Finance for Integrated Landscape Management

A case study on the Bale Mountains Eco-region REDD+ project, Ethiopia

A report by Pastoral and Environmental Network in the Horn of Africa (PENHA)

Pastoral & Environmental Network in the Horn of Africa

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About this Study

This report was prepared by PENHA in collaboration with CIFOR-ICRAF and EEFRI. Support was provided by Tropenbos International (TBI), partner of the CGIAR research programme on Forests, Trees and Agroforestry (FTA), a global partnership that unites international organizations engaged in research on food security. Additional financial support was provided through the Working Landscapes programme financed by the Ministry of Foreign Affairs of the Netherlands and NWO-WOTRO Senior Expert Program (grant number 19753).

The report is part of a series of case studies that provide insights into various mechanisms used to increase access to finance for smallholder farmers, SMEs and communities in their efforts to contribute to sustainable landscapes. The case studies focus on the strategies used by various stakeholders to reduce the risks of selected financial flows for investors, intermediaries and recipients. These case studies follow up on recommendations made by participants in the consultative process on innovative finance for sustainable landscapes. The goal is to provide more evidence of successful strategies in order to increase access to finance for smallholder farmers, SMEs and communities (Louman et al. 2020).

This case study assessed the three major pathways for financial flows identified in the Bale Mountains Eco-region REDD+ Carbon project, Oromia, Ethiopia, implemented by Farm Africa in collaboration with SOS Sahel Ethiopia. This was analysed in the national context, with data collected on the experiences of financing restoration experiences of seven other NGOs and governmental organizations, providing important lessons for policy and practice.

The opinions and views expressed in this publication are the responsibility of the authors and do not necessarily reflect the opinions and views of Tropenbos International, the CGIAR Research Program on Forests, Trees and Agroforestry (FTA) and NWO-WOTRO.

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Authors:
Niguse Hagazi (ICRAF), Habtemariam Kassa (CIFOR), John Livingstone (PENHA), Mitiku Haile (Mekelle University), Mindaye Teshome (Ethiopian Environment and Forest Research Institute, EEFRI)

Final editing:
Nick Pasiecznik and Bas Louman (Tropenbos International)

Photos: Bale Mountains Eco-region: Mindaye Teshome (Ethiopian Environment and Forest Research Institute, EEFRI).

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Contents

Preface

This is one of a series of case studies on financial value chains implemented by partners of the CGIAR Research Program on Forests, Trees and Agroforestry (FTA) and coordinated by Tropenbos International. These case studies aim to provide a greater insight into the strategies applied by their various stakeholders to increase the participation of smallholders and support the transformation to resilient landscapes.

Most tropical rural landscapes are still subject to high rates of deforestation and forest degradation, which makes them vulnerable to climate change and other shocks. Although smallholders are important actors in these processes, they rarely benefit from existing financial flows. They need to be considered when investing in tropical rural landscapes.

The methodology used by the case studies (Primo et al. 2021) was designed to be implemented by FTA and its partner organizations that are studying finance for integrated landscape management. While the methodology is useful in a wide range of cases, the authors specifically intend it to apply to the processes that key informants considered to be successful in supporting landscape initiatives and/or in increasing access to finance for all possible recipients — including marginalized and disadvantaged groups — within landscapes. Applying this methodology in a range of cases such as this one will contribute to generating an information base of comparable results. People can draw lessons from this information base to design processes that support inclusive financing for integrated landscape initiatives.

It should be noted that the case study aims to learn from the experience, to see what was accomplished, how it was accomplished and what more could be accomplished through improvements to the strategies applied. They do not include an evaluation of the overall performance of the cases studied, and therefore, do not provide statistically representative samples of all the impacts of the cases studied on all the farmers involved.

The methodology comprises three phases.

