has enhanced governance and efficiency within producer organisations.

A notable strength is the **peer-to-peer learning dynamic**, with trained youth mentoring over 1,100 additional peers. This multiplier effect significantly amplifies the reach and sustainability of the intervention.

Overall, youth engagement has contributed to **diversifying livelihoods, increasing incomes, and strengthening resilience**, particularly by fostering entrepreneurship and innovation within rural economies.

7.2.15.3 Decent jobs

While the BEVAC intervention did not explicitly focus on “decent work” as a primary objective, several elements of **decent job creation and job quality improvement** have been effectively integrated into its design and implementation.

The programme has contributed to the **professionalisation of beekeeping**, transforming it from a hazardous, low-return subsistence activity into a more structured and safer livelihood. Occupational safety has been significantly improved through the provision of protective gear and the promotion of modern hives, reducing risks associated with tree climbing, burns, and bee stings.

Working conditions have also improved in certain segments of the value chain. For example, the introduction of **modern honey kiosks** has provided safer and more dignified working environments for roadside vendors, particularly benefiting women and youth engaged in retail activities.

The intervention has promoted **fairer compensation mechanisms**, notably through aggregation centres and linkages with private sector buyers, where pricing is increasingly based on quality rather than opportunistic bargaining. This reduces reliance on intermediaries and improves income predictability for producers.

Photo 9: Roadside honey kiosk



Source: Evaluation team

In terms of employment creation, the intervention has generated opportunities across the value chain, including for **187 rural artisans** producing equipment and for workers involved in processing, marketing, and logistics. While the number of jobs created in higher-value segments (e.g. processing and export) is smaller, these positions tend to offer **higher income and skill levels**, contributing to upward mobility.

However, decent work considerations remain uneven. The intervention focuses more strongly on **job creation and income generation** than on broader labour conditions, such as social protection or formal employment arrangements. In addition, disparities persist between different actors, with more organised enterprises benefiting more from improved working conditions than informal producers.

7.2.16 EQ16 – Cross-cutting issue – Digitalisation: To what extent have digital tools in marketing been developed and relevant to achieve results?

BEVAC developed strong digital tools for marketing, traceability, and trade, boosting SME competitiveness, branding, and market access. Systems like THT, portals, and social media improved results. However, relevance is limited for smallholders due to low access, skills, and connectivity, with gender gaps persisting.

The BEVAC intervention has made **substantial progress in developing digital tools for marketing and trade facilitation**, which have proven highly relevant for achieving results at the institutional and enterprise levels. These tools have played a strategic role in **professionalising the value chain, improving market**

access, and strengthening data-driven decision-making. However, their relevance is uneven across stakeholders, with more limited impact at the level of smallholder beekeepers due to structural constraints.

7.2.16.1 Strategic development and contribution to results

The intervention has invested significantly in a **comprehensive digital ecosystem** supporting marketing, trade, and sector governance. At the national and institutional level, tools such as the **Tanzania Honey Trademark (THT) platform**, the Tanzania Trade Facilitation Portal, and the Quality for Trade platform have enhanced visibility, traceability, and compliance with international market requirements.

These tools have enabled SMEs to better navigate complex export procedures and position their products in competitive markets. The integration of **QR-code-based traceability systems** linked to the THT has strengthened supply chain transparency, which is critical for accessing high-value export markets. Similarly, digital price tracking systems and market information platforms have improved access to real-time data, supporting more informed decision-making by value chain actors.

At the enterprise level, digitalisation has been a key driver of competitiveness. Through coaching and support, a large majority of SMEs have adopted **e-marketing strategies**, including websites and social media presence (Instagram, Facebook, WhatsApp), enabling them to reach new customers and expand their market base. These tools have contributed to concrete outcomes, including increased participation in international trade events and access to new markets.

Digital systems have also strengthened **institutional management and coordination**. The national Cooperative Supervision Management Information System (CSMIS) or Mfumo wa Usimamizi wa Vyama vya Ushirika (MUVU)[11] system has enabled cooperatives to digitise membership and record-keeping, while the upgraded FBMIS provides real-time data on production and forest resources. These tools enhance governance, monitoring, and strategic planning at both cooperative and government levels.

