



End of Project CAPEX

*Conserving Forests through sustainable
forest-based Enterprise Support in Tanzania
(CoForEST)*

Final report



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Disclaimer

The views expressed in this report are those of independent consultants and do not necessarily reflect those of either Swiss Embassy/SDC or its implementing partners.

Table of contents

- Acknowledgement..... 2
- Executive summary 4
- Acronyms and abbreviations..... 9
- 1. Introduction..... 11
 - 1.1 Project background 11
 - 1.2 Evaluation team..... 13
 - 1.3 Evaluation objectives..... 14
 - 1.4 Main limitations of the end of project Capitalisation of Experience (CAPEX)..... 14
- 2. Approach and methodology for end of project CAPEX 14
- 3. Main evaluation findings 18
 - 3.1 End of project phase 3 evaluation (2019-2023) 18
 - 3.1.1 Relevance 18
 - 3.1.2 Coherence 20
 - 3.1.3 Effectiveness..... 21
 - 3.1.4 Efficiency 22
 - 3.1.5 Sustainability 23
 - 3.2 End of project review (2012-2023)..... 24
 - 3.2.1 Performances of project districts 26
 - 3.2.2 Performances of project villages 27
 - 3.2.3 Political Economy Analysis 31
 - 3.2.4 Transversal themes 34
 - 3.2.4.1 Gender 34
 - 3.2.4.2 Climate change 35
 - 3.2.5 Performances of the implementing partners TFCG & MJUMITA 35
- 4. Conclusions..... 36
- 5. Key findings and recommendations 36
- 6. References 39
- Annexe A: Evaluation matrix for end of project phase 3 (2019-2023)..... 42
- Annexe B: Evaluation matrix for end of project review (2012-2023) 45
- Annexe C: Rating system 49
- Annexe D: Key guiding questions 50
- Annexe E: Work plan field mission 51
- Annexe F: People met at national, regional and district level..... 53

Executive summary

Introduction

The project Conserving Forests through sustainable forest-based Enterprise Support in Tanzania (CoForEST, previously called “Transforming Tanzania’s Charcoal Sector” project) ran from March 2012 to November 2023 comprising three project phases. The project was mainly implemented by Tanzania Forest Conservation Group (TFCG) in collaboration with *Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania* (MJUMITA).

The overall goal for the phase 3 of the project was: **Sustainable and equitable pro-community natural forest management that transforms the economics and governance of forest product value chains and contributes to climate change mitigation and adaptation.**

The project supported a total of 34 villages through its three phases in the following manner: In the 1st phase, 8 villages were supported in Kilosa District. 22 Villages from Kilosa, Mvomero and Morogoro Rural Districts (all in Morogoro Region) were added in the 2nd phase, while phase one villages continued to receive technical support. In the 3rd phase, four villages were added from Kilolo (Iringa Region), Ruangwa, Nachingwea and Liwale districts (all in Lindi Region), while phase 2 villages received additional technical support and complete phasing out of phase 1 villages was mandatory.

Miombo woodland is the dominating vegetation type in south-eastern Africa and also in Tanzania. The extensive area of miombo woodlands plays an important role as net sink of CO₂ hence regulates and stabilises global climate system by reducing the concentration of atmospheric CO₂ through carbon sequestration.

Forest products from the miombo woodlands are essential for the livelihoods of millions of people living inside and outside the miombo woodlands. Sustainable community-based forest management will improve the livelihoods and resilience of the locals through the development of income generating activities such as sustainable charcoal making, timber harvesting or use of Non-Wood Forest Products (NWFPs) thereby inciting the local population for the conservation of the forest ecosystems.

The evaluation report includes the end of project evaluation of phase 3 (2019 – 2023) and the end of project review of the entire project duration (2012 – 2023).

Methodology

A mixed evaluation method was applied including document review (secondary data) interviews with key stakeholders, focus group discussions (FGC) and direct on-site observations (primary data) focussing on evidence-based information (using triangulation method) that is credible, reliable and useful.

The standard evaluation criteria relevance, coherence, effectiveness, efficiency, impact, and sustainability from the Organisation for the Economic Cooperation and Development (OECD) / Development Assistance Committee (DAC) were assessed. An evaluation matrix was elaborated for all evaluation criteria and specific questions outlined in the Terms of Reference (ToR). It presents, for each question, its indicator, source of data, and methodology applied for both the end of project phase 3 evaluation (2019 – 2023) and the end of project review (2012 – 2023).

A performance assessment of the supported districts and villages was established to understand the underlying causes of the acceptability of the project’s CBFM model in a given district / village considering the specific context. 19 villages out of 34 project villages were selected for the performance assessment at village level. In addition, the team surveyed 3

villages of similar context but that did not take part in the project to assess direct causal effects of the project.

Main findings

End of project phase 3 evaluation (2019-2023)

Relevance: More than 95% of charcoal making is unsustainable and mostly illegal coming mainly from village forests having no management plans. However, if charcoal making is in line with the forest management plans and the village by-laws then charcoal as renewable energy source can be produced sustainably. The core element of the model is its ecological sustainability based on the miombo woodlands' high resilience to disturbances (compared to most other forests) and high natural regeneration capacity through resprouting shoots from stumps, root-suckers and germination of seeds.

The project is relevant to both national and international level when it comes to climate change mitigation and adaptation. The sustainable use of a renewable energy source and the lowering of the deforestation rates are important component to combat climate change.

Score: 5 (out of 6).

Coherence: The CBFM approach of the CoForEST project is line with the National Forest Policy (1998), the Forest Act No 14 of 2002 and its regulations and its related decentralisation process in Tanzania starting in the late 1990s. The project supported the elaboration of several recently launched national policies and strategies of the forest sector. However, several contradicting policies and legislations persist. Moreover, conflicting roles and responsibilities still exists when it comes to a clear demarcation of tasks between the two key actors from the government Forestry and Beekeeping Division (FBD) and Tanzania Forest Services Agency (TFS). **Score: 4 (out of 6).**

Effectiveness: Regarding outcome 1, the capacity of locals in sustainable management of gazzeted forest was strengthened. The project was able to scale up CBFM model to 4 districts of Nachingwea, Liwale, Ruangwa and Kilolo. However, the analysis revealed that it was too early to scale up CBFM as time was still needed to consolidate the activities in the original project area. It was noted that some of the villages specifically in Kilosa were not actively carrying on with CBFM activities due to lack of close monitoring and supervision from TFCG and district officials. Concerning outcome 2, the major setback was the failure to implement the CBFM action plan and the national charcoal strategy and action plan; these are key outputs to enhance the established CBFM in the project area and beyond. With regard to outcome 3, the major setback is the lack of a common understanding amongst researchers, forest practitioners and donor community about the ecological sustainability of the model and the new innovation i.e., the inclusion of forest enterprises for income generation.

The evaluation team noted that qualitative indicators, which are usually not easy to define but often allow a more comprehensive assessment, are missing. **Score: 4 (out of 6).**

Efficiency: The Net Present Value (NPV) is negative indicating that the efforts extended from the business perspective exceeded the benefit realised, suggesting that, the project is not cost-effective, what is very common for most of environmental projects. However, when intangible benefits i.e., ecosystem services were included as benefits generated by the project, then the equation became positive implying it was worthy the efforts.

The capacity of the Local Government Authorities (LGAs) and the President's Office–Regional Administration and Local Government (PO-RALG) to fully support the model financially is still limited because there are many competing priorities. On the other hand, it is encouraging to see there is a political will at district level, since at least five project districts has started to allocate budget specifically for CBFM support and scaling-up.

Institutionalization of the model would be possible if there would be review on FBD and TFS structure through MNRT. **Score: 4 (out of 6).**

Sustainability: For the **economic sustainability**, the production of both traded and non-traded goods by the project, within the period of 12 years of project life cannot offset the total cost i.e., fixed and variable costs. Time is needed for benefits to be realised and therefore the continuity of external support especially when the governance system is changing and not supportive.

At national **institutional** level, MNRT and PO-RALG have not fully taken over the project activities as agreed upon when designing phase 3. At local level, the CBFM model is well understood and anchored in the village structures.

At **ecological** level, all Village Land Forest Reserves (VLFR) are gazetted with set property rights. Forest management units harvested for producing charcoal remain forest due to their high natural regeneration capacity thereby combatting deforestation and contributing to climate change mitigation and adaptation.

Score: 3 (out of 6).

End of project review (2012-2023)

In general the project has succeeded in establishing and implementing a CBFM model whereby all villages have VLFRs which are gazetted with management plans, by-laws, harvesting plans, and with income generating activities (not in Madizini, Tununguo, Mfuluni, Sewekipera). However, persistent resistance of part of key decision makers at governmental level and of academia hindered successful implementation. This is best illustrated by the ban of charcoal production leading to the interruption of all project activities between November 2014 and February 2015 and by the release of GN 417 of 2019.

As a direct consequence of GN 417, the village revenues dropped dramatically until now and questioned serious the economic viability of the CBFM model. The policy advocacy at project and donor level was not effective enough to amend its key component (royalties of TSZ 250 per kg of charcoal).

From an economic perspective, the locals pay all the costs despite of the fact that the benefits realised are also enjoyed by other people far from these communities who are not paying for the conservation through intangible benefits (environmental services), the locals would be tempted to clear the forest for crop farming which is an immediate option that guarantees more direct benefits.

Nine out of 34 project villages had annual gross deforestation rates (2022-2023) of above the set target threshold of 0.7% (Morgan-Brown 2023). The villages with by far the highest annual gross deforestation are Zombo (6.41%), Kigunga (3.31%), and Mvumi (2.71%). On the other hand, the phase 3 villages have somewhat surprising the lowest gross deforestation rate in average.

With the third phase the project intervention areas was expanded to Iringa and Lindi regions since SDC wanted to scale up the CBFM model with four new villages. However, this expansion of the project area to the south was very ambitious since only three remaining years (four years including no-cost extension) were very short for introducing, consolidating and phasing out for a project which is promoting a new approach. The mandatory phasing out of phase 1 villages at the end of the second phase was premature and too optimistic since consistent capacity building, monitoring and financing (royalties and budget allocation from PO-RALG) were only hypothetical.

All district officials recommend the project to be scaled up and are in support of strengthening the CBFM model which includes sustainable charcoal production since it has proven to increase social welfare in terms of incomes which incentivise the locals to participate in managing and protecting the gazzeted forests. Capacity building through multiple training provided by TFCG/MJUMITA was systematically mentioned as strength of the project. The planed financing of the project by PO-RALG, one of the pillars in the financing mechanism is a great challenge since the amount allocated is not enough to carry on the CBFM support as it was under the project, thereby jeopardizing the sustainability and the scaling up of the project.

The evaluation revealed considerable variations in the level of performance in the surveyed 18 project villages. In all surveyed project villages, it was noted that the CoForEST project excelled in developing village land use plans, introducing a CBFM model, and creating harvesting plans and forest management plans based on multiple trainings on various topics. The evaluation highlights that the project has had a positive impact on employment and income generation. The revenue generated by villages has played a crucial role in supporting socio-economic development within the villages. The systematic and promoted involvement of women in the trainings facilitated their direct participation in project activities.

Out of 18 villages, 14 were active in charcoal production, the average annual production from 2015 to 2023, depending on the year of production initiation, is 451 bags of 50 kg. The introduced new tariffs (royalties) have made sustainable charcoal to be outcompeted by illegal charcoal which is indirectly favoured by GN 417. In addition, with GN 417 in place, the sustainable charcoal is perceived by most producers to be less profitable in comparison to crop farming. This has pushed more people into crop farming which puts food on the table and provides a source of income for households.

The production of timber in all surveyed villages appears unpromising, as very few are actively involved. Pastoralists encroaching on forests and village farms pose a serious challenge particularly in Morogoro Region.

In the counterfactual villages, the production of charcoal and timber is conducted illegally. Kisanga Stand village, in particular, exhibited high timber production levels exceeding those from project villages.

In the Political Economy Analysis (PEA), the economic/financial viability of the CoForEST project is argued on different aspects or assumptions. When the intangible environmental benefits or services are not considered the project's NPV is negative when they are accounted for the NPV turns to be positive. Most environmental projects tend to overlook this, which discourages their investments. In order for the CoForEST project to have a positive NPV without the inclusion of environmental benefits, the project needs to exhibit a low time preference; benefits can exceed the costs after a long period of time and not just the 12 years of its implementation. Government policies can also play a crucial role in influencing the viability of the project for instance policies like the introduction of GN 417, added the costs to the producers and buyers thus lowering the project benefits; the central bank interest rate could also impact the project viability. Increase in production costs could push the project profits to the margin. Fair government policies could balance the situation and create a win- win situation to all project stakeholders.

The evaluation team believes that the CoForEST VLFRs have a high potential for the REDD+ carbon market, not only for the protected part of the village forest, but also for the section reserved for sustainable charcoal based on a management plan with clear rules and by-laws. The selling of carbon credits would contribute a) to further enhance the management of the gazzeted village forests by the local communities by strengthening training, monitoring, patrolling, and the realisation of social community projects and b) support the scaling-up.

The partners have demonstrated high skills in delivering technical support to the project; their skills have empowered. The project team produced scientific articles that are of high quality standards including research papers, policy notes, technical reports and factsheets.

Conclusions

The elaboration and refining of a CBFM model combining forest conservation with income opportunities for local communities is the outstanding achievement of the CoForEST project. However, the project with the support from the Swiss Embassy/SDC and other donors from the forest sector were not successful in influencing a favourable governance framework throughout the entire project duration.

The key findings and their associated recommendations are presented in chapter 5. Key findings and recommendations.