Phase 1 involves an in-depth interview with the implementing agency (IA), which plays a central role as broker or intermediary of financial flows to existing landscape initiatives. This phase aims to define six things: 1) the main sources of finance and their characteristics; 2) the principal groups of recipients; 3) the financial flows associated with the various sources and recipients; 4) the process of managing and channelling funds; 5) the financial mechanisms applied and their underlying rules; and 6) the risks and barriers involved from the perspective of the IA. In addition, the interview in Phase 1 will identify stakeholders to be interviewed in the subsequent phases.

Phase 2 comprises collecting data related to the sources of finance, recipients (groups and individuals), and the providers of non-financial services who engage with them. It includes interviews with four types of key informants, who were identified during Phase 1: 2a) representatives of the finance sources; 2b) representatives of recipient groups; 2c) service providers engaged with recipients; and 2d) selected individual recipients and non-recipients (particularly smallholders). Phase 2 focuses on the risks and barriers perceived by each of the stakeholder groups, and ways to reduce them. It also seeks to determine the extent to which the financial flows have met stakeholder expectations, as well as the perceived effects of the financial flows on sustainability goals in relation to the landscape.

Phase 3 involves validating the information gathered in Phase 2. Focus group discussions held in Phase 3 involve representatives of

principal recipients and groups of recipients, service providers, the implementing agency, and other stakeholders who are relevant to the financial flows.

The study adapted the methodology developed by Tropenbos International to assess finance for integrated landscape management (Primo et al., 2021). However, due to the conflict in Ethiopia and the State of Emergency in place since 2021, modifications to the methodology were necessary. Data was collected through individual and key informant interviews, focus group discussions and consultative meetings, as well as questionnaires to Farm Africa as the Implementing Agency (IA) for the selected case study on the Bale Mountains Eco-region REDD+ carbon project, and to other restoration program IAs working in various parts of Ethiopia to provide information on the national context. Findings were validated in a workshop with key stakeholders.

Executive summary

In addition to a wide review of experiences nationally, this study presents the findings from an assessment conducted with the Hidha Birra cooperative, one of the participatory forest management (PFM) cooperatives established with the support of the FARM Africa/SOS Sahel REDD+ project to manage and utilize the natural forests in Wajitu Shabe Kebele in Goba woreda. A survey showed that the cooperative is among 64 cooperatives that started to receive carbon payments between 2012 and 2015. Survey participants acknowledged the payments (totalling 1.7 million Birr, US$42,500) for the joint forest management efforts and emission reductions.

The effects of the financial flows were equally perceived by both CBO members and non-members. These were that carbon payments have a positive effect in reducing illegal activities in the natural forest (deforestation, illegal settlement, and agricultural expansion), as well as in terms of the extraction of forest products for cash income, and strengthening ongoing efforts to regularly monitor the forest. The executive committees also indicated that carbon payments attracted many non-members to join the cooperative. But, CBO members and non-members indicated the restricted use rights, with low payments for certain activities, and the fact that community members have to seek permission to access the forest as negative effects of the carbon finance programs. Respondents suggested that improvements could be made to reduce the lengthy process required to sell emission reductions and to receive the carbon money. They also stated that the delay in receiving payments diminished members' motivation to protect forested land, lowered the level of trust between government, cooperative leaders, and members, and contributed to the expansion of illegal activities (deforestation and agricultural expansion) inside the natural forest.

Key informants from government organisations at district level, those of the Cooperative Promotion Office and of Oromia Environment, Forest and Climate Change Authority (OEFCCA) also noted the significance of carbon payments for livelihood improvement as well as environmental protection in the Bale Mountains Eco-region. They also indicated their fear that the current misuse of the money might affect future engagement and commitment of CBO members with respect to efforts to protect the forest. In some cooperatives, money was used for other purposes such as the purchase of Renaissance Dam bonds, and to cover expenditures related to security issues, without the consent of all members.