Overall, digital tools have made a **significant contribution to results**, particularly by facilitating market penetration, improving information flows, and supporting the integration of Tanzanian honey into regional and international markets.

7.2.16.2 Relevance for different value chain actors

The relevance of digital tools varies significantly across the value chain. For **SMEs, processors, and institutional actors**, these tools have been highly relevant and transformative. They have enabled improved branding, compliance with international standards, and access to market intelligence, directly supporting commercialisation objectives.

In contrast, their relevance for **smallholder beekeepers and grassroots organisations remains limited**. Many producers lack access to smartphones, computers, and reliable internet connectivity, which restricts their ability to engage with digital platforms. In addition, limited digital literacy further constrains effective use of these tools.

The intervention has recognised these limitations and introduced **more accessible communication channels**, such as SMS, voicemail messages, radio broadcasts, and widely used platforms like WhatsApp. These adaptations have partially mitigated accessibility barriers but do not fully bridge the digital divide.

[11] a national digital portal designed to centralise all information regarding cooperatives in Tanzania

A further concern relates to **gender inclusivity**, as women are less likely to own digital devices or have internet access. As a result, digital tools risk reinforcing existing inequalities if not complemented by targeted inclusion measures.

7.2.16.3 Overall assessment of relevance

Digital tools have been **highly relevant and effective at higher levels of the value chain**, particularly for institutional actors and SMEs, where they have supported marketing, traceability, and trade facilitation. They have contributed to improved data management, enhanced visibility of Tanzanian honey, and strengthened integration into global markets.

However, their relevance is **less pronounced at the level of primary producers**, where structural barriers – such as limited access to technology, connectivity, and skills – constrain their use. As a result, digital tools currently function more as a **strategic enabler for advanced actors** rather than a universal solution across all value chain participants.

Overall, while digitalisation has been a key driver of results, its full potential will depend on addressing accessibility and inclusiveness challenges to ensure broader uptake and impact across the sector.

7.2.17 Other cross cutting issues

7.2.17.1 Inclusion

BEVAC improved inclusion of vulnerable groups by making beekeeping more profitable and accessible. It enhanced incomes, market access, and access to finance, while local input supply reduced costs. It strengthened resilience through diversification and secure resources. However, high costs of modern hives and digital barriers still limit inclusion of the poorest.

BEVAC has made **substantial progress in promoting the inclusion of vulnerable and marginalised communities**, particularly poor rural households and financially excluded groups, by addressing key structural barriers to participation in the beekeeping value chain.

At its core, the intervention builds on the fact that **beekeeping is a relatively low-cost and accessible activity**, which makes it well-suited for poorer households. By improving productivity, quality, and market access, the programme has enabled beekeeping to become a **more reliable and profitable income source**, thereby contributing to poverty reduction and livelihood diversification. Increased access to finance – benefiting over 800 actors – and the development of local supply chains (e.g. carpenters and tailors producing affordable equipment) have further strengthened economic inclusivity.

A notable achievement is the programme's effort to reach the **"collateral poor"**, who typically lack assets required for formal lending. Through partnerships with financial institutions and guarantee schemes, BEVAC has facilitated access to credit, allowing small-scale producers to invest in their activities and expand production.

At the community level, BEVAC has strengthened **resilience among vulnerable populations** by promoting climate-adaptive practices and securing access to natural resources through village bee reserves. Improved market linkages and aggregation systems have also enhanced the bargaining power of smallholders and reduced dependence on informal intermediaries.

However, inclusion remains **partial and uneven**. The cost of modern hives, although reduced, continues to represent a barrier for the poorest households, leading some to remain in lower-productivity traditional

systems. In addition, the digital divide limits access to information and market opportunities. Finally, the transition from subsidised approaches to cost-sharing models has been challenging for some beneficiaries.

Overall, BEVAC has significantly enhanced inclusion, but structural constraints continue to limit the full participation of the most marginalised groups.