Acronyms and abbreviations

AVA	Adding Value to the Arc
CAPEX	Capitalisation of Experience
CBFM	Community-Based Forest Management
CBA	Cost-Benefit Analysis
CDE	Centre of Development and Environment
CEA	Cost-Effectiveness Analysis
CoForEST	Conserving Forests through sustainable forest-based Enterprise Support in Tanzania
CSPM	Conflict-Sensitive Programme Management
DAC	Development Assistance Committee
DBH	Diameter at Breast Height
DED	District Executive Director
DFO	District Forest Officer
EFA	Economic and Financial Analysis
EU	European Union
FCDO	Foreign, Commonwealth & Development Office
FBD	Forestry and Beekeeping Division
FGD	Focus Group Discussion
FMP	Forest Management Plan
FMU	Forest Management Unit
FORVAC	Forestry and Value Chains Development (Finland-funded)
GDP	Gross Domestic Product
GEF	Global Environment Facility
GFFFN	Global Forest Financing Facilitation Network
GN	Government Notice
HQ	Headquarters
IBEK	Improved Basic Earth charcoal Kiln
IFAD	International Fund for Agricultural Development
IP	Implementing Partner
JFM	Joint Forest Management
KII	Key informant interview
LGA	Local Government Authority
LPG	Liquefied Petroleum Gas
MJUMITA	<i>Mtandao wa Jamii wa Usimamizi wa Misitu Tanzania</i>
MNRT	Ministry of Natural Resources and Tourism
NAFORMA	National Forest Resources Monitoring and Assessment
NCMC	National Carbon Monitoring Centre
NORAD	Norwegian Agency for Development Cooperation
NPV	Net Present Value
NWFP	Non-Wood Forest Product
OECD	Organisation for Economic Cooperation and Development
PFM	Participatory Forest Management
PEA	Political Economy Analysis
PO-RALG	President's Office – Regional Administration and Local Government
REDD+ ¹	Reducing Emissions from Deforestation and forest Degradation
SECO	State Secretariat for Economic Affairs
SDC	Swiss Agency for Development and Cooperation
SCO	Swiss Cooperation Office
SEIA	Social and Environmental Impact Assessment

¹ The '+' stands for additional forest-related activities that protect the climate, namely sustainable management of forests and the conservation and enhancement of forest carbon stocks (UNFCCC).

SUA	Sokoine University of Agriculture
TAFORI	Tanzania Forestry Research Institute
TaTEDO	Tanzania Traditional Energy Development Organization
TFCG	Tanzania Forest Conservation Group
TFS	Tanzania Forest Services Agency
TNBS	Tanzania National Bureau of Statistics
TNRF	Tanzania Natural Resource Forum
ToR	Terms of Reference
TTCS	Transforming Tanzania's Charcoal Sector
TTGAU	Tanzania Tree Growers Associations Union
UNFCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
URT	United Republic of Tanzania
VEO	Village Executive Officer
VICOBA	Village Community Bank
VLFR	Village Land Forest Reserve
VLUC	Village Land Use Committee
VLUP	Village land use plans
VPO	Vice President's Office
WEO	Ward Executive Officer
WWF	World Wide Fund for Nature

1. Introduction

1.1 Project background

The project Conserving Forests through sustainable forest-based Enterprise Support in Tanzania (CoForEST, previously called “Transforming Tanzania’s Charcoal Sector” project) ran from March 2012 to November 2023 following a one-year entry phase (January to December 2011) for further developing and scaling-up the Dar es Salaam Charcoal Project that was piloted by WWF and CamCo Ltd. The project included three phases:

Phase 1 ran from March 2012 to November 2015, this was a trial phase with applied research on different technical topics with a total expenditure of CHF 2,382,146.

Phase 2 started in December 2015 and ended in November 2019 focussing on a more market-orientated approach considering the principles of market system development approach with a total expenditure of CHF 6,214,661.

Phase 3 started in December 2019 and lasted until end of November 2023 (including the no-cost extension) was concentrating on the scaling-up of the results and the phasing out with a total budget of CHF 3,199,256.

The **overall goal for the phase 3** of the project was on: *Sustainable and equitable pro-community natural forest management that transforms the economics and governance of forest product value chains and contributes to climate change mitigation and adaptation* with the following outcomes:

Outcomes	Description
Outcome 1: Support for scaling-up the Community-Based Forest Management (CBFM) model	The capacity of national, regional and local authorities and community members is strengthened to implement and scale-up CBFM in ways that diversify livelihoods and reduce deforestation.
Outcome 2: Policy dialogue and financing mechanisms	A supportive policy framework and financing mechanism for community-based forest management and sustainable natural forest-based enterprises are in place.
Outcome 3: Research / Learning	Research and learning institutions in Tanzania are generating new knowledge about enterprise-oriented CBFM and are integrating this in student learning.

The project directions did not change much over the 12 years. Nevertheless, while in phase 1, the project focussed only on sustainable use of charcoal, other forest products such as timber and honey were included from phase 2 onwards.

The project supported a total of 34 villages (see Table 1) through its three phases in the following manner: In the 1st phase, 8 villages were supported in Kilosa District. 22 Villages from Kilosa, Mvomero and Morogoro Rural Districts (all in Morogoro Region) were added in the 2nd phase, while phase one villages continued to receive technical support. In the 3rd phase, four villages were added from Kilolo (Iringa Region), Ruangwa, Nachingwea and Liwale districts (all in Lindi Region), while phase 2 villages received additional technical support and complete phasing out of phase 1 villages was mandatory.

The implementation of the project was directly awarded to Tanzania Forest Conservation Group (TFCG) in collaboration with *Mtandao wa Jamii wa Usimamizi wa Mimitu Tanzania* (MJUMITA) and the Tanzania Traditional Energy Development Organization (TaTEDO), working closely with the local communities, local authorities, regional and national authorities.

Miombo woodland is the dominating vegetation type of unimodal rainfall areas in southeastern Africa (Smith & Allen 2004) and is also by far the most extensive vegetation

type (73.9%) in Tanzania (NAFORMA 2015; Shirima et al. 2014) what represent about 40% of Tanzania mainland (Sangeda & Maleko 2018). The extensive area of miombo woodlands plays an important role as net sink of CO₂ hence regulates and stabilises global climate system by reducing the concentration of atmospheric CO₂ through carbon sequestration (Njana et al. 2021).

Forest products from the miombo woodlands are essential for the livelihoods of millions of people living inside and outside the miombo woodlands (Campbell 1996, Malaisse 1997, Ngaga et al. 2013). Sustainable community-based forest management will improve the livelihoods and resilience of the locals through the development of income generating activities such as sustainable charcoal making, timber harvesting or use of Non-Wood Forest Products (NWFPs) such as beekeeping or wild edible mushrooms thereby inciting the local population for the conservation of the forest ecosystems. Improving livelihoods of CBFM communities can be achieved in a number of ways including a) consistent formalisation of the forest sector specifically at local community level, b) development of added value chains for forest products, and the emergence of trained forest-based enterprises.

Miombo woodlands are dominated by the genera *Brachystegia* and *Julbernardia* with *Brachystegia spiciformis* and *Julbernardia globiflora* as the most common tree species (Frost 1996, Campbell 1996). Usually a floristically rich “wetter miombo” of the higher rainfall areas (>1000 mm per annum) is distinguished from floristically more poor “drier miombo” (<1000 mm per annum) based on differences in climate conditions. The miombo type within the project area is mostly dry with some sites in Lindi Region being even transitional to drier savanna vegetation (with more *Acacia* spp., *Combretum* spp., and baobab trees). Miombo woodlands are frequently burnt and characterised by a distinct and often continuous grass layer and open to closed tree canopy.

Forest management in Tanzania has taken significant policy, legal and institutional steps in support of Participatory Forest Management (PFM, MNRT 2022a). PFM is implemented using two approaches namely Joint Forest management (JFM) and (CBFM). The Forest Policy (1998) and the Forest Act (No. 14, 2002) provides enabling environment for all forest resources to be either jointly managed by the government and local communities (JFM) or semi-autonomously² managed and owned as common property by Village Councils (CBFM).

The Forest Act (2002) lays the foundation for CBFM. It grants communities the right to manage forests on village land as ‘village land forest reserves’ (VLFs) to use and harvest forest products sustainably and jointly with all other members of the village, in accordance with the terms of any village land forest management plan, by-laws, rules, agreements or customary practices (Meshack et al. 2022). Village Land is land that is under the authority of Village Government whereby the Village Council executes the plans on behalf of the General Assembly who has the final decision in all matters concerning Village Land, as defined in the Village Land Act (1999).

The total forest of Tanzania mainland covers 48.1 million ha in 2015 (NAFORMA 2015) or 54,4% of the total area.³ More than half of the Tanzanian forests are on village land (mostly miombo woodlands⁴). Well-functioning and sustainable community-based forest management (CBFM) is therefore of utmost importance for the forest sector. Out of that 2,235,181 ha are managed under CBFM involving 1553 villages (MNRT 2022a). More than 90% of the CBFM is in miombo ecosystems.

² Under the monitoring and supervision of DFOs/Local Governments

³ Tanzania’s Forest Reference Emissions level (URT 2017) indicates a total forest cover of only 32,001,000 ha for Tanzania mainland due to different definitions of forests.

⁴ Strictly speaking ecologically, miombo woodland is not a forest but a woodland due to the continuous grass layer.

While many villages are participating in CBFM across the country, relatively few have formalized their forest management in line with the provisions of the Forest Act (2002) which stipulates that villagers must have approved management plans, forest management by-laws and harvesting plan for production forests within their jurisdiction before actual approval and formalization of CBFM (MNRT 2022a). All project villages have gazetted VLFR.

About 85% of the households in Tanzania are using woodfuel⁵ to meet their energy uses (URT 2015). Biomass is a renewable energy source and is cheaper than Liquefied Petroleum Gas (LPG) which is a fossil fuel. Charcoal comes primarily from miombo woodlands. Charcoal is the largest source of household energy in urban areas for cooking and heating in Tanzania as it is considered affordable, available, easy to transport, distribute and store (URT 2014).

According to 2012 estimates, charcoal generates at least USD 1 billion per annum in revenues, supporting the livelihoods of hundreds of thousands of suppliers, transporters and traders with an estimated contribution of charcoal to forest sector Gross Domestic Product (GDP) of 44.2% (MNRT 2021). In 2009, the central and local governments were estimated to lose about USD 100 million per year due to ineffective enforcement of revenue collection and taxation regulations in the charcoal sub-sector (World Bank 2009).

The average annual deforestation rate in Tanzania, including protected areas, was 0.96% for the period 2002 to 2013 for the entire country (URT 2017) or about 470,000 ha according to MNRT (2021).

The project strongly believes in Community-Based Forest Management (CBFM) based on a market-based conservation model where rural communities are empowered to benefit directly from the sustainable use of their forest resources (with a focus on charcoal) through well-governed community institutions and profitable forest-based enterprises by advocating for more supportive policies and by building government capacity to oversee a more formalised and well-governed sector.

By mid-2019, 1,400,000 people were employed in sustainable charcoal production in these villages. Community revenues from charcoal fees plus producer incomes reached TZS 1 billion. Communities used the fees to invest in forest management and local development projects including education, health and infrastructure (Meshack et al. 2022).

1.2 Evaluation team

The evaluation team from Adansonia-Consulting comprises the following experts:

Dr. Urs Bloesch, team leader (TL): A forester by training, Urs is a development professional working in the field of humanitarian aid, development and conservation for 30 years. He is very familiar with the East African political, socio-economic and environmental context and its challenges related to sustainable use of natural resources by the rural communities. He believes in a strong participatory approach as key requirement for a sustainable use of natural resources to build up community resilience.

Prof. Dr. Felister Mombo, associate expert (AE): a Tanzanian national, did her PhD at Gent University in Belgium in natural resources and environmental economics. She has worked extensively in the field of forest economics in the country.

Research assistants (6): The team is composed of Daudi Bigirwa (leader), Irene Panagyo, Fatma Elharthy, Salma Chitete, Rose Cyril and Raphael Philip, all of them have BSc/MSc degrees related to natural resource management and environmental economics, and have worked in research and consultancy activities related to forest resources management. They

⁵ "Woodfuel" refers to both firewood and charcoal

are well trained and have developed an extensive experience in data collection together with the AE.

1.3 Evaluation objectives

The field mission of the team leader was conducted from 25 October to 9 November, while the national consultant and the research assistants already started on 18 October 2023 (see Annexe E).

The CAPEX assignment is two-fold with two key deliverables:

A) Evaluation report including the end of project evaluation of phase 3 (2019 – 2023) and the end of project review of the entire project duration (2012 – 2023). Please note that the detailed economic and financial analysis and the data from the village performance assessment are presented in a specific annexe report (with numbered annexes) and in two digital files, respectively.

B) CAPEX report including lessons learnt and best practices from the project implementation illustrated in communication products (in a separate report).

The **evaluation objectives** are:

- a) to assess the overall performance of the project from phase I to phase III
- b) to identify sustainable impacts of the entire project
- c) to specifically inform on the achievements of the 3rd phase objectives
- d) to assess performances of participating districts and villages and their capacities to sustain and scale up the established model
- e) to assess the performance of the implementing partners (TFCG & MJUMITA)
- f) to provide an update on the political economy analysis
- g) to present a collection of lessons learnt and best practices

1.4 Main limitations of the end of project Capitalisation of Experience (CAPEX)

The following constraints to the final evaluation are to be considered:

- 1) The scope of the evaluation according to the ToR is very broad including the end of project evaluation of phase 3 (2019-2023), the end of project review of the entire project duration (2012-2023) and the CAPEX exercise considering the man-days allocated for this assignment.
- 2) The logistic challenges of the field survey, especially the ambitious goal to visit 22 villages, were enormous. In addition, the long distance travelling by car, in particular to Lindi Region, was very time consuming. The unusual heavy rainfall for this season further delayed the access to the sites.
- 3) Internet connection was often not good enough and stable for the virtual meetings with stakeholders and some participants had technical problems to assist.

2. Approach and methodology for end of project CAPEX

The proposed evaluation methodology is based on the ToR for this assignment. A mixed evaluation method was applied including document review (secondary data) interviews with key stakeholders, focus group discussions (FGCs) and direct on-site observations (primary data). The desk review included CoForEST/TTCS project reports and other relevant documents such as CBFM guidelines, policies, strategies and research papers (see

References). We focussed on evidence-based information (using triangulation method) that is credible, reliable and useful.

All people consulted at national, regional and district level are listed in Annexe F. Questions for FGCs discussions and key informant interviews (KII) at village level (in two separate digital files) and for all other stakeholder interviews (Annexe D) were elaborated beforehand. As much as possible we tried to meet stakeholders physically since the discussions are more vivid and sensitive topics are easier to debate. Only stakeholders who we could not meet during the field mission were interviewed virtually (mostly after the field mission from the home office).

The evaluation approach was strongly collaborative and participatory ensuring close engagement with the Swiss Embassy/SDC, the project team, and the government counterparts at national and local level. Particular attention was paid to ensure active involvement of the beneficiaries from the rural communities in the village performance assessment considering gender and vulnerable groups to get their perception of project performances and challenges related to the implementation of the CBFM model with the respect of the principles of Conflict-Sensitive Programme Management (CSPM). The introduction of the market-based conservation approach and the gazettelement of VLFRs were creating new inter-social relations in the participating villages by transforming previously held community relations over access to natural resources.