Additionally, key informants from Goba district, the Oromia Forest and Wildlife Enterprise (OFWE) branch office and the Environment, Forest and Climate Change Agency indicated that inadequate budgets and lack of logistics such as vehicles, fuel and allowances are the major problems that limit their engagement and ability to provide the required technical support for the PFM cooperatives in their woredas on a regular basis. There is also a need to develop sustainable financial sources for monitoring and law enforcement activities in the eco-region, with the suggestion that part of the revenue should be directly channelled to the Goba district OFWE branch office for these purposes.

Cooperative committee members also raised several challenges related to financial flows. These included the minimal role of the Oromia Forest and Wildlife Enterprise (OFWE) in protecting, developing, and managing natural forests, the higher weight of benefit sharing for OFWE (40%), the delay of money disbursement to cooperatives, not including the substantial interest accrued while the carbon money sat in OFWE bank accounts, weak communications, and lengthy

bureaucratic processes in OFWE. In response to the observed challenges, the committees suggested new channels for the future and further dialogue on the benefit-sharing agreements. (It should be noted here that forests are owned by the state, notwithstanding the important role of community groups under participatory forest management. OFWE has legal standing, as a parastatal, a governmental agency with commercial goals.)

The survey also showed that both CBO members and non-members were exposed to various risks including an uncertain climate (droughts and floods), poverty, pests and diseases, lower crop productivity, lack of sufficient and timely supplies of agricultural inputs (improved seed, fertilizers and pesticides), lack of interest-free and Sharia-compliant credit services, and a lack of basic infrastructure (all-weather roads, clean drinking water, electricity, and local market places). These are fundamental risks to program implementation, which threaten the viability of the current approach to carbon finance. While there are risks at other levels, not least the locking in of low carbon prices in decades-long agreements, these program-level risks diminish the incentives for community members to continue with sustainable forest management, and forego incomes from the conversion of forest to farming land. In this study, existing risk mitigation strategies and the possible future risk mitigation strategies were also identified. In addition, the survey explored the most common barriers both CBO members and non-members encountered in attempting to access available finance under the REDD+ project, and measures to overcome the observed barriers.

Some key points, discussed more fully in the concluding section, are summarized here.

- In the eco-region, 64 PFM cooperatives have received payments from the emission reduction activities. This study presents the results of a survey conducted with one cooperative in Goba woreda. The findings suggest the need for a more comprehensive study that includes other cooperatives that have received similar finance through certified emission reduction activities.
- This survey was conducted shortly after the receipt of the first disbursement of new finance under the certified emission reduction mechanism. It is possible that some of the challenges observed in this study can be resolved through discussions among the concerned parties, including CBO members and non-members. Other challenges must be addressed at regional and national levels.
- From the case studied, surge several fundamental questions around the size and distribution of the economic benefits, direct and indirect, to communities and individuals. This was not just the case in the woreda studied. None of the other programs looked at during the initial overview are able to provide adequate data on these, or the data that would make it possible to determine whether or not the benefits derived provide sufficient incentives to conserve forests. This necessitates a follow-up study designed to generate more comprehensive information about the impacts of carbon finance and to draw concrete recommendations that assist informed decision-making.
- This study highlights the need to establish benefit-sharing guidelines and procedures at national, regional and local levels to ensure that carbon payments reach the CBO members and, in the case of Oromia, to clarify the roles and responsibilities of the CBOs, CBO members, and of OFWE, the body officially responsible for administering forests.
- The findings suggest the need for continuous technical support and guidance to the CBO committees and members on the best use of carbon finance money to address the development priorities and interests of the CBO members. This is essential to ensure that the community realizes the benefits accruing from the sustainable

management of forest resources. The use of financial resources should also be monitored, with a regular audit. Furthermore, the benefit-sharing mechanism should consider community groups, such as unemployed youth, that are not members of the CBOs.