7.2.17.2 Monitoring and evaluation

BEVAC built a digital M&E system with mobile data and surveys, later integrated into FBMIS. Initially weak (activity focus, poor coordination, data issues), it was strengthened after the MTR with revised indicators, Outcome Harvesting, and better partner alignment. It became a robust tool for tracking results and learning.

BEVAC established a **comprehensive and increasingly sophisticated M&E system**, characterised by strong digital innovation but also by important early weaknesses that required significant adjustment during implementation.

At design stage, the programme set up a **digital-first M&E architecture**, centred on mobile data collection tools such as Kobo Toolbox. Data were collected at field level by District Beekeeping Officers and validated at regional level before being aggregated into central systems. This decentralised approach ensured broad geographical coverage and continuous data flow. A baseline study conducted in 2022 across 19 districts, complemented by annual household and SME surveys, provided a structured basis for tracking socio-economic changes over time. The subsequent integration with the **FBMIS** – enhanced with geospatial data and automated dashboards – allowed for near real-time monitoring and strengthened linkages with ministerial decision-making.

However, the initial M&E design showed **significant limitations**, as highlighted by the MTR. The logical framework was overly focused on activity indicators rather than outcomes and impacts, limiting its usefulness for strategic decision-making. In addition, weak coordination between implementing partners – particularly between Enabel and ITC – resulted in fragmented data systems and incomplete tracking of market-related results. Operational constraints, such as delays in equipping field staff, further affected data collection, while some inconsistencies between reported and observed results raised concerns about data reliability.

A major **strategic reorientation was funded by the EU in 2024** and significantly strengthened the system. The logical framework was revised to incorporate outcome-level indicators aligned with EU OPSYS standards, improving the relevance and robustness of performance measurement. The introduction of **Outcome Harvesting methodologies** allowed the programme to capture qualitative changes and unintended effects, addressing previous gaps in understanding complex value chain dynamics. The M&E system also evolved towards a more **harmonised approach**, enabling comparison across regional clusters and improving internal learning.

Digital integration was further reinforced, with upgraded dashboards and mobile applications providing more accessible and actionable data. Improved coordination with ITC helped align monitoring frameworks across components, particularly for market access activities. The use of external enumerators for surveys also contributed to strengthening data credibility.

In terms of capitalisation, the programme made efforts to promote **joint learning and knowledge sharing**, both internally and with stakeholders. The combination of quantitative data, qualitative tools, and digital systems created a relatively strong evidence base for assessing performance and informing decision-making.

Overall, BEVAC's M&E system demonstrates a trajectory from **initially weak strategic design to a robust and integrated framework**, capable of supporting both accountability and learning. Its strengths lie in digitalisation, decentralised data collection, and adaptive management, while its early limitations underline the importance of aligning indicators, partner systems, and data quality mechanisms from the outset.

8 Conclusions

The EU funded BEVAC programme demonstrates a strong overall performance and has played a catalytic role in transforming Tanzania's beekeeping value chain. The conclusions below synthesise the main findings and highlight cross-cutting dynamics, underlying drivers of performance, and remaining structural constraints. Each conclusion is formulated to inform the recommendations that follow.

8.1 Conclusion 1 – Strategic relevance remains high due to sustained policy alignment and adaptive positioning

BEVAC has maintained strong relevance throughout implementation, driven by its close alignment with national policies and evolving government priorities. Its anchoring within MNRT and linkages with trade and agricultural agendas have ensured both institutional ownership and strategic consistency. This relevance has been reinforced by adaptive management, allowing the programme to respond to emerging opportunities such as increased emphasis on export markets and conservation-based livelihoods.

However, the analysis also suggests that relevance could have been further strengthened through more differentiated targeting of regional contexts and livelihood systems, as well as better adaptation of certain tools (notably digital solutions) to local capacities.

8.2 Conclusion 2 – The holistic value chain approach is the primary driver of coherence and effectiveness

A key determinant of BEVAC's performance is its integrated value chain approach, which has ensured strong internal coherence and mutually reinforcing results across production, processing, and market access. This systemic design has enabled the programme to address structural bottlenecks in a coordinated manner and to avoid the common pitfall of isolated or supply-driven interventions.