Generally, the evaluation assessed to what degree the project design and the defined CBFM model of the underlying theory of change supported the achievements of the set objectives for the targeted beneficiaries. More specifically, the evaluation team analysed the implementation and communication strategy, the political and socio-economic context (institutional set-up, environmental governance and regulations) and possible changes over time, the resource allocation with a detailed economic and financial analysis, and transversal themes (gender, monitoring and evaluation system, and climate change).

The project performance was carried out by evaluating quantitatively and qualitatively the current achievement of each logframe indicator at outcome and output levels against the status identified at baseline using the IFAD rating system (IFAD 2015) with six levels (see Annexe C). The standard evaluation criteria relevance, coherence, effectiveness, efficiency, impact, and sustainability from the Organisation for the Economic Cooperation and Development (OECD) / Development Assistance Committee (DAC) were assessed. An evaluation matrix (see Annexes A and B) was elaborated for all evaluation criteria and specific questions outlined in the Terms of Reference (ToR). It presents, for each question, its indicator, source of data, and methodology applied for both the end of project phase 3 evaluation (2019 – 2023) and the end of project review (2012 – 2023).

The end of project review (2012 – 2023) compared the current status of the project implementation with the initial situation (baseline) at the beginning of the project. The assessment focussed on a concise analysis of the overall effects (impacts, outcomes, outputs) of the TTCS/CoForEST project as well as on costs of results and their sustainability. Particular attention was paid to discern significant unintended negative or positive effects from intended project effects on outcome level and also on impact level (see Annexe B). Moreover, a Political Economy Analysis (PEA) which is an analytical framework that examines the political and social factors influencing policy and decision-making processes was done.

A performance assessment of the supported districts and villages was established to understand the underlying causes of the acceptability of the project's CBFM model in a given district / village considering the specific context. The environmental, socio-economic and political context as well as the length of the project support differ considerably within districts and villages in general which hinders a pure ranking of all participating districts/villages and

even a direct comparison between districts and villages of the same phase should be done with caution.

At **district level**, two physical meetings (during the Monday morning prayer or glory meetings) were held in Morogoro Rural and Kilosa districts with the senior management team under the District Executive Director (DED). Thereby the performance assessment becomes part and parcel of the district official's activities avoiding inconveniences and extra costs of bringing these officials to the workshop at Morogoro. For technical staff from the other five districts a virtual meeting was organised on 17 November 2023 (see district participants / interviewees in Annexe F).

At **village level**, the project villages were grouped according to the moment of their involvement in the project (i.e. phases) thereby considering a) length of the project support, b) evolving CBFM approach, and c) changing political and economic context. Due to time and budgetary constraints, 19 villages out of 34 project villages were selected for the performance assessment at village level based on project reports and oral information provided by the project staff. Thereby we got a balanced and representative selection of villages per phase (see Table 1 below).

Phase I, involved 8 villages in Kilosa district out of which **4 villages** were selected, hence, the assessment covers the period from March 2012 to November 2023.

Phase II encompassed a total of 22 villages, including 12 new villages in Kilosa district and 5 villages each from Mvomero and Morogoro rural districts out of which 12 villages were selected, hence, the assessment covers the period from December 2015 to November 2023.

Phase III featured 4 villages, one village from each district (Kilolo, Liwale, Ruangwa, and Nachingwea). The team selected 3 villages, one from Kilolo, Nachingwea and Ruangwa. The assessment covers the period from December 2022 to November 2023.

In addition, the team surveyed 3 villages of similar context but that did not take part in the project to assess direct causal effects of the project. This allows a comparison between what actually happened and what would have happened in the absence of the project interventions focussing on annual change in deforestation rates and financial income from forest products.

Table 1: Project villages and selected villages for the performance assessment

Project Phase / Counterfactual	Region	District	Village (selected in bold, former EU and FORVAC villages in brackets)
I	Morogoro	Kilosa	Kigunga, Ulaya Kibaoni, Nyali, Ihombwe⁶ Ulaya Mbuyuni, Dodoma Isanga, Msimba, Kisanga,
II	Morogoro	Kilosa	Madizini, Kitunduweta, Unone, Mbamba, Mfuluni, Chabima Gongwe, Mhenda, Mvumi, Kisongwe, Zombo, Rudewagongoni
		Morogoro Rural	Lulongwe, Matuli, Tununguo Diguzi, Mlilingwa
		Mvomero	Maharaka, Kihondo, Sewekipera (Dibuluma), (Magunga), (Masimba), Misengele, (Msololeko), Msongozi, (Ndole)

⁶ The main reason for Ihombwe not to participate in the survey is that their village chairman claimed the information came very late, and the people required to attend the survey including himself were not around.

III	Iringa	Kilolo	Mahenge
	Lindi	Liwale	Nambinda
		Nachingwea	Lionja B, (Mbondo), (Nahimba)
		Ruangwa	Malolo
Counterfactual	Morogoro	Morogoro Rural	Kisanga Stand
		Kilosa	Munisagara
	Lindi	Nachingwea	Lionja A

In Table 1 are also included the 5 villages in Mvomero District from the former European Union (EU) project *Adding Value to the Arc* (AVA) which phased out in 2018 and 2 villages in Nachingwea district which were financed by Forestry and Value Chains Development project (FORVAC) project. TFCG/MJUMITA supported a sustainable charcoal component in these villages.

The national consultant trained the research assistants, involved them in the development of guiding questions for each FGD and the KII (in separate files), and assisted them in the first villages.

FGDs were conducted to four groups at village level (also in three villages outside the project area for the counterfactual evaluation, but only in groups 2, 3, 4):

- (1) Households participating in the project
- (2) Households not participating in the project
- (3) Village Natural Resource Committee Members (VNRC)
- (4) Charcoal producers and timber dealers

The Village Executive Officer (VEO) helped in formation of groups for FGDs, and the desired number for each FGD group was four to six people. When forming household groups of charcoal producers and timber dealers, consideration was given to three criteria: a) gender, with a priority on including females where possible, b) age, encompassing all age categories (youth, middle-aged, and elderly), and c) type of economic activities performed by individuals. In addition, the research assistants were conducting KIIs with village leaders (VEO, village chairman and other resource persons).

The research assistants conducted the survey in pairs: one was responsible for asking questions using the checklist, while the other was taking notes.

To ensure accuracy and for reference purposes, research assistants were utilising voice recorders or cell phones to record conversations during FGD and KII. Prior to recording conversations or taking photographs, research assistants were always seeking permission from respondents for ethical reasons. All respondents were provided with consent form which they signed as an expression of their willingness to participate in the study.

The performance of the implementing partners (TFCG & MJUMITA) was assessed to inform on the strengths and weaknesses as organisation to implement the project, to advocate and to deliver the intended results (see evaluation matrix in Annexe B).

Based on the end of project evaluation including desk review, FGDs and KIIs, and field observations, the evaluation team has compiled best practices and lessons learnt in well-illustrated communications products in a separate CAPEX report. These dissemination products will support future interventions in sustainable CBFM approaches in Tanzania and elsewhere for conserving the forests and contributing to climate change mitigation and adaptation.

3. Main evaluation findings

3.1 End of project phase 3 evaluation (2019-2023)

The presentation of the findings follows the OECD-DAC criteria. It is worth noting that the impact criterion is evaluated only under the end of project review (2012 – 2023) what allows considering all project activities over the whole project duration.

3.1.1 Relevance

Charcoal production usually has a negative connotation as it is widely seen as a major cause of deforestation, as illegal charcoal sites mostly located in miombo woodlands are often converted into farmland. More than 95% of charcoal making is unsustainable and mostly illegal coming mainly from village forests having no management plans. However, if charcoal making is in line with the forest management plans and the village by-laws then charcoal as renewable energy source can be produced sustainably.

In November 2010, SDC endorsed a concept note prepared by the Swiss Cooperation Office (SCO) in Dar es Salaam for a new project aiming at “Transforming Tanzania’s Charcoal Sector”. The project design was based on a one-year Entry Phase (01.01.2011 to 31.12.2011) where various studies and assessments were carried out. Quantis was commissioned to undertake a Life Cycle Assessment in order to assess different sustainability aspects of an improved charcoal value chain compared to the traditional value chain. The Centre of Development and Environment (CDE) conducted a social and environmental impact assessment (SEIA). Moreover, SDC contracted LTS Africa to carry out a feasibility study on the sustainable production and use of lumpwood charcoal and fuel briquettes (LTS 2011) which led to discard fuel briquettes mainly due to technical (low quality of briquette), economic (non-competitive with charcoal) and ecological (impacts upon soil fertility of removing organic matter) reasons.

The TTCS / CoForEST project tested and refined the innovative CBFM model with a focus on charcoal production bringing large tracts of village land under sustainable management. The following key technical principles of the model were defined:

- 1) As a first step, a village land use plan will be elaborated (if it does not exist yet).
- 2) Then the Village Land Forest Reserve (VLFR) will be defined and gazetted (definition of property rights).
- 3) The elaboration of forest management plans with clear and sustainable rules for charcoal making and timber harvesting (annual quotas) according to the ecological limits of their forests; forest management units (FMU) of 50 x 50 m harvested for charcoal remain forest and will not be transformed in agricultural land for cropping thereby stopping deforestation.
- 4) Communities may allocate up to 30% of their VLFRs to sustainable charcoal making, with the remaining 70% set aside for protection, selective timber harvesting, and/or sustainable use of NWFPs.
- 5) Based on a 24-year charcoal harvesting cycle the forest can regenerate and recover in the FMU (no clear cut; old trees, protected trees, and trees with DBH<15 cm not allowed to be cut).
- 6) The introduction and promotion of improved basic earth charcoal kilns (IBEK) aiming to improve quality and increase efficiency⁷.
- 7) By promoting income generation activities based on forest products, the locals perceive the value of the forest thereby inciting them to protect it.

⁷ However, a study from MJUMITA (Morgan-Brown and Samweli 2016) concluded that IBEK kilns are not necessarily more efficient than traditional earth mound kilns, and that kiln management and the expertise of the charcoal maker are probably more important factors in determining efficiency of the kiln type.

The introduction of the sustainable CBFM was accompanied by multiple trainings provided by TFCG/MJUMITA at village level VNRC (governance, monitoring and recording, by-laws...), charcoal producers and timber harvesting groups, saving and loan associations, and others.

The core element of the model is its ecological sustainability based on the miombo woodlands' high resilience to disturbances (compared to most other forests) and high natural regeneration capacity through resprouting shoots from stumps, root-suckers and germination of seeds. In a field study in Kilosa District the robust regeneration of Miombo ecosystems was documented (Sangeda & Maleko 2018). Sustainable harvesting diameter class is between 20 and 30 cm DBH. This is the optimal class where biomass production for charcoal making and regeneration effectiveness can be optimized.

The high regeneration capacity of Miombo woodlands is also demonstrated by abandoned large former *Ujamaa* farmland from the 1960s, e.g. near Lusahunga nowadays covered with typical miombo with long-stemmed *Brachystegia* and *Julbernardia* trees. The use of natural regeneration as an effective tool in the restoration and regeneration of ecosystem was also recognised by the ongoing United Nations Decade on Ecosystem Restoration (2021–2030).

The focus on natural regeneration represented a paradigm shift for forestry in Tanzania (and tropical forestry in general) since tree planting in reforestation was previously considered widely as solely method to regenerate a forest. It takes time to bring about change and to convince traditional foresters of the new approach. Moreover, charcoal has usually a negative connotation since it is directly linked to deforestation since many people do not distinguish between sustainable charcoal and traditional charcoal.

The evaluation team is of the opinion that in addition to beekeeping, which is traditionally rarely practiced in Kilosa area, other NWFP could have been promoted. The Association for the Development of Protected Areas (ADAP) is implementing a promising initiative for the use and the marketing of wild edible mushrooms in the miombo woodlands of Katavi and Tabora regions (Bloesch 2021) leading to higher income and better nutrition of the local communities. Miombo woodlands are well known for their high abundance of edible mushrooms during the rainy season. The promotion of NWFPs has the potential to offer direct income to the households thereby complementing the revenue flow to the villages from charcoal making and timber harvesting which offer indirect benefits (social community projects) to the households. Some villages clearly prefer direct benefits (e.g. Madizini).

The project is relevant to both national and international level when it comes to climate change mitigation and adaptation. The sustainable use of a renewable energy source and the lowering of the deforestation rates are important component to combat climate change.

The ProDoc of the project phase 1 rightly pointed it out that there may be restraints of change from politicians and from the energy sector in the area of governance and the ambiguity of the term CBFM at (national) policy level persist until now. Within the theory of change, the need for a consistent and comprehensive policy advocacy, especially at the decision-making level, and the time needed for change, was probably underestimated by the project and the Swiss Embassy/SDC. A continuous flow of technical information based on evidence to the decision makers is essential to avoid disinformation and misinformation. On the other hand, the CBFM model is well understood and widely supported at local level (see performances of project villages).

The project design omitted a major component of charcoal consumers by not engaging the ministry of energy as project participants. TFS were also not considered as key actors although were included in many project activities. Besides, before the introduction of the new

model, the academics could have been part and parcel in testing and confirming through action research.

Overall, the relevance of the project is somehow ambiguous. While the technical aspects of the model corresponded to the latest state of the art, the policy advocacy undertaken by the project, Tanzania Natural Resource Forum (TNRF), and the Swiss Embassy/SDC together with development partners from the forest sector could not prevent resistance of key persons towards the sustainable production of charcoal persist until now.

Overall assessment of relevance: 5 (out of 6)

3.1.2 Coherence

The CBFM approach of the CoForEST project is in line with the National Forest Policy (1998), the Forest Act No 14 of 2002 and its regulations. Initially, the first CBFM projects in Tanzania encouraged by the decentralisation process starting in the late 1990s, mainly focussed on conservation (REDD+, ecotourism...) and less on sustainable use of forest products. The project was among the first⁸ to promote sustainable use of forest products in CBFM.

The CoForEST project is compatible with CBFM activities from other development partners such as the FORVAC project from the Government of Finland, the EU with its former AVA project and the extension of the sustainable charcoal model to Tanga area (new TFCG project starting on 1/12/2023), and with the former carbon credit REDD+ projects from NORAD.

The project supported the elaboration of several recently launched national policies and strategies of the forest sector in Tanzania including the National CBFM Action Plan (MNRT 2022b), the National Forest Policy Implementation Strategy 2021-2031 (MNRT 2021b), the draft National Charcoal Strategy⁹ (MNRT 2021a) and the draft National Forest Financing Strategy (MNRT 2023c). These important documents are essential for further scaling-up the CBFM model where forest-based enterprises and sustainable use of forest products are key elements.