- It is important to establish a grievance mechanism that allows community members to express dissatisfaction with and complaints about the flow and use of carbon finance money.
- Findings indicate that activities in support of the sustainable management of the natural forest are not properly undertaken as a result of the limited budget available to the district office of OFWE and the Woreda Agriculture Office. The main office of OFWE should allocate an adequate budget and support the sustainable management of the forests.
- More fundamentally, this study has identified a number of risks and barriers, principally at the program level, which threaten the viability of this approach to forest restoration and conservation through carbon finance. These relate to well-understood challenges of poverty and vulnerability in rural communities and the need to incentivize conservation, as well as to (forest) governance. If these are not addressed, verified gains may be reversed and the foundations of these carbon finance programs could collapse.


SECTION I

1. Background

Ethiopia has embarked on an ambitious program of restoring 22 million hectares of degraded land by 2030 as part of the Ethiopian Climate-Resilient Green Economy (CRGE) Strategy. However, financing restoration has become a central issue to achieve its intended targets. On the other hand, the government has devoted significant energy to climate diplomacy and engaged for decades in efforts to restore degraded landscapes with the aim of curbing the effects of climate change and deforestation, as well as building resilience in the face of climate change, while improving the livelihoods of communities. With the CRGE strategy, Ethiopia has placed environmental management at the centre of policy, with an emphasis on forest restoration and protection. In addition to the Green Legacy tree planting campaign launched in 2019, participatory forest management (PFM) mainly in the wet forests of the south and west (Tolera et al., 2015; Lemenih and Biot, 2017), and landscape restoration through area exclosures (AE) with assisted natural regeneration (ANR) and enrichment planting in the drier north and east (Yigremachew et al., 2015;. Birhane et al., 2017; Hagazi et al., 2020), have been practiced for decades as forest restoration and protection activities. There is now a renewed emphasis on restoration of degraded areas through PFM and AE as recognized approaches and methods for accelerating landscape restoration efforts in the drylands, whose trees and woodlands account for some 70% of Ethiopia's carbon sequestration potential, as well as providing supporting livelihoods for community members, organized as forest user groups in the form of community based organizations (CBOs) established and legalized through cooperative agencies (Moges et al., 2010; Atmadja et al., 2019; FAO, 2019; Birhane et al., 2020).

Over three decades, PFM and AE efforts have succeeded in restoring degraded lands in Oromia and Tigray and preventing the further loss of forest cover. But both the PFM and AE approaches are running into trouble. Both have failed to generate incomes for local people that compensate for incomes foregone as a result of restricted land/forest use (Haile et al., 2020). With the failure to generate and share economic benefits, local communities are fast reaching a point where they will no longer be able to maintain these efforts. Among the many other nature and human induced challenges and constraints, financial insecurities and inadequate incentives have undermined the success of these efforts, as forest restoration requires long-term and sufficient investment and management interventions. Restoration programs/projects have always set ambitious goals of restoring vast areas, however meeting these targets depends on many factors, but in particular on the ability to generate a substantial level of investment. And this is even more of a challenge in the drylands. The Economics of Ecosystem and Biodiversity (TEEB, 2009; FAO and GM-UNCCD, 2015) suggests that at least US$2,390 of funding is needed to restore one hectare of land, that highlights how expensive it is to restore degraded areas and the need for investment that makes it possible to generate at least modest incomes for local communities through ensuring various benefits and ecosystem services from restored areas/landscapes. According to Lemenih and Biot (2017), the Reducing Emissions from Deforestation and Forest Degradation (REDD+) program in Ethiopia could offer a framework for creating additional income streams that incentivize forest conservation by earning carbon credits for avoiding deforestation and forest degradation, building on a participatory forest management (PFM) approach that supports local forest users and the government to manage the responsibilities and benefits of forests.