The same approach has facilitated strong complementarities with government initiatives, donor programmes, and private sector actors. BEVAC's positioning as a facilitator and integrator – rather than a standalone implementer – has maximised synergies and contributed to sector-wide progress.

8.3 Conclusion 3 – Early efficiency constraints highlight weaknesses in initial design realism, but adaptive management enabled strong recovery

The programme's efficiency trajectory reveals a contrast between a problematic start and a strong recovery phase. Initial delays, procurement bottlenecks, and coordination issues point to weaknesses in the original design, particularly an underestimation of the time and resources required for value chain development at scale.

The MTR acted as a critical corrective mechanism, triggering strategic reorientation, improved planning, and strengthened management systems. These adjustments significantly enhanced operational and economic efficiency in the second half of implementation.

Nevertheless, structural inefficiencies persist, notably linked to the large geographical scope, high transaction costs, and uneven cost-effectiveness of certain investments. These issues highlight the importance of realistic scoping and prioritisation in complex interventions.

8.4 Conclusion 4 – High effectiveness reflects both the quality of outputs and the relevance of implementation approaches

BEVAC has achieved a high level of effectiveness, delivering most planned outputs and establishing a solid foundation for a commercial and competitive value chain. This performance is not only a function of output delivery but also of the quality and coherence of the intervention model, which successfully combined policy reform, capacity building, infrastructure, and market facilitation.

The effectiveness of the programme is closely linked to its choice of approaches, particularly decentralised extension systems, localised input supply, and market-led strategies. These approaches ensured strong uptake of interventions and translated outputs into tangible outcomes.

However, effectiveness remains partially constrained by uneven adoption of technologies, incomplete operationalisation of infrastructure, and the still-limited depth of market integration.

8.5 Conclusion 5 – Market-led and private sector engagement has been a decisive factor in driving transformation

The strong involvement of the private sector has been a central success factor of the programme. By embedding production support within market dynamics, BEVAC created a “market pull” that incentivised quality improvement, investment, and commercialisation.

This approach has contributed to the transition from subsistence production to a more structured and demand-driven value chain, while also mobilising significant private investment and strengthening international market linkages.

However, benefits from this model are not evenly distributed. More advanced actors have captured greater opportunities, while smaller producers and less organised groups remain less integrated into high-value markets.

8.6 Conclusion 6 – The programme has generated significant impact, but many higher-level effects remain in consolidation phase

BEVAC has produced clear positive impacts across economic, environmental, social, and institutional dimensions. Increased incomes, improved productivity, strengthened resilience, and enhanced conservation outcomes demonstrate the programme’s contribution to systemic change.

A key cross-cutting finding is the successful alignment of economic incentives with environmental sustainability, positioning beekeeping as a viable alternative to deforestation.

However, many higher-level effects – particularly in terms of market consolidation, institutional strengthening, and long-term income stability – are still maturing. This reflects both the relatively short timeframe and the structural nature of value chain transformation.

8.7 Conclusion 7 – Sustainability prospects are satisfactory but uneven, with key dependencies on public systems and institutional capacity

The sustainability of BEVAC's results is generally positive, particularly in financial, technical, and environmental terms. Increased productivity, viable business models, and strong market linkages provide a solid basis for continued growth.

However, sustainability is uneven across dimensions. Institutional sustainability remains constrained by coordination challenges and the absence of a strong, unified sector voice. In addition, the long-term viability of extension services depends heavily on public financing for recurrent costs, which is not yet fully secured.

Similarly, the sustainability of certain strategic investments (e.g. infrastructure, research facilities, branding systems) will depend on effective governance and utilisation beyond the programme period.

8.8 Conclusion 8 – Inclusiveness has improved but structural barriers continue to limit equitable benefit distribution

The programme has made significant progress in promoting inclusion, particularly for women and youth, by addressing key technical and social barriers. However, structural constraints – such as the cost of modern technologies, unequal access to information and digital tools, and varying levels of organisational capacity – continue to limit full inclusiveness.

This suggests that while the intervention has created opportunities for broader participation, additional targeted measures are required to ensure that the most vulnerable groups can fully benefit from value chain transformation.