Several contradicting policies and legislations persist. For example, it is confusing how a general land and a village land is defined in the Forest Act no 14 of 2002 and the Village Land Act no 5 of 1999. Based on the Village Land Act, it is not possible to find a general land in a village area, but with the Forest Act, any unmanaged forests within a village are considered as a general land and villagers lose power to accrue direct benefits from such forest resources and are not allowed to process sales of the products from such forests. This tendency demoralizes villagers and limit expansion of CBFM areas within village lands MNRT (2002). Moreover, conflicting roles and responsibilities still exist when it comes to a clear demarcation of tasks between Forestry and Beekeeping Division (FBD) and TFS which reports directly to the Permanent Secretary of the MNRT. The Environmental Act of 2004 clearly stipulates that, no development activities should be carried on without prior assessment of the environmental impacts; while clearing of the forest/trees in the Village Land for crop farming is perceived to be developing a land, TFS is allowed by Forest Act 2002 to provide licence for charcoal making in areas where farms are developed, i.e. clearing the land for crop farming. This encourages illegal charcoaling in the pretext of developing a farm land.

⁸ The Mpingo Conservation and Development Initiative launched at the same time its programme on sustainable use of hardwood timber.

⁹ However, the charcoal strategy has not yet been launched officially due to political resistance.

The project is partially compatible with the outcome 3 *improving youth livelihoods* of the Swiss Cooperation Programme Tanzania 2021-2024 (SDC 2020). Previous cooperation strategies (2011-2014, 2015-2018) took more into account in their priorities (agriculture, employment and income, governance) the main domains of intervention of the TTCS /CoForEST project.

The project is in line with SDC's International Cooperation Strategy 2021-2024 (Swiss Confederation 2020) with objective 1 *Contributing to sustainable economic growth, market development and the creation of decent jobs (economic development)* and objective 2 *Addressing climate change and its adverse effects and managing natural resources sustainably (the environment)*.

More recently SDC together with UNHCR promoted in a humanitarian pilot project the use of assisted natural regeneration in the restoration of affected ecosystems in the surrounding of Sudanese refugee camps in Chad where *Acacia senegal* seedlings and saplings were protected from browsing dromedaries and goats what lead to rapid growth with the top of the canopy out of reach by dromedaries (weADAPT 2020).

The role and distribution of tasks between MJUMITA and TFCG is not clear for all stakeholders. Additionally, the role/contribution of TATEDO in project implementation is not known in most supported villages (TATEDO was only active in phase 1 for kiln technics).

Networking at regional and global level is fundamental i) for having an exchange with the professional community on the CBFM approach (such as the African Forest Forum where TFCG participated in three workshops in Kenya), ii) being aware of existing and suitable sources of financing, and iii) preparing the scaling-up at global level. The Global Forest Financing Facilitation Network (GFFFN) was launched in 2015 under the United Nations Forum on Forests (UNFF) and is focal point to facilitate the access to existing and emerging financing mechanisms such as the Global Environment Facility (GEF) or Green Climate Fund. In 2019, SDC's Global Programme Climate Change (today Thematic Section Climate Change/DRR/Environment) was in discussions with the GFFFN about financial participation, but this unfortunately did not lead to any concrete action.

Overall assessment of coherence: 4 (out of 6)

3.1.3 Effectiveness

The project was able to deliver a number of outputs to an average level where the lowest score was 2 and the highest 5 in the scale of 6. The key outputs which had significant impact for outcomes were the outputs for **Outcome 1: Support for scaling-up the CBFM model**. The capacity of locals in sustainable management of gazzeted forest was strengthened. The project was able to scale up CBFM model to 4 districts of Nachingwea, Liwale, Ruangwa and Kilolo. However the analysis revealed that it was too early to scale up CBFM as time was still needed to consolidate the activities in the original project area. It was noted that some of the villages specifically in Kilosa were not actively carrying on with CBFM activities due to lack of close monitoring and supervision from TGCG and district officials. The sense of entrepreneurship is poorly developed what hindered the establishment of value chains for forest products.

The outputs of outcome 2 were realised in average with a score of 3 (out of 6). **Outcome 2: Policy dialogue and financing mechanisms**. This was a key outcome to be realised and important for the CBFM model sustainability and potential for scaling-up. The major setback in these outputs was the failure to implement the CBFM action plan and the national charcoal strategy and action plan; these are key outputs to enhance the established CBFM in the

project area and beyond. It is very important for the decision makers to consider the implementation of these two policy instruments.

The least of all outputs to be achieved were those contributing to **Outcome 3: Research/Learning**. Research and learning institutions in Tanzania are generating new knowledge about enterprise-oriented CBFM and are integrating this in student learning; a number of research is being conducted including deforestation rate determination and its trend over time, how to finance CBFM and regeneration capacity of the miombo ecosystems after harvesting timber and charcoal making. The major setback is the lack of a common understanding amongst researchers, forest practitioners and donor community about the ecological sustainability of the model and the new innovation i.e., the inclusion of forest enterprises for income generation. This suggests that the dissemination of the innovated knowledge needed a better communication and dissemination strategy about the concept. Besides, there was a little emphasis on socio-economic research which is perceived to be crucial for the adoption of the model. The research concentrated on ecological and resources assessment studies forgetting about the social component necessary to influence perceptions which is a prime concept in putting values into resources. The market issues were almost not researched whereas the economics did not consider the concepts of ecosystems services.

A critical analysis of the project's logframes was undertaken. The indicators were evaluated using the "**SMART**" criteria (Specific, Measurable, Attainable, Relevant, Time-bound). Overall, the indicators are concise and mostly fulfil the Smart criteria. What is missing are qualitative indicators which are usually not easy to define but often allow a more comprehensive assessment.

Overall assessment of effectiveness: 4 (out of 6)

3.1.4 Efficiency

The efficiency of this project was analysed at two levels, i) at financial level where all costs, both direct and indirect, were identified (see 1 and 2 in annexe report) and ii) at economic level where the external-technical support/labour was included as an investment made which could increase the local welfare over the time (see 3 and 4 in annexe report). For the first level the Net Present Value (NPV) is negative indicating that the efforts extended from the business perspective exceeded the benefit realised, suggesting that, the project is not cost-effective, what is very common for most of environmental projects. However, when intangible benefits i.e., ecosystem services were included as benefits generated by the project, then the equation became positive implying it was worthy the efforts. This finding is very important in decision making concerning environmental projects especially when compared to private enterprises, as their returns to investment is quick and within a short period of time.

The project had the objective of streamlining the CBFM model to the district activities as financing mechanism to ensure the sustainability. However there were a lot of snags to the extent that to date the budget committed to support CBFM is insignificant (an average of TZS 40 million per village, yet not all of this was disbursed for the activities). The capacity of the Local Government Authorities (LGAs) and the President's Office–Regional Administration and Local Government (PO-RALG) to fully support the model financially is still limited because there are many competing priorities. Moreover, the CBFM action plan (MNRT 2022b) and the charcoal strategy (MNRT 2021a) although developed are not yet implemented due to political resistance.

On the other hand, it is encouraging to see there is a political will at district level, since at least five project districts have started to allocate budget specifically for CBFM support and scaling-up. Institutionalization of the model would be possible if there would be review on

FBD and TFS structure through MNRT. For the time being there is no clear mandate and sometimes TFS roles impair the effectiveness of CBFM due to increased costs i.e., externality they create through giving license to households and individuals who are clearing land for crop farming; the act enhances the illegal charcoal making and timber harvest.

A cost-benefit analysis (CBA)/PEA for the CoForEST project followed SDC framework, aimed to undertake a rapid assessment of the costs and benefits associated with the project to assess the economic effectiveness and efficiency of the project so as to determine if the project was worthy of implementation as it was intended by the objectives. Since this is a non-profit project from the business perspective, and since the CBA was conducted before the project implementation to justify the project viability, we did not only focused on financial gains, but rather thought about the impact the project had at community and ecosystem level. For detailed results of the PEA see chapter 3.2.3.

The critical review of the CBA used in the project that stem from phase 2 and projected to phase 3 revealed that the analysis followed classical economic theory which did not consider the institutions and ecosystems valuation theories. The specified model that was selected for CBA has shortcomings in its assumptions that consider ideal situation:

- The analyses used the potential of charcoal and timber productions instead of estimating values based on empirical findings, used market prices which only are valid in financial analyses;
- The model did not include the concept of environmental values in economic analyses of the project. Because of this gap the selected model therefore could not capture some of the necessary variations in terms of costs and benefits realised and also could not identify the necessary uncertainties which influences the economic aspects of project; meaning the ideal situation which is assumed sometimes doesn't work the way it is expected and so specifically when the project concerns environmental values.
- The model fails to hold water of the realities that are on ground. Besides, the analysis was limited in the financial level without going into economic analyses therefore not realising the opportunity costs of land for investing into CBFM other than the competing substitute of crop farming which is causing deforestation. Following this, the CBA if would have considered the PEA, the analyses would have also considered the opportunity costs of non-tradable goods and services including land when used for crop production, property right assignments (village land, forest and harvesting plans as benefits), social cultural issues and information costs (awareness creation about the newly introduced model).

Overall assessment of efficiency: 4 (out of 6)

3.1.5 Sustainability

The results from the evaluation suggest that, the **economic sustainability** of this project depends on several factors including management, commitment of the locals, location and accessibility of a particular village/district from the market centre. It also depends on the choice of discount rate when deciding to carry on with this model or not.

Consequently, it is important to note that the production of both traded and non-traded goods by the project, within the period of 12 years of project life cannot offset the total cost i.e., fixed and variable costs. Time is needed for benefits to be realised and therefore the continuity of external support especially when the governance system is changing and not supportive.

Moreover, the political will and support, especially by the central government's key actors/personnel is very crucial, primarily TFS which creates externalities to the producers and

investors in charcoal or timber as it was described in the economic analysis. Moreover, academics and researchers are necessary to be aligned with the concept for acceptability and enhancement of the model.

The PEA analyses were conducted to gain insight of the invested funds and what is its impact on local people's general welfare. The results revealed that in all the villages the project succeeded to establish Land Use Plans and to gazette VLFR which have their specific Government Notices (GN). The project therefore has helped to clearly define the property right by gazetting forest on village land. According to the Forest Act of 2002, forests on general land (*Mashamba pori*) are managed by TFS which issues harvesting licenses. These forests are perceived to have relatively low value with a low protection status (MNRT 2021a). The scaling-up of CBFM that would result in the gazette of the perceived general land forests guarantee the sustainability of these forests under a close supervision of DFOs.

At national **institutional** level, as outlined, MNRT and PO-RALG have not fully taken over the project activities as agreed upon when designing phase 3. At local level, the CBFM model is well understood and anchored in the village structures also thanks to comprehensive capacity building by TFCG/MJUMITA. The VNRC has been empowered to generate significant new revenue for their village (at least before the release of GN 417). Challenges facing CBFM include i) frequent turnover of trained personnel at village level, ii) elite capture in management and benefiting from CBFM and iii) inadequate transparency among the village leaders to the respective communities (MNRT 2022a).

The **ecological** sustainability is high. The CBFM model is based on a forest management plan with clear and professional state of the art management rules (with defined allowable cuts) and established by-laws. According to Shirima et al. (2015) and Sangeda & Maleko (2018) miombo woodlands demonstrate a remarkable capacity to recover after disturbance due to tree regeneration from the roots and stumps (and to a lesser degree due to seedlings) after disturbances from agriculture, charcoal production and selective logging. Since all VLFRs are gazetted with set property rights, forest management units harvested for producing charcoal remain forest thereby combatting deforestation and contributing to climate change mitigation and adaptation.

Overall assessment of sustainability: 3 (out of 6)

3.2 End of project review (2012-2023)

In general the project has succeeded in establishing and implementing a CBFM model whereby all villages have VLFRs which are gazetted with management plans, by-laws, harvesting plans, and with income generating activities (not in Madizini, Tununguo, Mfuluni, Sewekipera) as it was intended to contribute in reaching the overall goal of

Sustainable and equitable pro-community natural forest management that transforms the economics and governance of forest product value chains and contributes to climate change mitigation and adaptation.

However, this could only be achieved if the forest policy and governance system is supportive and if all key decision makers at governmental level are in favour of promoting the production and sustainable use of charcoal. Moreover, academia should be aligned with the concept since their perception towards the new model of CBFM is fundamental as they play a central role in elaborating forest policies and advising the central government.

The introduction of GN 417 in 2019 revoked the power of villages to make decisions on harvesting applications and to set prices/royalties of their forest produces from their VLFRs. As a direct consequence of GN 417, the village revenues dropped dramatically until now

(see village performance assessment chapter...) and questioned serious the economic viability of the CBFM model. If an impact evaluation had been carried out towards the end of phase 2, the prospects would have been much more optimistic. This underlines the importance of a stable and supportive governance system and the importance of close policy advocacy (see also relevance).

In a project, where from the very beginning, governance challenges were identified as major risk, a comprehensive and consistent policy advocacy is indispensable. However, this needs a coordinated and joint effort at all level. At the donor level (development partner group), the commitment for policy advocacy depends not only on the country portfolio but also on the professional background and interests of the officers in charge. A common concerted effort was difficult to achieve also because of different opinions regarding the CBFM approach.

At the Swiss Embassy/SDC level there were moments where the Ambassador was very engaged and proactive mainly together with Scandinavian Ambassadors. What further hindered a successful policy advocacy is the frequent turnover of senior staff in the government but to a lesser degree also on the donor level. According to the credit proposal for the no-cost extension of phase 3, the CoForEST got assigned a comprehensive policy advocacy role with little direct support from Swiss Embassy/SDC and other important donors in the forest sector.

From an economic perspective, the overall goal could only be realised after a period of time, if there would be continuity in external support. From the analysis it was noted that if the support is withdrawn, the costs of maintaining CBFM would outweigh the direct benefits. This implies that if the locals would pay all the costs despite of the fact that the benefits realised are also enjoyed by other people far from these communities who are not paying for the conservation through intangible benefits (environmental services), the locals would be tempted to clear the forest for crop farming which is an immediate option that guarantees more direct benefits.

A model that guarantees a forest to remain a forest whereas the locals see the value of the conservation through the incomes generated and is therefore recommended. Therefore, it is crucial, in addition to the incomes from the forest products, to compensate the local communities for protecting the forests through the payment for environmental services via the carbon market (see chapter 3.2.5.3).