In the south and west, community mobilization and PFM programs have been funded by NGOs, with a view to accessing international carbon finance. The widely acclaimed Humbo Project (Shames et al., 2012) and the Bale Mountains Eco-region REDD+ project (OFWE, Farm Africa and SOS Sahel Ethiopia, 2014; Lemenih and Biot, 2017) are able to access such financing. In other projects in Tigray, success was achieved, with little or no external support, by mobilizing communities who were highly motivated and willing to commit their own labour freely and make sacrifices (Haile and Gebregziabher, 2020). But the sums involved in both Humbo and Bale have been quite modest, and there is considerable uncertainty around the international price of carbon and the long-term viability of these restoration programs/projects.

In Oromia, where the Oromia Forest and Wildlife Enterprise (OFWE) is a proponent partner, Farm Africa together with SOS Sahel Ethiopia is one of the NGOs accessing international carbon finance from corporate sources, implementing restoration activities through the PFM approach in the Bale Mountains Eco-region, which is a large area endowed with a diversity of fauna and flora (OFWE, Farm Africa and SOS Sahel Ethiopia, 2014). The area has however, experienced a high level of deforestation and forest degradation, adversely affecting the ecosystem services generated from the eco-region and the wellbeing of the communities who rely on the resources. To address the observed issues related to restoration in the eco-region, a pilot REDD+ project has been implemented with the aim of sustainably managing the area's unique biodiversity and enhancing ecosystem services, as well as improving the social and economic wellbeing of communities.

SECTION II

2. Methodology and approach

2.1 Scope and objectives

This study seeks to enhance understanding on the different ways in which restoration can be financed and made economically sustainable. So, a case of a carbon offset-based NGO program supporting tree-based livelihoods and enterprises was examined through the PFM user groups approach in the Bale Mountains Eco-region of Oromia national regional state, alongside an assessment of the experiences and lessons of other restoration program implementation agencies (IAs) in Ethiopia to provide a national context.

Objectives

- To provide a deeper understanding of different stakeholder expectations of restoration financing in Ethiopia and the extent to which carbon finance addresses these expectations.
- To identify and examine existing practices with respect to financing arrangements between and among the stakeholders involved along the financial flow.
- To identify risk perceptions among the different stakeholders in relation to carbon finance, risk mitigation strategies, and resulting risk exposure for different stakeholder groups.
- To identify the main barriers to the expansion of (carbon) finance for restoration and analyse experiences.