8.9 Conclusion 9 – The main added value of BEVAC lies in its catalytic and systemic role rather than isolated outputs

Beyond its direct results, BEVAC's main contribution lies in its ability to catalyse systemic change within the beekeeping sector. By combining policy support, institutional strengthening, private sector engagement, and local capacity development, the programme has created the conditions for sustained transformation.

This systemic impact is reflected in the emergence of a more structured, coordinated, and market-oriented value chain. However, the durability of this transformation will depend on continued consolidation efforts and on the ability of national actors to sustain and scale the dynamics initiated by the programme.

9 Recommendations

The following recommendations are derived from the conclusions and are grounded in the evidence generated throughout the evaluation. They reflect Enabel's principles by combining evidence-based analysis, actionable guidance, and context-specific proposals, while integrating cross-cutting dimensions such as governance, market systems, inclusiveness, and environmental sustainability. The recommendations aim both to consolidate BEVAC's achievements and address remaining structural constraints, with a clear orientation towards scalability, sustainability, and alignment with SDGs. Each recommendation is formulated to support adaptive management and continuous learning.

9.1 Recommendation 1: Refine targeting and adapt tools (incl. digital) to local capacities and contexts to enhance relevance and inclusiveness

Recommendation 1	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R1: Refine targeting and adapt tools (incl. digital) to local capacities and contexts to enhance relevance and inclusiveness	1 & 8	Enabel, MNRT, Implementing partners	1 & 2	Medium-term	Strategic

While BEVAC remained highly relevant, the evaluation highlighted uneven adaptation to local capacities, particularly regarding digital tools and technology uptake. Future interventions should adopt more differentiated targeting strategies, taking into account regional disparities, livelihood systems, and levels of digital literacy.

This implies conducting context-specific diagnostics at sub-regional level, adapting intervention packages accordingly, and designing tiered support models (basic vs advanced users). Digital solutions should be complemented with low-tech alternatives (SMS, radio, extension support) to ensure accessibility. Greater attention should also be paid to socio-economic segmentation to avoid excluding the most vulnerable.

9.2 Recommendation 2: Consolidate the holistic value chain approach by strengthening coordination mechanisms among public, private and development actors

Recommendation 2	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R2: Consolidate the holistic value chain approach by strengthening coordination mechanisms among public, private and development actors	2 & 7	MNRT, Enabel, Sector organisations	2	Medium-term	Strategic

The value chain approach is a key success factor but requires sustained coordination. Strengthening multi-stakeholder platforms and technical committees will improve alignment, reduce duplication, and enhance collective action.

This includes formalising coordination frameworks, clarifying roles among institutions (e.g. research bodies, regulatory agencies), and supporting joint planning and data sharing mechanisms. Strengthening sector dialogue can also help address emerging tensions (e.g. land use, institutional mandates) and reinforce a shared vision for sector development.

9.3 Recommendation 3: Ensure realistic design and scaling by aligning geographical scope, resources and timelines in future interventions

Recommendation 3	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R3: Ensure realistic design and scaling by aligning geographical scope, resources and timelines in future interventions	3	Enabel HQ, Enabel country office, EU	3	Long-term	Strategic

Initial efficiency challenges were largely due to overly ambitious scope and timelines. Future programmes should adopt a phased and prioritised approach, focusing on high-potential clusters before scaling up.

This requires aligning financial, human and logistical resources with intervention scope, and integrating flexibility mechanisms (adaptive planning, contingency budgeting). Feasibility assessments should explicitly consider transaction costs and operational complexity to avoid overstretching implementation capacity.

9.4 Recommendation 4: Deepen market integration by strengthening aggregation, quality control and access to finance for smaller actors

Recommendation 4	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R4: Deepen market integration by strengthening aggregation, quality control and access to finance for smaller actors	4 & 5	Enabel, Financial institutions, beekeeping groups/ cooperatives	1 & 2	Medium-term	Operational

While market access improved, integration remains uneven. Future support should focus on strengthening cooperatives and aggregation systems, improving access to working capital, and reinforcing quality assurance mechanisms.