Main drivers of deforestation are the expanding agricultural land followed by illegal charcoal making. The sustainable charcoal model with forest management units (rotation of 24 years) has reduced deforestation in most project villages. Remaining challenges in project villages are encroachment on harvested areas for crop cultivation and deforestation leakage to non-project areas. Nine out of 34 project villages had annual gross deforestation rates (2022-2023) of above the set target threshold of 0.7% (Morgan-Brown 2023). The villages with by far the highest annual gross deforestation are Zombo (6.41%), Kigunga (3.31%), and Mvumi (2.71%). On the other hand, the phase 3 villages have somewhat surprising the lowest gross deforestation rate in average.

With the new Sentinel-2 approach the deforestation analysis is limited to VLNF since the approach is time-consuming. About 60-80% of the total forest area in the project villages is under VLFR (Morgan-Brown personal communication). A direct comparison of the gross deforestation rate between gazetted VLFR having a forest management plan and other forests such as "open" village forests or state forests is misleading since the protection status is different. Since the sustainable charcoal model is still questioned by some academia, we support the recommendation of the external mid-term evaluation from 2018 which suggested to hand over the monitoring of deforestation to other institutions such as the National Carbon Monitoring Centre (NCCM) in order to enhance credibility.

An increasing challenge is livestock encroachment into village forests including VLFRs with some cattle keepers settling in the forests. The project alone does not have the capacity to address it. Coordinated efforts from different institutions and stakeholders under the lead of PO-RALG and the Ministry of livestock and fisheries are required. However, light grazing is beneficial to natural regeneration as it reduces grass cover and thereby fire intensity (Sangeda & Maleko 2018). Less intense fires, in general early dry season burning, are less affecting the natural regeneration of a miombo stand than hot late dry season fires. Further research on fuel control such as prescribed fire and controlled grazing are suggested (e.g. under TAFORI).

Overall, the earned income from sustainable production of charcoal and other forest products could be an effective way to combat deforestation by giving a value to the forest thereby inciting the local communities to protect the forest from transforming into crop cultivation. Any reduced forest degradation and deforestation would not only enhance the ecosystem services but also contribute to climate change mitigation and adaptation.

With the third phase the project intervention areas was expanded to Iringa and Lindi regions since SDC wanted to scale up the CBFM model with four new villages. However, this expansion of the project area to the south was very ambitious since only three remaining years (four years including no-cost extension) were very short for introducing, consolidating and phasing out for a project which is promoting a new approach. Moreover, the distance of over 700 km from the core area from Kilosa District made logistics for the project implementation difficult and in addition, the socio-economic and political context differs significantly and was new to most project staff.

Taking these objections into account, it would have made more sense to further consolidate and scaling-up in the previous districts. On the other hand, the evaluation team feels that the mandatory phasing out of phase 1 villages at the end of the second phase was premature and too optimistic since consistent capacity building, monitoring and financing (royalties and budget allocation from PO-RALG) were only hypothetical (even when considering the better economic perspectives before the GN 417 comes into force). The external mid-term review from 2021 assessed the financial viability of the CBFM model with a high risk of not being funded.

The extension of the sustainable charcoal model to Tanga area (new TFCG project starting on 1/12/2023) is a hopeful sign even if the evaluation team is of the opinion that the new area is less suitable (more open savannas than miombo woodlands and very high livestock pressure) and that the investment would have been better invested for further consolidating and scaling-up in the current project area.

The project model should be scaled up in the entire country to control illegal charcoal making and timber harvesting which contribute significantly to deforestation. The scaling-up could be financially supported by carbon credits from REDD+ (see 3.2.5.3).

3.2.1 Performances of project districts

In all seven districts the project is known well by all key personnel met during this evaluation (see people met in Annexe F) and the perception of the project was consistently positive except for one TFS Conservators. All district officials recommend the project to be scaled up and are in support of strengthening the CBFM model which includes sustainable charcoal production since it has proven to increase social welfare in terms of incomes which incentivise the locals to participate in managing and protecting the gazzeted forests.

The revenue contribution from forest products, mainly timber and charcoal, is very significant at village level through collected high royalties before the release of GN 417. The realisation

of infrastructure at the village level financed by royalties from the project activities relieved the district budget since the funds supposed to be spent in project villages were directed to other villages not participating in the project (Morogoro Rural and Kilosa districts). Apart from the built social services infrastructure, the districts also received some % of contribution from the remitted royalties from the villages that are participating in the project.

Other strengths of the project systematically mentioned were capacity building on good governance, establishment of land use plans and gazettement of VLFRs, market strategy, recordkeeping, silvicultural practices specifically linked to the high natural regeneration potential of miombo species (resprouting shoots from stumps, suckers and germination of seedlings) in the forest management units after harvesting wood for charcoal making.

Some identified benefits were specific to some districts for instance, in Morogoro Rural the project stimulated other activities including cattle fattening which was meant to reduce pressure to the reserved forests. Officials from Morogoro Rural stated that the project increased trust to the charcoal and timber producers since the business is legal. Therefore people from other districts and regions could order value added timber products including furniture through tender, something which was not there before. The project also supported a number of forest-based enterprises whereby a lot of locals have benefited out of these. In Morogoro Rural there was a District Commissioner who really got inspired by the project, perhaps the reason why Morogoro Rural villages seem to do better in most areas of project components. This is an important lessons learnt showing that political will is important for any project success.

Turnover of trained personnel is common challenge in all districts. This caused inconsistency in project implementation and increased transaction costs since the training had to be repeated to integrate the newly appointed officers. It also caused some conflicts specifically when these officers were from outside the PO-RALG i.e., from TFS. GN 417 was a major setback to the project because it affected tremendously the revenue collection, by greatly raising the production costs whereby the sustainable charcoal producers were no more able to compete with illegal charcoal makers. Livestock foraging inside the reserved forests is another challenge to the natural regeneration (browsing of goats in Kilosa District).

The planed financing of the project by PO-RALG, one of the pillars in the financing mechanism, is another weakness since the amount allocated is not enough to carry on the CBFM support as it was under the project, thereby jeopardizing the sustainability and the scaling up of the project. Close monitoring is needed to make sure that the by-laws are respected.

3.2.2 Performances of project villages

The evaluation revealed considerable variations in the level of performance in the surveyed 18 project villages. In all surveyed project villages, it was noted that the CoForEst project excelled in developing village land use plans, introducing a CBFM model, and creating harvesting plans and forest management plans.

Village leaders, VNRC and Village Land Use Committee (VLUC) participated in mapping and developing the village land use plans (VLUP). These plans were elaborated in all project villages included mapping VLFR and allocating areas for sustainable harvesting of charcoal and timber. In each village, residents were encouraged to form groups for producing charcoal and timber. TFCG and MJUMITA provided training to these groups, village leaders, the VNRC, land use committees, and to a few villagers in each project village. The training covered environmental conservation, the CBFM model, sustainable harvesting of charcoal and timber, governance, entrepreneurship, conservation agriculture, and financial skills such as the Village Community Bank (VICOPA).

The findings revealed that most surveyed villages are involved in sustainable charcoal production, while timber production is done in few villages. Some villages perform both charcoal and timber production, whereas others, such as Lionja B, has focused solely on timber production. There are also villages that had never engaged in sustainable charcoal production throughout the project's lifetime, including Mfuluni, Tununguo, Lionja B, and Madizini villages. The survey identified four villages that are currently inactive: Tununguo, Sewekipera, Mfuluni, and Madizini. Sewekipera and Mfuluni are facing road accessibility issues due to their location in high mountainous areas, with Mfuluni lacking a road altogether. Tununguo encounters challenges with a poor road from Mvuha to the village and the absence of a bridge over the Ruvu River, to connect the village with Kisanga Stand village, forcing people to cross the river on foot. Other villages with accessibility issues include Mbamba and Nyali villages. In Madizini village, resistance to the project stemmed from the development of VLUP, which converted farms or future farmland into VLFR. Conflicts over boundaries exist also in other villages what underlines the importance of a careful gazettelement process by including all neighbouring villages in setting the boundary lines.

The production of sustainable charcoal occurs in special designated areas within the VLFR, locally known as *EDU-Eneo Dogo la Uangalizi*. This area is divided into different harvesting blocks, i.e. forest management units measuring each 50 meters by 50 meters. Producers seeking to harvest charcoal are required to obtain license from the district harvesting committee and request harvesting blocks from the village offices. In all surveyed villages, the VNRC oversees charcoal production, from mapping the blocks, allocation of blocks to producers and selling of produced charcoal.

Two charcoal production modes were identified in the surveyed villages:

- 1) Producers utilise their harvesting licenses or those owned by their villages to harvest charcoal, which is then sold to investors/buyers. In this scenario, revenue is paid to the village based on the quantity of charcoal harvested.
- 2) Villages without harvesting licenses inviting investors with licenses to harvest charcoal. Investors either hire local charcoal producers or bring their own labourers. Villages receive revenue based on the number of bags harvested, and charcoal producers receive compensation for their labour.

Out of 18 villages, 14 were active in charcoal production, the average annual production from 2015 to 2023, depending on the year of production initiation, is 451 bags of 50 kg. For details on quantity produced and revenue generated for each village we refer to annexe report (9 and 10). Charcoal production was still high in 2020 since the impacts of GN 417 did not come abruptly (see Fig. 1 and 2).

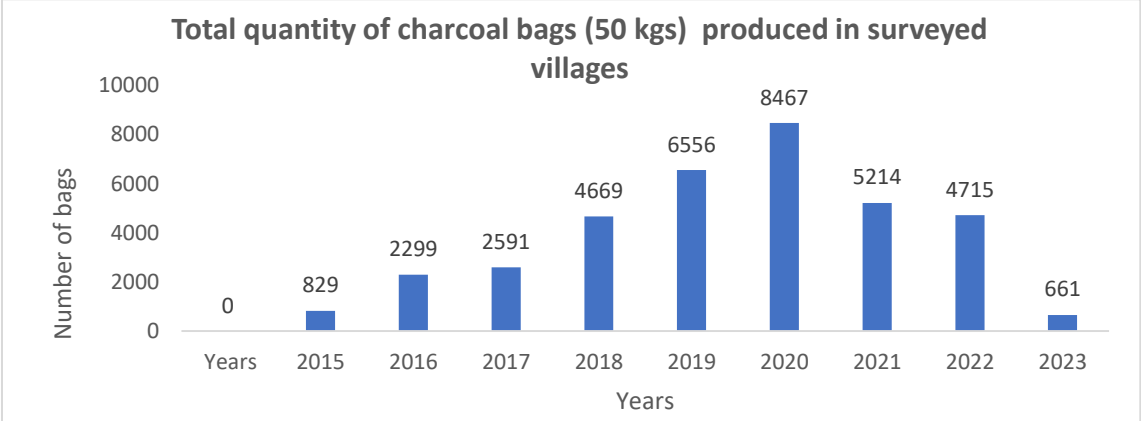


Figure 1: Total quantity of charcoal produced in surveyed villages

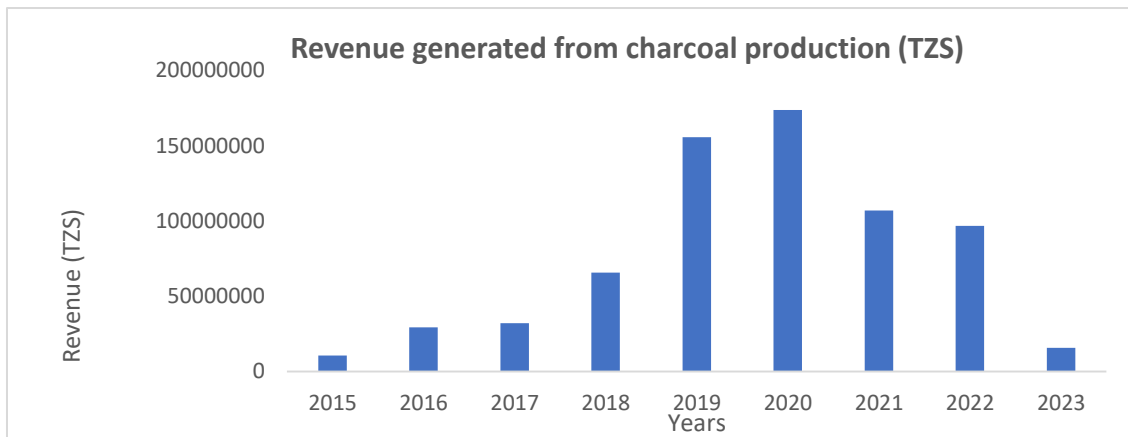


Figure 2: Revenue from charcoal production in surveyed villages

For phase I villages (Kigunga, Nyali, Ulaya Kibaoni), the production of charcoal experienced a sharp decrease from the year 2020 onwards following the release of GN 417 from 24 May 2019. According to many interviewees the increase of the royalty paid for one bag of charcoal from TZS 6,750 to TZS 12,500 after the release of GN 417 demotivated the producers. Also, the participants reported that the implementation of GN 417 resulted in lowering the charcoal price as buyers look for the ways of minimizing costs in order to maximize their profits.

The prevailing charcoal price per bag ranges from TZS 6,000 to 8,000 in the surveyed villages. During FGDs, producers suggested that, in order to motivate them, the current royalty of TZS 12,500 for a 50 kg bag should be set as a price for one bag of charcoal and the royalty for one bag should be lowered to at least TZS 8,000. Alternatively, the villages could provide incentives to charcoal producers from the revenue generated in charcoal by allocating a certain percentage back to the producers. This has been done once in Mbamba village and it portrays the importance of participation of local people in reviewing policies. Another cause of the decline in production is the reduction of project activities in phase 3 and the complete halt of financial and technical support in 2019 for phase I villages which compromised the commitment of these villages to charcoal production. Close supervision and technical support from the project or district officials are necessary for the sustainability of project activities. Little technical project support (including technical advisors) was provided during the no-cost extension.

The introduced new tariffs have made sustainable charcoal to be outcompeted by illegal charcoal which is indirectly favoured by GN 417. In addition, with GN 417 in place, the sustainable charcoal is perceived by most producers to be less profitable in comparison to crop farming. This has pushed more people into crop farming which puts food on the table and provides a source of income for households. Another contributing factor to the decline in charcoal production is the insufficient support from the government to the producers by the government, particularly the district officers and TFS. Additionally, most interviewees pointed out that TFS is not providing good cooperation to their villages, and they believe there is a conflict of interest. This is because the CBFM model implemented in the project villages has significantly reduced the royalties to TFS, with more revenue now remaining in the villages.