2.2 Case study background

2.2.1 Area description

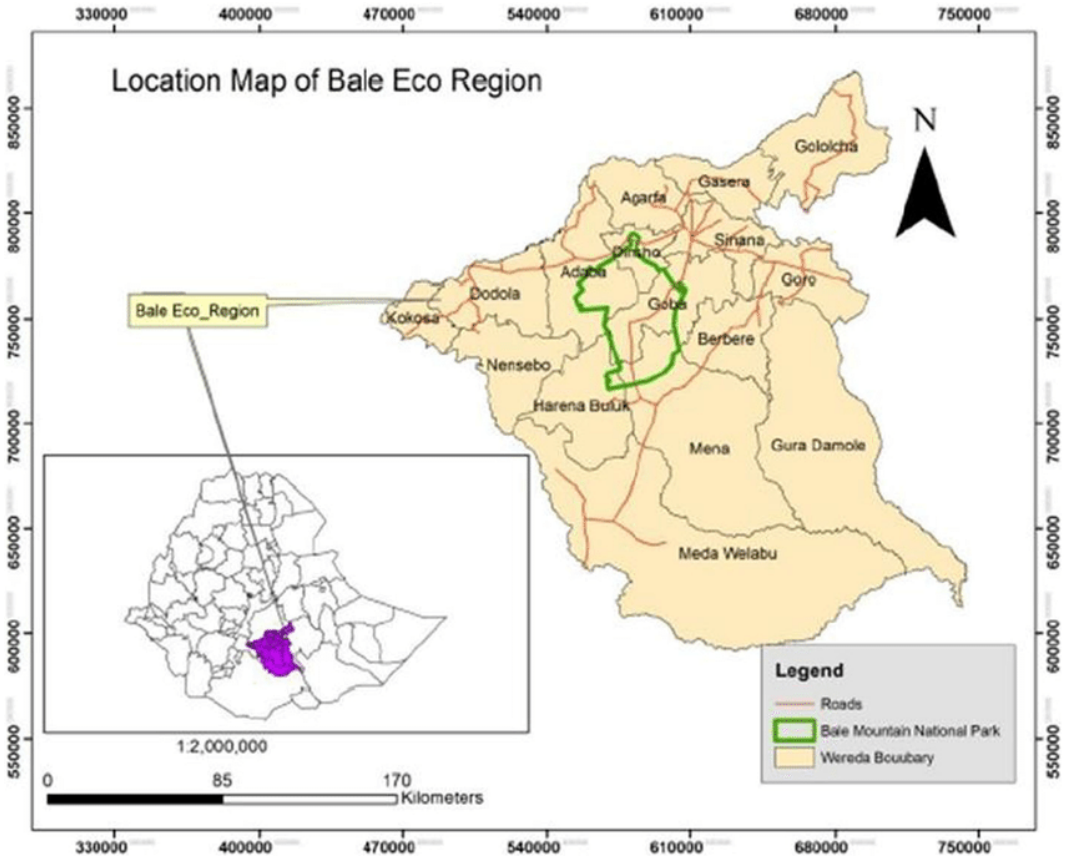
The Bale Mountains Eco-Region in Oromia National regional State lies between 50º22'and 80º08'N, and between 38º41'and 40º44'E (Fig. 1). It encompasses six National Forest Priority Areas (NFPAs), namely, *Aloshe Batu*, *Goro Bale*, *Harana Kokosa*, *Menna Angetu*, *Kubayu*, and *Adaba Dodola*, covering a total area of 480,910 ha.

The forest and other natural resources of the area provide diverse ecosystem services and products, and support the livelihoods of people inhabiting the eco-region and beyond. Despite this fact, the Bale Mountains Eco-region has experienced a high level of deforestation and forest degradation. For example, the average annual deforestation rate was estimated at 3.7% between 2000 and 2011 (Hou-Jones et al., 2019). In general, the expansion of agricultural activities, illegal settlement, overgrazing, forest fires, and unsustainable exploitation of forest resources are the major problems that threaten the unique and globally important fauna and flora of the eco-region.

2.2.2 Project description

To address the observed problems, a pilot REDD+ project using a PFM approach was implemented by Farm Africa as the key facilitator and implementing agency, in partnership with SOS Sahel Ethiopia, and OFWE as a proponent partner. In addition to the PFM practices adopted, building the capacity of local communities was a central activity undertaken with a view to sustainably managing land and forest resources in the eco-region. This PFM based restoration project was implemented in two phases, with the first conducted over 2012-2015 and the second over 2016–2020. During the first phase, the project established 64 community-based organizations (CBOs) as cooperatives, also called PFM groups, across the eco-region. Each cooperative signed a joint forest management agreement with OFWE, which is a quasi-governmental organization with extensive commercial activities. Each cooperative has its own designated forest land management plan, prepared during the initial phase of the project. In line with this, various capacity building activities were provided for the cooperative members, executive committees, and government officials. Over this period, it was reported that deforestation

Figure 1: Location of the target eco-region (source: Farm Africa, 2019).



was reduced by 62%, which is equivalent to 5.5 million tonnes of reduced CO2 emissions (Lemenih and Biot, 2017). More recently, emission reductions in the eco-region were sold under the verified carbon standard (VCS) market system, and the CBOs received a share of the payments resulting from their cumulative efforts.