Concrete actions include expanding partnerships with financial institutions, developing tailored financial products, and supporting collective marketing models. Strengthening traceability and certification systems will also help smaller actors access higher-value markets.

9.5 Recommendation 5: Sustain and scale private sector engagement through structured public–private partnerships and investment facilitation

Recommendation 5	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R5: Sustain and scale private sector engagement through structured public–private partnerships and investment facilitation	5 & 9	Enabel, MNRT, Private sector	2	Medium-term	Strategic

Private sector engagement has been a major success and should be further institutionalised. This requires developing structured PPP frameworks, investment pipelines, and business matchmaking platforms.

Efforts should focus on consolidating “market pull” dynamics, supporting lead firms while ensuring inclusive integration of smaller producers. Facilitating long-term contracts, investment incentives, and joint ventures will strengthen sector sustainability and competitiveness.

9.6 Recommendation 6: Consolidate impacts through targeted support to ensure full operationalisation of infrastructure and services

Recommendation 6	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R6: Consolidate impacts through targeted support to ensure full operationalisation of infrastructure and services	6 & 7	Enabel, Local authorities, Cooperatives	1	Short-term	Operational

Some infrastructure and systems risk underutilisation. A consolidation phase is needed to ensure effective use, maintenance, and integration into value chains.

This includes developing business plans for infrastructure, clarifying management responsibilities, and providing targeted capacity building. Monitoring utilisation rates and linking infrastructure to market demand will be essential to maximise returns on investment.

9.7 Recommendation 7: Strengthen institutional sustainability by securing long-term financing and governance of extension services

Recommendation 7	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R7: Strengthen institutional sustainability by securing long-term financing and governance of extension services	7	MNRT, Ministry of Finance, Enabel	2 & 4	Long-term	Strategic

The sustainability of extension systems remains uncertain due to reliance on programme support. It is essential to develop sustainable financing mechanisms, including integration into government budgets and cost-sharing models.

Exploring hybrid models (public–private extension, service fees, B2B coaching) could reduce dependency. Strengthening institutional capacity and clarifying mandates will also be key to ensuring continuity.

9.8 Recommendation 8: Enhance inclusiveness by reducing barriers to technology, finance and information for the most vulnerable groups.

Recommendation 8	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R8: Enhance inclusiveness by reducing barriers to technology, finance and information for the most vulnerable groups.	8	Enabel, NGOs, Financial institutions, EU	1 & 2	Medium-term	Operational

Despite progress, structural barriers persist. Targeted measures are needed to improve access to affordable technologies (e.g. subsidised or revolving schemes), financial services, and adapted training.

Interventions should prioritise inclusive delivery models, including group-based approaches and tailored support packages, schemes or pathways to credit integrating the needs of vulnerable groups or women. Addressing the digital divide through accessible communication channels remains critical.

9.9 Recommendation 9: Strengthen sector governance by supporting a unified and representative beekeeping platform

Recommendation 9	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R9: Strengthen sector governance by supporting a	7 & 9	Sector organisations, Enabel, MNRT	2	Medium-term	Strategic

unified and representative beekeeping platform					

The absence of a strong sector voice limits advocacy and coordination. Support should be provided to strengthen and unify existing organisations (e.g. TABEDO; HEAT and Api-Support) into a credible platform representing all actors.

This includes capacity building, governance strengthening, and facilitation of dialogue with government and private sector. A unified platform will enhance policy influence and sector cohesion.

9.10 Recommendation 10: Institutionalise learning and adaptive management through strengthened M&E systems and knowledge-sharing platforms

Recommendation 10	Related conclusion(s)	Targeted actor(s)	Level	Priority	Type
R10: Institutionalise learning and adaptive management through strengthened M&E systems and knowledge-sharing platforms	3 & 9	Enabel, MNRT, Partners	2 & 3	Medium-term	Strategic

The improved M&E system should be consolidated and scaled as a sector-wide learning tool. This includes integrating data systems into government platforms, promoting data use for decision-making, and sharing lessons across programmes.