For Phase III villages, production levels are not very encouraging at the moment. However, it is essential to withhold hasty judgment as the first two years were primarily dedicated to training (and as seen phase III villages had the lowest deforestation rate). Mahenge village stands out as promising compared to the others. It boasts numerous forest reserves, and its leaders are highly cooperative with producers. In contrast, in Lionja B, there is a communication gap between producers and village leaders, which compromises the project implementation.

The production of timber in all surveyed villages appears unpromising, as very few are actively involved. Some villages claim a lack of suitable trees for timber production, while others assert that their trees are still too young. The evaluation team observed that in the few villages where timber production is taking place, the process involves using investors' licenses, since the villages cannot issue licence as it was formerly the case for charcoal production. Investors with harvesting permits come either to the villages and hire labourers from the timber-harvesting groups, or they bring their own labourers from outside the villages. In this arrangement, individuals from the timber-harvesting groups receive income, and the villages get revenue from the harvested timber. Primary data on timber production is inadequate, as in most villages the representatives of timber-producing groups did not appear for the FGDs. However, the evaluation reveals that phase III villages have a great potential to excel in timber production unlike Phase I and II villages.

The evaluation highlights that the project has had a positive impact on employment and income generation. The revenue generated by villages has played a crucial role in supporting socio-economic development within the villages. Notably, Lulongwe village stands out for its remarkable contribution of project revenue to various community projects. Detailed information on supported community projects for each village is found in the village performance report (as separate file). In environmental conservation and climate change mitigation, the project has made significant strides. It has effectively raised awareness on forest conservation, leading to a positive shift in the attitudes of individuals. The project has also strengthened the capacity of VNRC which oversees forest conservation by forming patrol teams and conducting monitoring activities in VLFRs. The charcoal production method favours the natural regeneration of trees in harvested areas, a crucial aspect of both forest conservation and climate change mitigation. The CBFM model is well understood in most surveyed villages; however, there are concerns on its sustainability without continuous external technical support. Additionally, illegal production of charcoal and timber harvesting is still persisting in the surveyed villages, particularly in Kilosa and Mvomero districts. Highest rate of forest destruction was observed in Sewekipera village.

Apart from the impact of GN 417, the project implementation is facing other challenges encompassing poor road networks, especially in rainy seasons, and the absence of reliable markets as marketing strategy of this project was weak. In addition, charcoal and timber producers are lacking capital for operating independently from production to selling point thereby avoiding dependence on unreliable middlemen who reduce their profits. Lack of training for new village leaders and VNRC members since training was noted to be limited to the initial stages. Some of the former leaders are unwilling to transfer knowledge to their successors.

With the exception of Lulongwe and Mahenge villages, other surveyed villages lack an effective system for keeping project records. There are frequent delays in conducting district harvest committee meetings, making it difficult to issue harvest licenses on time. Particular challenges include boundary issues between VLFRs and villagers' farms, which have led to resistance to the project in Madizini, Unone, and Malolo villages what is an unintended negative effect of the project. Pastoralists encroaching on forests and village farms pose a serious challenge particularly in Morogoro Region. Initiatives to resolve pastoralist conflicts are still fruitless, with villagers perceiving pastoralists as having greater political influence and standing above the law.

Lack of transparency in sharing information about the project revenue and expenses was noted in Kihondo, Mbamba, Malolo, Sewekipera, Chabima, and Lionja B villages. Another challenge includes lack of a clear unit of measurement for a bag of charcoal. Many producers expressed concerns that they are compelled by investors to overfill the bags to increase their benefits. Thus, the quantity of charcoal in each bag should be verified through weighing before selling. By the way, to encourage higher charcoal production efficiencies, producers should be charged for the wood they use rather than the charcoal they produce (Morgan-

Brown & Samweli 2016). Moreover, special bags should be designed and used for the branding and marketing of sustainable charcoal and for enhancing the trust in the measurement of charcoal.

According to the economic/financial analysis, it is evident that the invested costs have not yet been recovered from the project activities, leading to a negative NPV for each village (see Annexe 11). This implies that, as of now, the benefits generated from the project have not surpassed the initial costs incurred. For the costs to be recovered, the production of charcoal and timber must continue in project villages for an extended period, likely exceeding 20 years.

In the counterfactual villages (Lionja A, Munisagara, and Kisanga Stand), the production of charcoal and timber is conducted illegally. Kisanga Stand village, in particular, exhibited high timber production levels exceeding those from project villages. The NPV test for timber production in these counterfactual villages is positive (see Annexe 11), possibly due to producers avoiding compliance costs and not participating in training and monitoring activities, as is done in CoForEST project villages. Data on illegal charcoal production was not disclosed by producers, indicating a reluctance to share this information. A comprehensive analysis of these findings is available in the appended CBA reports for each village.

3.2.3 Political Economy Analysis

PEA is a broader analytical framework that examines the political and social factors influencing policy and decision-making processes. It encompasses the intricate political nature of decision-making to investigate how power and authority shape economic choices within a society. While economic and financial analysis (EFA) provides vital information on the economic aspects of a policy or project, PEA transcends economics to consider political, social, and institutional dimensions. In this evaluation we performed both the financial and economic analysis. We listed the costs and benefits for different categories of stakeholders from the project implementers, the villages (producers and other villagers), and other project participants. It was worth noting that in some instances it was difficult for us to get the required data especially cost information so assumptions were used or nominal values are/ were used. We analysed different scenarios to try to observe the implications which may in turn affect the sustainability of the project.

Intangible environmental benefits

Based on a study from UNEP (2002), the opportunity cost of sacrificing one hectare of forest in Tanzania is \$5,248, equivalent to TZS 12.8 million. We have adopted this as the value of intangible environmental benefits provided by each hectare allocated for charcoal and timber production. When these intangible environmental benefits are included in the calculations, the resulting Net Present Value (NPV) is positive. However, when they are not included, the NPV is negative (see 1-4 in annexe report). This implies that the project costs exceed the project benefits when intangible environmental benefits are not accounted for. This pattern is typical in the evaluation of environmental projects, where intangible or hidden benefits are often overlooked. Consequently, environmental projects may appear less worthwhile in financial terms, despite generating substantial benefits through intangible ecosystem values. Unfortunately, most projects, including the CoForEST project, overlook these intangible environmental benefits, causing environmental-related projects that offer intangible values to be considered not worth investing in.

Unskilled labour

Charcoal and timber producers are estimated at 30 individuals in each village, with 20 engaged in charcoal production and 10 in timber production. Based on FGDs, it is estimated

that they work for 60 days each year, primarily during the dry season, and drawing on the FGDs and KILs, they receive a compensation of TZS 5000 per person per day, representing the prevailing daily labor rate in most rural areas. VNRC members and the patrol team are also considered in the analysis. It was observed that that each village has about 8 VNRC members and a patrol team comprising 7 individuals. Their work is estimated at 52 days per year, aligning with the typical frequency of weekly patrols in most villages. For each day of patrol, they receive TZS 5,000 per person. In both financial and economic analyses, the unskilled laborers are included in the costs of production.

Skilled labour (Technical support services)

In the financial analysis, the costs of technical support services is included as project costs while in the economic analysis they are included as part of project benefits. This approach recognizes the invaluable assistance and expertise provided by skilled labor, crucial for the success and sustainability of the project. The inclusion of costs for skilled labor (technical support) as project benefits in the economic analysis is justified by the competitiveness of skilled labor, making it unaffordable for villages. The project's performance is hindered when villages lack technical assistance from skilled laborers, such as those affiliated with organizations like TFCG, MJUMITA, the District Council, or TFS officials.

Revenue generated to the villages from charcoal and timber production

In the financial analysis, the gross value is included as it is, while in the economic analysis, the percentage paid to the district is omitted. Royalties paid to the district are considered a transfer and are excluded in the economic analysis. Out of the total gross revenue generated by villages from charcoal and timber production, 10% is allocated to the district, and an additional 7% is earmarked for MJUMITA to support capacity building and training initiatives for the villages. This leaves the village with 83%, which is incorporated into the revenue generated or retained by villages from the production of timber and charcoal. In the economic analysis, the revenue collected by the districts is omitted as there is uncertainty on whether these funds are returned to the villages, however, the 7% paid to MJUMITA is included in the calculation as is recognized as payment for skilled labour and expertise. As data for timber are inadequate, based on our evaluation, we conservatively estimate each village generates TZS 0.8 million per year.

VICOBA savings

VICOBA have been established in 12 surveyed project villages. It is assumed that each village has one VICOBA, with 30 members. Additionally, the project is assumed to have initially invested TZS 1,500,000 in each village to educate and capacitate the establishment of VICOBA. This invested capital is also projected to grow at an interest rate of 10%. The savings accrued from these VICOBA activities are considered as benefits and are included in both the financial and economic calculations. This approach reflects the positive impact of VICOBA on the financial well-being and empowerment of the local communities.

Net opportunity costs of VLFs currently allocated for charcoal and timber production

The size of the gazetted area in the 18 surveyed project villages is approximately 67,662 hectares, whereof 29.18% are currently allocated for sustainable charcoal and timber production, equivalent to 19,746 hectares. The economic benefit or value of the area allocated for project activities is estimated using the value of crop farming as it is the best alternative land use in the gazetted areas, and maize crop is selected due to its widespread cultivation in surveyed villages. It is assumed that at least 65% of these hectares (11,788 hectares) would be suitable for maize production, as some areas would not be converted to maize farms for instance very steep areas, or areas with rocks. Taking an average yield of 3.1 tons of maize per hectare per year, the productivity is less than 2 tons/ha/year in Tanzania, but we take a conservative high value of productivity due to urban people buying lands from rural locals where they intensify management leading to increased productivity.

With a selling price of TZS 850,000 per ton, the 11,788 hectares are projected to yield economic benefits of TZS 31,061,380,000. The unit cost of producing 1 hectare of maize is estimated at TZS 646,800, resulting in a cost of TZS 12,707,679,600 for 19,647 hectares. The net opportunity cost forgone for allocating the land to charcoal and timber production is therefore estimated to be TZS 18,353,700,400. This cost is included as a cost in the economic analysis because this land could have been used to grow maize. It is not included as a cost in the financial analysis because the gazetted land was neither purchased nor compensated but allocated by the villagers at their own will.

Externality-loss of royalty to TFS

With the implementation of GN 417, TFS faces challenges in collecting taxes, as illegal harvesters are motivated to avoid payment of dues for harvesting charcoal and timber products. The set fees are perceived by most producers as excessively high, leading them to choose non-compliance and resort to illegal harvesting in black markets. This non-compliance trend reduces the royalties collected by TFS. With CBFM model, the fees from VLFRs are going to the villages. It's worth noting that a nominal value (both negative and positive) has been assigned to this variable in the absence of specific numerical values. This is due to limited data and information from the FGDs, preventing the precise computation of numerical values. Most villages do not have good system for keeping the project records for example sales records.

Sensitivity analysis /risk analysis

A) Choice of discount rates

Different discount rates are employed in the evaluation of the CoForEST project. The 15% rate represents the preferred national bank (Bank of Tanzania) interest rate for project assessment. Rates of 9% and 7% are commonly used in agriculture banks. Additionally, a lower interest rate, such as 5%, were employed for the analysis as an assumption that environmental projects needs a low discounting factor for them to turn up to be profitable this is due to their lower time preferences. This lower rate aims to encourage investments, since environmental benefits tend to accrue over an extended period of time.

B) Increase in charcoal and timber prices

The anticipated increase in charcoal and timber prices by 25% is projected to result in a corresponding rise in the Net Present Value (NPV) (see 5 in annexe report). This positive impact on NPV is attributed to the fact that the higher prices contribute to an increase in the producer's revenue.

The choice of a 25% increment in prices is informed by feedback obtained during FGDs, where charcoal producers expressed dissatisfaction with the current price of TZS 8000 per bag. They suggested an increase to at least TZS 10,000 per bag, representing a TZS 2000 increment. This adjustment aims to address concerns raised by charcoal producers and potentially motivate them to sustain charcoal production. An illustrative example of this approach was observed in Mbamba village, where the village subsidized producers by returning TZS 2000 for every bag from the revenue generated by charcoal sales. The success of this initiative, however, hinges on effective control of illegal harvesting of charcoal by the villages, thereby creating demand for sustainable charcoal.

C) Production costs

An increase in unskilled labour costs, from the current daily rate of TZS 5000 to TZS 10000, aimed at motivating more people to engage in monitoring and patrolling activities in the village, is projected to result in a reduction of NPV (see 6 in annexe report). This reduction occurs because the increased labour costs contribute to a higher production cost per unit, consequently lowering the net project benefits.

The observed pattern, where high discount rates help minimize the loss while low discount rates lead to more significant losses, suggests that a decrease in the daily labour rate for unskilled labour could potentially increase the NPV. In this context, low-interest rates are associated with a substantial increase in NPV, while high-interest rates result in a comparatively smaller increase. This dynamic highlights the sensitivity of the NPV to changes in labour costs and discount rates, emphasizing the importance of carefully considering these factors in project evaluation and decision-making processes.

D) Impact of GN 417

The assumption that the implementation of GN 417 will discourage producers from formalizing their business due to high compliance costs is projected to have certain effects on the Net Present Value (NPV). Assuming a reduction in the number of producers per village by 50%, from 30 to 15 producers, it is estimated that this change will increase the NPV (see 7 in annex report). This increase in NPV is due to the reduced number of producers, which may streamline costs and potentially increase the net project benefits. On the contrary, the assumption that without the implementation of GN 417, more people will return to formal production of charcoal and timber in the studied village is projected to have the opposite effect on NPV. Assuming an increase in the number of producers by 50%, from 30 to 45 producers, it is estimated that this change will reduce the NPV (see 8 in annex report). This decrease in NPV is attributed to the higher number of producers, which may lead to increased competition and potentially lower net project benefits.

We conclude that the economic/financial viability of the CoForEST project is argued on different aspects or assumptions. When the intangible environmental benefits or services are not considered the project's NPV is negative when they are accounted for the NPV turns to be positive. Most environmental projects tend to overlook this, which discourages their investments. In order for the CoForEST project to have a positive NPV without the inclusion of environmental benefits, the project needs to exhibit a low time preference; benefits can exceed the costs after a long period of time and not just the 12 years of its implementation. Government policies can also play a crucial role in influencing the viability of the project for instance policies like the introduction of GN 417, added the costs to the producers and buyers thus lowering the project benefits; the central bank interest rate could also impact the project viability. Increase in production costs could push the project profits to the margin. Fair government policies could balance the situation and create a win-win situation to all project stakeholders.