2.2.3 Study forest and user group description

The Hidha Birra CBO or PFM group was the target study group found in Wajitu Shabe kebele (a kebele being the smallest administrative unit in Ethiopia), of Goba Woreda (or district), and located between 06056.5'48.2''N and 04006'51.0''E, some 30 km from Goba town. The forest has a total area of 2,013 ha, divided into three compartments, Wajitu (599 ha), Shabe (612 ha) and Seysula (802 ha), to facilitate the management of forest resources (Fig 2.). The forest neighbours Wacho Mishrge kebele in the north, whereas the southern part is bounded by an Awash Kolati kebele forest. It also shares borders with Illasa Hagala forest in the west and the eastern part is bordered by Odubulu forest.

According to a recent survey report by Farm Africa and its partners (Farm Africa, 2019), the forest includes 29 different woody species. The overall mean density of mature trees, saplings and seedlings was 429 per hectare, with a further 7,136 shrubs per hectare. The proportion of seedlings was 66.35 %, while saplings and trees accounted for 29.66 % and 3.99%, respectively. The forest has a mean basal area of circa 20 m2 ha^{-1}, ranging from 18 m^2 ha^{-1} (Seysula compartment) to 23 m^2 ha^{-1} (Shabe compartment) (Farm Africa, 2019).

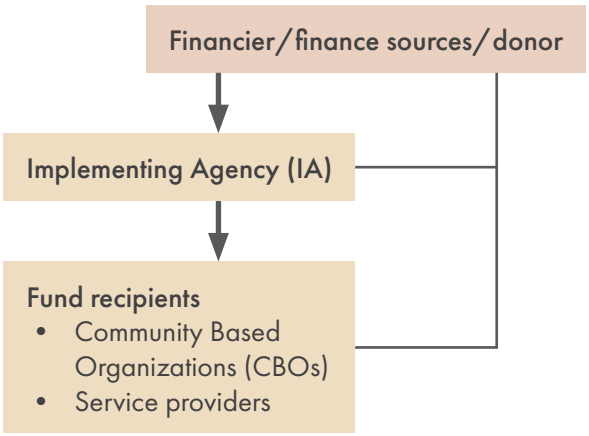
The farming households in Wajitu Shabe kebele established a participatory forest management cooperative with the support of Farm Africa and SOS Sahel Ethiopia in 2013 called the Hidha Birra Forest Managing Cooperative. It was legalized by the Bale Zone Cooperative Promotion Office. It was founded

with 62 farming household members, with an initial capital of 12,400 Birr[1] (US$310). The cooperative has since grown substantially. Currently, the membership and capital stand at 317 members (273 male and 39 female) and 454,110 Ethiopia Birr (US$11,352), with movable assets of 429,656 Birr (US$10,741) and working capital of 622,454 Birr (US$15,561). In 2013, the cooperative signed a participatory joint forest management agreement with OFWE. Over the last five years, the two parties have been implementing joint forest management practices. The Hidha Birra community based organization (CBO) is one of the participants in the REDD + project in Bale eco-region in Goba woreda and to date it has obtained 1.7 million Birr (US$42,500) from the sale of carbon credits.

2.3 Data collection methods and tools

The study has adapted the methodology developed by Tropenbos International (TBI) to assess finance for integrated landscape management (Primo et al., 2021) and conducted individual and key informant interviews, focus group discussions and consultative meetings, as well as emailing questionnaires to Farm Africa as the Implementing Agency (IA) for the selected case study REDD+ carbon project and to other restoration program IAs working in various parts of Ethiopia to provide a broader context. For the case study, the respondents were mainly the implementing agency (Farm Africa), fund recipients and non-recipients, and other service providers. The questionnaires and/ checklists were prepared with a view to identifying the nature of financial flows from one actor to the other (Fig. 2), the risks and the barriers, along with mitigation measures applied and suggested to overcome or at least minimize the risks and barriers in restoration financing programs.