Supporting action research, peer learning, and digital knowledge platforms will reinforce Enabel's learning approach and ensure continuous improvement.

Besides, following the MTR, the M&E system improved its focus on outcome-level indicators, enabling better tracking of income changes, adoption of Good Beekeeping Practices, and value chain participation. This strengthened results measurement and management.

However, a gap remains in terms of comprehensive livelihood analysis, as current insights rely mainly on monitoring data and qualitative sources. Future interventions should include targeted livelihood studies to better understand diversification, seasonality, and resilience dynamics, thereby improving evidence-based decision-making and programme targeting.

10 Lessons learned

The following lessons learned are derived from the BEVAC experience and focus on practices with high potential for replication across Enabel programmes and similar value chain interventions. They synthesise key success factors, limitations, and transferable insights, providing practical guidance for future programming in value chain development, rural livelihoods, and climate-resilient economic sectors.

10.1 Lesson 1 – A holistic, market-led value chain approach is critical to transform subsistence sectors

BEVAC demonstrated that combining production support with market development, policy reform, and private sector engagement creates stronger and more sustainable outcomes than isolated interventions. The approach addressed multiple bottlenecks simultaneously, ensuring that productivity gains translated into income and market access.

Lesson learned: Value chain interventions should be designed as integrated systems, with strong emphasis on market demand ("market pull") to avoid supply-driven inefficiencies and ensure sustainable outcomes.

10.2 Lesson 2 – Private sector engagement is a key driver of sustainability and scaling

The programme showed that structured collaboration with private actors can mobilise investment, improve quality standards, and secure market access. Partnerships with lead firms created incentives for producers to adopt better practices and facilitated integration into international markets.

Lesson learned: Early and structured engagement with the private sector is essential to anchor interventions in viable market systems, but must be accompanied by measures to ensure inclusiveness for smaller actors.

10.3 Lesson 3 – Adaptive management is essential in complex value chain programmes

Initial design limitations – particularly regarding timelines, scope, and M&E – highlighted the difficulty of accurately planning complex interventions. The MTR and subsequent adjustments were critical in improving performance.

Lesson learned: Programmes should incorporate flexibility and iterative learning mechanisms from the outset, including realistic timelines, phased implementation, and strong M&E systems to enable timely course correction.

10.4 Lesson 4 – Decentralised extension systems improve outreach but require sustainable financing models

The use of District Beekeeping Officers and Lead Beekeepers enabled wide dissemination of knowledge and improved adoption of practices. However, the system relied heavily on programme support for operational costs.

Lesson learned: Strengthening local extension systems is effective, but sustainability depends on long-term financing strategies and hybrid service models combining public and private roles.

10.5 Lesson 5 – Localised input supply chains enhance accessibility and economic inclusion

Training local artisans to produce beekeeping equipment reduced costs, increased availability, and created employment opportunities. This contributed to both adoption of technologies and local economic development.

Lesson learned: Supporting local supply chains and service providers is a highly effective way to improve accessibility, reduce costs, and embed economic benefits within communities.

10.6 Lesson 6 – Aligning environmental conservation with economic incentives increases effectiveness

By linking beekeeping to forest conservation, the programme created incentives for communities to protect natural resources while improving livelihoods. This alignment generated both environmental and economic benefits.

Lesson learned: Interventions are more sustainable when they align economic incentives with environmental objectives, rather than treating conservation as a separate component.

10.7 Lesson 7 – Strong M&E systems are essential but must include deeper livelihood analysis

The programme successfully developed a robust digital M&E system, particularly after its revision. However, limited in-depth analysis of livelihood systems constrained a full understanding of long-term impacts.

Lesson learned: M&E systems should combine quantitative monitoring with in-depth livelihood and socio-economic analysis to better capture complex changes and inform strategic decisions.

10.8 Lesson 8 – Institutional anchoring enhances ownership but requires strong coordination mechanisms

Embedding the programme within government structures ensured ownership and policy alignment. However, coordination challenges and fragmented sector representation limited collective action.

Lesson learned: Institutional anchoring should be complemented by strong coordination platforms and representative sector organisations to maximise coherence and long-term sustainability.