3.2.4 Transversal themes

3.2.4.1 Gender

Strengthening participation, tenure, benefit-sharing and governance to benefit women and other vulnerable groups, are effective strategies for strengthening gender-equity in CBFM (TFCG / MJUMITA 2022). The CoForEST project strictly followed a gender-sensitive approach in project implementation.

Key activities of the CoForEST project strategy included:

- i) Regular and widespread awareness raising on gender and its importance for CBFM;
- ii) Training on gender and conflict resolution for community leaders;
- iii) Promoting the involvement of women in entrepreneurship activities;
- iv) Supporting formation of separate groups for women and men in the development of forest-based enterprises, such as charcoal and timber;
- v) Supporting law enforcement and good governance in CBFM implementation, including complying with quotas for women's membership in VNRCs and ensuring transparency, accountability and participation.

The systematic and promoted involvement of women in the trainings facilitated their direct participation in project activities. For instance, women were traditionally very seldom involved in charcoal production which was perceived as a typical men activity due to its physical component. Nowadays, a considerable part of the charcoal producers are women which allowed them to be engaged in forest-based enterprise value chains.

3.2.4.2 Climate change

Formerly, REDD projects have resulted in some economic benefits in NORAD projects in Kilosa area (some of the villages have been taken over by TTCS project). However, prices have fallen sharply and huge efforts are required to establish a Measurement, Reporting and Verification (MRV) system, identifying potential carbon credit buyers and to establish fair benefit sharing mechanism. Therefore, TTCS has abandoned to actively supporting REDD+ activities with a focus on carbon credits.

More recently carbon credits from REDD+ are becoming again more attractive. For example, in 2020 through Carbon Tanzania's natural climate solutions, communities in Yaeda valley in Mbulu District in Manyara and Ntakata mountains in Tanganyika District in Katavi Region have received around US\$ 250,000 from carbon trading for enhancing the protection of over 650,000 ha of forests (MNRT 2022a).

The evaluation team believes that the CoForEST VLFRs have a high potential for the REDD+ carbon market, not only for the protected part of the village forest, but also for the section reserved for sustainable charcoal based on a management plan with clear rules and by-laws. Fortunately, the new Village Climate Solutions REDD+ project will include 90% of former TTCS/CoForEST project villages.

The expected contribution of the REDD+ funds would contribute to further enhance the management of the gazetted village forests by the local communities by strengthening training, monitoring, patrolling, and the realisation of social community projects. The national consultant participated in a panel at the *Building and Impact Economy on Nature-Based Solutions Conference* in Dar es Salaam on 16/11/2023 to present the potential of sustainable charcoal production according to the CoForEST model for the carbon market.

3.2.5 Performances of the implementing partners TFCG & MJUMITA

The partners have demonstrated high skills in delivering technical support to the project; their skills have empowered Tanzanians at local, district, regional and national levels although at different degree levels. At the local level, the unskilled labour are trained in such a way they are able to carry on sustainable forest management activities including forest resources assessment, using GPS to locate areas and resources, improved charcoal making technics (improved basic earth charcoal kiln).

The project team produced scientific articles that are of high quality standards including research papers, policy notes, technical reports and factsheets. However the project was not able to empower significantly the locals on market strategies as this was not well featuring at village level. A market system development approach is hardly visible on site. They were not able to engage high level decision makers due to their limitation in capacity posed by their position as project personnel.

Reduced number of TFCG/MJUMITA staffs during phase 3 compromised their ability to supervise the implementation of project activities, as it is practically impossible to handle all the project districts with only two project staffs. The human resource aspect was overlooked in implementation of phase 3.

4. Conclusions

The overall assessment of the project performance is satisfactory. The elaboration and refining of a CBFM model combining forest conservation with income opportunities for local communities is the outstanding achievement of the CoForEST project. The earned income from sustainable production of charcoal and other forest products could be an effective way to combat deforestation by giving a value to the forest thereby inciting the local communities to protect the forest from transforming into crop cultivation. The elaborated charcoal model is of ground-breaking importance for CBFM worldwide since it demonstrated that charcoal can be produced sustainably based on the natural regeneration potential of miombo woodlands and forest management plans and locally agreed by-laws. The project well documented the approach and the achieved results in numerous communication products.

However, the project with the support from the Swiss Embassy/SDC and other donors from the forest sector were not successful in influencing a favourable governance framework throughout the entire project duration. Persistent resistance of part of key decision makers at governmental level and of academia hindered implementation, economic viability and scaling-up of the CBFM model. This is best illustrated by the ban of charcoal production leading to the interruption of all project activities between November 2014 and February 2015 and by the release of GN 417 of 2019 with increased royalties what rendered the sustainable charcoal production no longer competitive to illegal charcoal.

For many people, charcoal still have a negative connotation since they do not distinguish between illegal charcoal which is a major driver of deforestation and sustainable charcoal which, on the opposite, could contribute to combat deforestation. The project did not manage to ensure a constant flow of evidence-based information to the decision makers to avoid disinformation and misinformation. Therefore, the evaluation suggest to organise a national (international) workshop with all key actors (see recommendations) to bring the topic on the table with evidence-based results to support the scaling-up of the sustainable charcoal CBFM model at national and international level.

The best practices / lesson learnt from the evaluation of the CoForEST project will be further developed in the CAPEX report.

5. Key findings and recommendations

The key findings and their associated recommendations are summarised in the Table 2-4 below and grouped by main actors.

Table 2: Recommendations for state entities

Key findings	Recommendations
Ministry of Natural Resources and Tourism	
GN 417 and the revised version GN 255 renders sustainable charcoal making no longer competitive to illegal charcoal making	1) Revise GN 417/255 by empowering again the village council to decide on royalties to be paid for the production of sustainable charcoal from VLFR based on forest management plans and by-laws to be in line with the Forest Act 2002.
GN 417 lead to delays in issuance of harvesting licences from the district (the bureaucratic procedures discourage the producers and	2) Revise GN 417/255 by attributing again the issuance of harvesting licences at village level / DFO.

investors to invest in the business)	
Conflicting roles and responsibilities still exists when it comes to a clear demarcation of tasks between FBD and TFS	3) Revise roles and responsibilities of FBD and TFS regarding CBFM.
CBFM national policy is vague (no common understanding at governmental level) since key action plans are not implemented	4) Implement CBFM action plan (2021-2031) and national charcoal strategy and action plan (2021-2031).
Perceived general/future land forests in the villages are at high risk to be transformed into crop cultivation	5) Promote scaling-up of CBFM and gazettelement of new VLFR to allow local revenue, avoid deforestation and contribute to climate change mitigation and adaptation.
No distinction between traditional and sustainable charcoal; lack of charcoal tracking and certification system	6) Define an appropriate tracking system of charcoal in general and certification system of sustainable charcoal in particular.
Charcoal production efficiency is not promoted	7) Royalties should be calculated based on volume of standing trees rather than charcoal produced to promote efficiency.
President's Office–Regional Administration and Local Government and Vice President's Office	
Low financial capacity of LGAs and PO-RALG to support implementation of model because of many competing priorities	8) Recognise the high importance of the sustainable CBFM model as potentially important revenue source at national and local level and as appropriate measure to combat deforestation thereby enhancing ecosystem services for the benefit of the locals (five project districts have started to allocate budget specifically for CBFM support and scaling-up). 9) Establish an environmental module at the National Account; ring-fencing conservation budgets
National Carbon Monitoring Centre	
Lack of ensured long-term monitoring of charcoal harvesting plots	10) Elaborate a plan for monitoring the natural regeneration in the charcoal harvesting plots over the 24 yrs cycle (together with SUA researchers).
In order to enhance credibility, the monitoring of deforestation rates should not be carried out by the project implementer	11) Calculate the annual deforestation rates in CBFM project villages (including as reference also general trends in miombo woodlands with or without CBFM projects).
Academia	
Little emphasis on socio-economic research	12) Include social components in applied research supporting the implementation of a new market-based conservation approach to facilitate its adoption. 13) Conduct frequent country wide and field specific seminars/workshops on new innovations amongst academics.

Table 3: Recommendations for donors (including SDC) and implementers of the forestry sector

Key findings	Recommendations
Favourable and stable forest governance is a prerequisite for successfully implementing a CBFM approach	14) Concerted and continuous policy advocacy for a favourable governance framework at high governmental level by donors, academia, project supported by media campaign (including television) are fundamental.
Some conflicts over VLFR boundary issues (land property rights)	15) CSPM should be systematically applied in CBFM projects since market-based conservation approach and gazettment of VLFRs are transforming previously held community relations between people over natural resource management.
Market strategies at village level are hardly visible and charcoal and timber producers are lacking capital for operating independently from production to selling point	16) Apply a Market System Development approach from the very beginning (design of project), give enough time and facilitate access to the capital for the producers.
Resistance to the sustainable CBFM model of part of academia	17) When introducing a new market-based conservation approach organise debate seminars, joint practical testing and trainings with the research communities to gain their support for the implementation of the new approach.
Late and limited promotion (beekeeping) of NWFP	18) Promote the use of NWFP in CBFM projects since they offer direct income to the households (in addition to the indirect social benefits from sustainable charcoal production and timber harvesting).
No or too little technical/ monitoring support by DFO after phasing out (almost all surveyed villages request continuous technical/ monitoring support)	19) Ensure / support a minimal continuous technical/monitoring after phasing out with sufficient expertise.
Frequent rotation of political leaders and at time of VNRC members renders the implementation of the CBFM model difficult	20) Develop a strategy for continuous trainings and refresher trainings.
At the moment sustainable charcoal production is outcompeted by crop farming which is financially more attractive (NPV becomes only positive after a long period without inclusion of environmental benefits)	21) Consider the inclusion of a REDD+ component (payments for ecosystem services) in CBFM projects to get additional revenue from the carbon market to render the protection and sustainable use of forest more profitable to avoid forests from transforming into crop cultivation.
Good road accessibility is key for developing a well-functioning value chain for sustainable charcoal	22) Promote sustainable charcoal production in accessible areas to ensure good prices for the production.
Illegal production of charcoal and timber is still persisting in the surveyed villages	23) Ensure a continuous monitoring / patrolling in collaboration with DFO

Table 4: Specific recommendations for Swiss Embassy/SDC

Key findings	Recommendations
Disinformation and misinformation of decision makers (lack of evidence-based information) and persistent resistance of part of key decision makers at governmental level and academia to the CBFM model	24) Organisation of a national (international) dissemination workshop on sustainable charcoal production by inviting all key decision makers from the Government, development partners, academia, NGOs, key international development and research organisations (CIFOR, FAO, UNEP, African Forest Forum, UN Decade on Ecosystem Restoration, ICARDA...), and representatives from other sustainable charcoal initiatives (e.g. Zambia) under the leadership of Swiss Embassy/SDC (with the support of the SDC Thematic Section CC/DRR/Environment and with broad media coverage including television).
Current REDD+ criteria offer the possibility for including sustainably harvested forest in the carbon market	25) Commission an economic study of the potential of the REDD+ carbon market (payments for ecosystem services) in miombo woodlands for both, protection and production forests (with a focus on sustainable charcoal making) in view of supporting the scaling-up at national and global level (Thematic Section CC/DRR/Environment)
Lack of ensured long-term monitoring of charcoal harvesting plots and assessment of annual deforestation rates by project implementer	26) Support the capacity of the NCMC for long-term monitoring of charcoal harvesting plots and annual assessment of deforestation rates.
Some best practices/lessons learnt are of global interest	27) The SDC Thematic Section CC/DDR/Environment should suggest appropriate channels for disseminating best practices/lessons learnt at the international (national) level.

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Annexe A: Evaluation matrix for end of project phase 3 (2019-2023)

Revised and amended evaluation questions from the ToR

Evaluative questions	Indicators	Sources	Methodology
Relevance			
To what extent the core design elements of the intervention (such as the theory of change, structure of the project components, choice of services and intervention partners) provide for systemic change and adequately reflect the needs and priorities of the target group?			
A) To what extent has the national forest policy been supportive for the project to achieve its objective?	Coherence between forest policy and project CBFM model	National forest strategy / policy papers	Comparison of national forest policy with project CBFM model
B) What is the comparative advantage of the project input to the forestry/energy/climate change sector compared to other programs of donors and government?	Complementarity of CoForEST	Forest programmes of other donors and government	Analysis of forestry/energy/climate change sector
C) Did the project design miss out an important element for successfully implementing a CBFM with a focus on sustainable charcoal production?	Missing elements in the theory of change	Theory of change / impact hypothesis	Analysis of theory of change / impact hypothesis
D) Were the promoted technics relevant for the actual needs at local and national level?	Coherence between promoted technics and needs of local and national beneficiaries	Project documents, evaluation reports, focus group discussion and interviews	Analysis of reports and interviews / focus group discussions
Coherence			
To what extent the project is compatible with interventions of other actors in the country and thematic field?			
A) Is the project intervention compatible with other SDC programmes / projects?	Complementarity and synergies of the project	SDC country programme	Analysis of SDC country programme
B) Is the project intervention compatible with intervention of other actors?	Complementarity and synergies of the project	Other interventions in the forestry/energy/climate change sector	Analysis of other interventions in the forestry/energy/climate change sector
Effectiveness			
What are the project's achievements towards the end of project targets?			
A) To what extent have the outputs and outcomes been attained in quantitative	Logframe indicators	Logframe	Assessment of indicators

and qualitative terms?			
B) To what extent has the target group been reached and involved in project implementation?	Participatory involvement of beneficiaries (including gender and vulnerable groups)	Annual reports, interviews / focus group discussions	Analysis of reports and interviews / focus group discussions
C) To what extent are the project interventions influencing the policy level with regard to CBFM?	Evolving forest policy level related to CBFM	National CBFM policy	Comparison of national CBFM policy and project model
D) To what extent did the project staff overcome any changes/challenges in a dynamic way?	Adaptive measures taken (existing monitoring and evaluation tools)	Annual reports, interviews / focus group discussions	Analysis of reports and interviews / focus group discussions
Efficiency			
To what extent the intervention delivers the results (outputs, outcomes) cost-effectively?			
A) Are the financial, human, and technical resources allocated to charcoal production within the project used efficiently?	High quality standard of the implementation	Project documents, interviews / focus group discussions	Analysis of documents and interviews / focus group discussions
B) Were complementary options, such as policy reforms or capacity building, evaluated alongside the project?	Alternative options assessed	Report	Analysis of report
C) Is there equitable access to forest resources among charcoal producers and timber harvester within the community?	Absence of conflicts over forest resources	Project documents, interviews / focus group discussions	Analysis of documents and interviews / focus group discussions
Sustainability			
Are the positive outcomes of the project and the flow of benefits likely to continue after external support ends (funding, technical assistance, coordination)?			
A) To what extent are partners and beneficiaries capable and motivated (technical capacity, ownership) to continue activities contributing to achieving the outcomes?	Capability and commitment of partners and beneficiaries	Interviews / focus group discussions	Analysis of interviews / focus group discussions
B) The extent to which contextual factors (forest policy and governance, politics, economic situation, social demands) are conducive to continuing activities	Favouring / disfavouring contextual factors	PEA, interviews	Contextual analysis

leading to outcomes?			
C) Has PEA considered in project design, implementation and adaptation?	PEA considered	Existing PEA	Analysis of PEA
D) Have MNRT and PO-RALG taken over the project activities as agreed upon when designing phase 3?	Lead of project activities by MNRT and PO-RALG	Interviews	Analysis of interviews

Annexe B: Evaluation matrix for end of project review (2012-2023)

Revised and amended evaluation questions from the ToR

Evaluative questions	Indicators	Sources	Methodology
OUTOCOME / IMPACT LEVEL REVIEW			
1) What are the direct and indirect, positive and negative higher effects of the project (impact)?			
A) What are the direct and indirect, positive and negative effects of the project at local beneficiary level?	Change in income and resilience of beneficiaries at community level over the project duration	Interviews / focus group discussions; project reports/documents	Comparison of initial (baseline) and current situation of the resilience and livelihoods of local beneficiaries
B) What real difference has the project made to the resilience and livelihoods of the beneficiaries?	Counterfactual (with and without project activities)	Reports, interviews / focus group discussions	Comparison between current level of resilience and livelihoods of communities and expected situation without project activities (not participating villages)
C) Who are the people who have benefited from the project activities (directly and indirectly)?	Direct and indirect beneficiaries (in numbers)	Report, interviews / focus group discussions	Analysis of reports and interviews / focus group discussions
D) What are the direct and indirect, positive and negative effects of the project at a) policy, b) governance / legislation and c) institutional level (authorities, research institutes...) related to CBFM?	a) new strategies / action plans b) forest management plans (charcoal making / timber), c) institutional commitment	a) official launching? b) new published forest rules (official gazette) c) increased support for the CBFM model from institutions (parliamentary initiatives, workshops, speeches of leaders, newspaper / tv...	Comparison of initial (baseline) and current situation of CBFM (understanding, awareness and implementation)
E) Was the scaling-up strategy appropriate?	Coherence between strategy and ecosystem / livelihood impact	Annual reports, evaluations	Assessment of annual reports, evaluations
2) Has the project halted deforestation in the project villages?			
A) Did deforestation trend in project villages change over project duration?	Forest cover change in selected project villages	Remote sensing analysis by the project / other organisations	Assessment of annual change in forest cover
B) Did deforestation trend in similar villages not participating in the project differ from project villages (counterfactual)?	Forest cover change in similar villages not participating in the project	Remote sensing analysis by the project / other organisations	Assessment of annual change in forest cover
3) What are the project's achievements towards the end-of-phase targets (effectiveness)?			
A) To what extent have the outcomes been	Logframe indicators	Logframe	Assessment of indicators

attained in quantitative and qualitative terms?			
B) To what extent has the target group been reached and involved in project implementation?	Participatory involvement of beneficiaries	Annual reports, interviews / focus group discussions	Analysis of reports and interviews / focus group discussions
C) To what extent did the project staff overcome any changes/challenges (adaptive project management)?	Adaptive measures taken (existing monitoring and evaluation tools)	Annual reports, interviews / focus group discussions	Analysis of reports and interviews / focus group discussions
4) Can the theory of change be confirmed?			
A) Were the underlying impact hypotheses of the theory of change realistic?	Targeted impact is met	Logframe and annual report 2023 (?)	Comparison of achieved and planned impact (consider counterfactual)
B) Were the impact hypotheses adapted to a changing context	Adaptive measures taken for the theory of change	Annual reports, oral information from project staff	Analysis of reports and oral communication
5) How economically has the project converted its resources/inputs into results considering quality and timeliness (efficiency)?			
A) Are the project targets being achieved in a cost-efficient manner compared with alternatives?	Indicators calculated by CBA, CEA or EFA; ratio project activities cost / alternatives	Project accounts, costs alternatives	CBA, CEA or EFA, comparison of alternatives?
B) Did expenditures deviate significantly from the budget?	Ration budget line / expenditure	Annual reports, project accounts	Analysis of reports
OUTPUT LEVEL REVIEW			
6) What are the main project outputs and outreach over the entire project duration considering the changes in the context?			
A) What are the main tangible project products at local and national level (goods, services)?	# FMP implemented. % forest enterprises applying promoted technique. Increased knowledge of trainees (charcoal makers). Increased capacities of forest enterprises. Use of appropriate dissemination channels (workshops related to CBFM, policy briefs, newspaper articles, TV broadcasts...).	Communication and dissemination report chapters, interviews project staff and other stakeholders. Knowledge of trainees assessed before and at the end of the training. % of autonomous forest enterprises.	Analysis of reports and oral communication
B) What is the project outreach at local, national, and international level?	Intervention area, # beneficiaries, % of acceptance of CBFM model at local and national level. Contributions to forest governance and legislation.	Interviews / focus group discussions at local level, interviews at institutional level	Analysis of reports and oral communication

	# citations of project lessons learnt on international platforms and research articles (national/international level).		
7) How did the efforts of various partners and specific contribution of SDC contribute to the implementation and results of the project under consideration of a changing context?			
A) Were the partner contributions significant to achieve the results?	Scope of partner contributions	Interviews at institutional level (development partners, authorities), annual and evaluation reports	Analysis of reports and oral communication
B) How the specific SDC contributions supported the achievement of results?	Role and importance of specific SDC contributions in project implementation	Interviews at Embassy/SDC, annual and evaluation reports	Analysis of reports and oral communication
TRANSVERSAL THEMES			
8) Have gender issues explicitly been considered in project design and implementation?			
A) What are the project effects on gender inequality?	Systematic consideration of gender elements in design and implementation	Interviews and focus group discussions, project documents	Analysis of reports and oral communication
B) Did women benefit equally from project activities in comparison to men?	% of women in beneficiaries groups % of women involved in project activities	Project documents	Analysis of documents
9) What are the project effects on environmental governance ?			
A) Did the Swiss Embassy / SDC support significantly the policy dialogue on CBFM?	Tangible initiatives / interventions from Swiss Embassy / SDC to support / promote CBFM?	Interviews at institutional level (development partners, authorities), evaluation reports	Analysis of reports and oral communication
B) How did the environmental governance framework evolve during project duration?	New forest policies, rules and regulations	Official gazette	Analysis of new forest policies, rules and regulations
10) Is climate change adaption and mitigation an integral part of the project strategy?			
A) To what extent does the project demonstrate awareness of current and future climate risks?	Systematic consideration of climate change adaptation	Project documents	Document analysis
B) What is the project's contribution to climate change mitigation?	Avoided deforestation in project area	Remote sensing analysis	Counterfactual: situation with and without project activities
11) Does the reporting, monitoring and evaluation system support appropriately the project's adaptive management?			
A) Is the reporting, monitoring and	Coherence of reporting, monitoring and	Project Documents, annual reports,	Analysis of documents

evaluation system appropriate and applied systematically?	evaluation allowing quantitative & qualitative assessments	logframe (indicators)	
PERFORMANCES OF IMPLEMENTING PARTNERS (TFCG & MJUMITA)			
12) What are the strengths and weaknesses of the implementing partners?			
A) Does the IP have appropriate qualifications and skills to implement the project?	Technical, social and communication skills of IP staff	Interviews with project staff and other stakeholders	Assessment of skills
B) Does the IP have the capacity to influence changes at local and national level (policy dialogue)?	Network and policy dialogue skills of IP staff	Interviews with project staff and other stakeholders	Assessment of skills

Annexe C: Rating system

IFAD Evaluation Manual (2015)

Rating scale	Score descriptor
Highly satisfactory (6)	Under the concerned criterion, the activity (project, programme, non-lending, etc.) achieved or surpassed all main targets, objectives, expectations, results (or impacts) and could be considered as a model within its project typology.
Satisfactory (5)	Under the concerned criterion, the activity achieved almost all (indicatively, over 80-95 per cent) of the main targets, objectives, expectations, results (or impacts).
Moderately satisfactory (4)	Under the concerned criterion, the activity achieved the majority (indicatively, 60 to 80 per cent) of the targets, objectives, expectations, results or impacts. However, a significant part of these was not achieved.
Moderately unsatisfactory (3)	Under the concerned criterion, the activity did not achieve its main targets, (indicatively, less than 60 per cent) objectives, expectations, results or impacts.
Unsatisfactory (2)	Under the concerned criterion, the activity achieved only a minority of its targets, objectives, expectations, results or impacts.
Highly unsatisfactory (1)	Under the concerned criterion, the activity (project, programme, non-lending, etc.) achieved almost none of its targets, objectives, expectations, results or impacts.

Annexe D: Key guiding questions

- 1) What are the key achievements from the TTCS /CoForEST project of 12 years?
- 2) What are the lessons learnt / best practices?
- 3) How did you collaborate with the TTCS /CoForEST (complementarity and synergies of activities)?
- 4) What are the remaining challenges for promoting the CBFM model with a focus on forest-based enterprises?
- 5) What are the key elements to consider for scaling-up the CBFM model?

Annexe E: Work plan field mission

Date	Activity	Location	Responsible persons
Sunday: 8.10.2023	Elaboration draft inception report	Morogoro +Switzerland	UB, FM
Monday: 16.10.2023	Discussions draft inception report Embassy; discussion tools for FGDs +KIIs	Dar +Switzerland	UB, FM,DB
Wednesd: 18.10.2023	Contacting the village/ district officials for field arrangements	Morogoro	FM, DB
	Training of research assistants	Morogoro	FM, all research assistants
Thursday: 19.10.2023	Travelling from Morogoro to Kilolo district, Iringa region	Iringa	FM, all research assistants
Friday: 20.10.2023	VPA - Mahenge village	Kilolo district	FM, all research assistants
Saturday: 21.10.2023	Contacting Districts Stakeholders	Morogoro	FM, all research assistants
Sunday: 22.10.2023	No work		
Monday: 23.10.2023	VPA - Matuli village	Morogoro rural	IP, RP, FE, FM
	VPA - Lulongwe village	Morogoro rural	DB, SC, IM, FM
Tuesday: 24.10.2023	VPA - Tununguo village	Morogoro rural	IP, RP, FE, FM
	VPA- Counterfactual 1 : Kisanga Stand village	Morogoro rural	DB, SC, IM, FM
Wednesd.: 25.10.2023	VPA - Maharaka village	Mvomero district	IM, RP, FE
	VPA - Kihondo village	Mvomero district	DB, SC, IM
	Travelling to DSM		FM
Thursday: 26.10.2023	VPA - Sewekipera village	Mvomero district	All research assistants
	Briefing Swiss embassy/ SDC & National stakeholders consultation	Dar es Salaam	UB, FM
Friday: 27.10.2023	International/National stakeholders (incl. Development partners)	Dar es Salaam	UB, FM
	VPA- Mfuluni village	Kilosa district	Bigirwa, Salma, Ikupa,
	VPA-Chabima village	Kilosa district	Irene, Raphael, Fatma,
Saturday: 28.10.2023	International/National stakeholders interviews	Dar es Salaam	UB, FM
	International/National stakeholders interviews	Dar es Salaam	UB, FM
	VPA-Unone village	Kilosa district	DB, SC, IM, FM
	VPA- Mbamba village	Kilosa district	IP, RP, FE, FM
Sunday: 29.10.2023	Traveling from Morogoro to Kilosa via Morogoro	Dar es Salaam	UB, FM

Monday: 30.10.2023	VPA - Madizini village	Kilosa district	IP, RP, FE, FM, UB
	VPA - Kitunduweta village	Kilosa district	DB, SC, IM, FM, UB
	Morning prayer meeting Kilosa district	Kilosa district	UB, FM
Tuesday: 31.10.2023	VPA- Counterfactual village 2: Munisagara	Kilosa district	DB, SC, IM, FM, UB
	VPA-Ulaya Kibaoni village	Kilosa district	IP, RP, FE, UB, FM
	VPA- Ihombwe village	Kilosa district	All research assistants
	Zoom meeting with stakeholders in Dodoma	Kilosa district	UB, FM
Wednesday: 1.11.2023	VPA- Nyali village	Kilosa district	DB, SC, IM, UB, FM
	VPA-Kigunga village	Kilosa district	IP, RP, FE, UB, FM
	Travelling from Kilosa to Morogoro	Morogoro	All
Thursday: 2.11.2023	Traveling from Morogoro to Nachingwea District, Lindi Region (REDD+)	Nachingwea district	All
Friday: 3.11.2023	VPA- Lionja B village	Nachingwea district	All
	VPA- Counterfactual village 3: LionjaA village	Nachingwea district	All
	Travelling from Nachingwea district to Ruangwa district	Ruangwa district	All
Saturday:4.11.2023	VPA-Malolo village	Ruangwa district	All
	Travelling from Ruangwa to Lindi	Lindi	All
Sunday:5.11.2023	Travelling from Lindi to Morogoro	Morogoro	All
Monday: 6.11.2023	Morning prayer meeting Morogoro Rural/DC	Morogoro	UB, FM
	Stakeholders consultation in Morogoro	Morogoro	UB, FM
Tuesday: 7.11.2023	Travelling from Morogoro to Dar Es Salaam	Dar es Salaam	UB, FM
Wednesday:8.11.2023	Restitution Workshop	Dar es Salaam	UB, FM
Thursday: 9.11.2023	Organisation report writing	Dar es Salaam	UB, FM

Dr. Urs Bloesch (UB), Prof. Felister Mombo (FM), Daudi Bigirwa (DB), Irene Panagyo (IP), Fatma Elharthy (FE), Salma Chitete (SC), Ikupa Mboya (IM) and Raphael Philip (RP) UB will also visit and observe charcoal making & timber harvesting sites while the team is doing the village performance assessment.

Village phase 1

Village phase 2

Village phase 3

Annexe F: People met at national, regional and district level

SN	Name	Institution	Location	Title	Mobile	E mail Address
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