Figure 2: Schematic representation of the financial flow for restoration programs



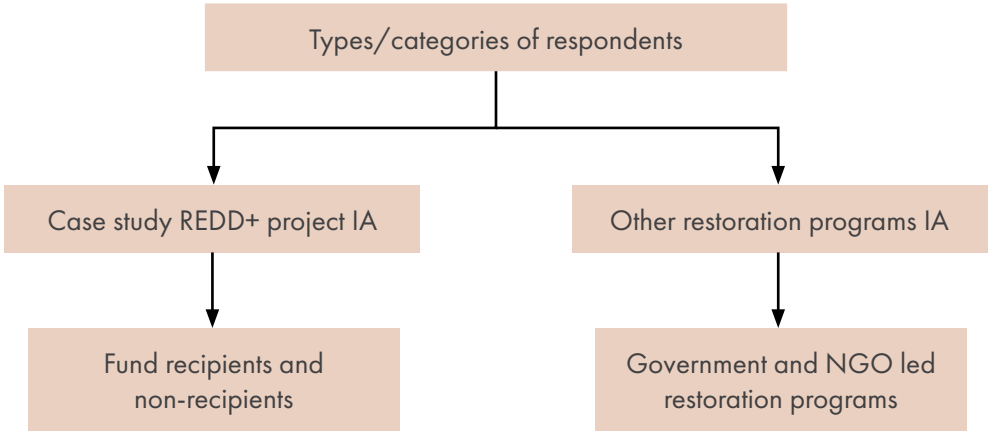
Data collection involved both primary, and secondary sources such as project documents and annual reports, and this information was used to refine the methodological approach to fit the local context and to triangulate with findings from respondents. Primary data was obtained through key informant interviews, individual household surveys and focus group discussions. Key informant interviews were conducted with members of the executive committees of user groups, service providers for cooperatives including the woreda level expert from the Cooperatives Promotion Agency, the Environment, Forest, and Climate Change Authority (OEFCCA) and the OFWE branch office at Goba district. The household survey included individual finance recipients (CBO members) from the Hidha Birra cooperative and non-recipient farmers (non-members) from Wajitu Shabe kebele, and interviews with 15 member farmers and 5 non-member farmers, five committee leaders, and 3 service providers. Focus group discussions were also conducted with female and male-headed households participating in the cooperative.

To provide an overview of financing restoration programs at national level, ten implementing agencies were selected (3 governmental organizations and 7 NGOs), with experience in implementing restoration programs, to collect information related to financial flows, risks

1 US$1 to 40 Birr has been taken as an average exchange rate for 2021.

and barriers, along with mitigation strategies and measures. Accordingly, a questionnaire and checklist was prepared and sent to each IA. Of the restoration program implementing agencies, the Oromia Forest Landscape Restoration Program, the Tigray REDD+ program and the National REDD+ restoration program, from the government sector, and four additional NGOs, the Catholic Relief Society, CARE Ethiopia, WeForest and ORDA provided responses.

Figure 3: Schematic representation of respondents



All interviews and meetings were conducted in a Covid-safe manner, with appropriate social distancing and hand washing measures.

2.4 Data organization and analysis

The information and data gathered were organized to be able to analyse the lessons and facilitate learning at national level as per the information collected from various restoration implementing agencies, and to understand the details from the case study related to the risks perceived by fund recipients, non-recipients and service providers, alongside the barriers to accessing the finance available, and ways to overcome barriers and risks. It also covered the extent to which the financial flows have met stakeholder expectations, as well as the perceived effects of the financial flows on sustainability goals, taking the REDD+ carbon finance in Bale Mountains Eco-region as a case study. The study also captured the mechanisms for benefit sharing at community level, considering the effectiveness of related interventions in terms of increased incomes and resilience, as well as biodiversity conservation and the control of GHG emissions.

Data collected from the national government and non-government actors was used to see and understand the overview of financing restoration at national level. Whereas the data collected from the study area was used to understand and examine the details of carbon financing and the results are specifically representative for the case that has been studied. For both data sources, a descriptive analysis was employed.


SECTION III

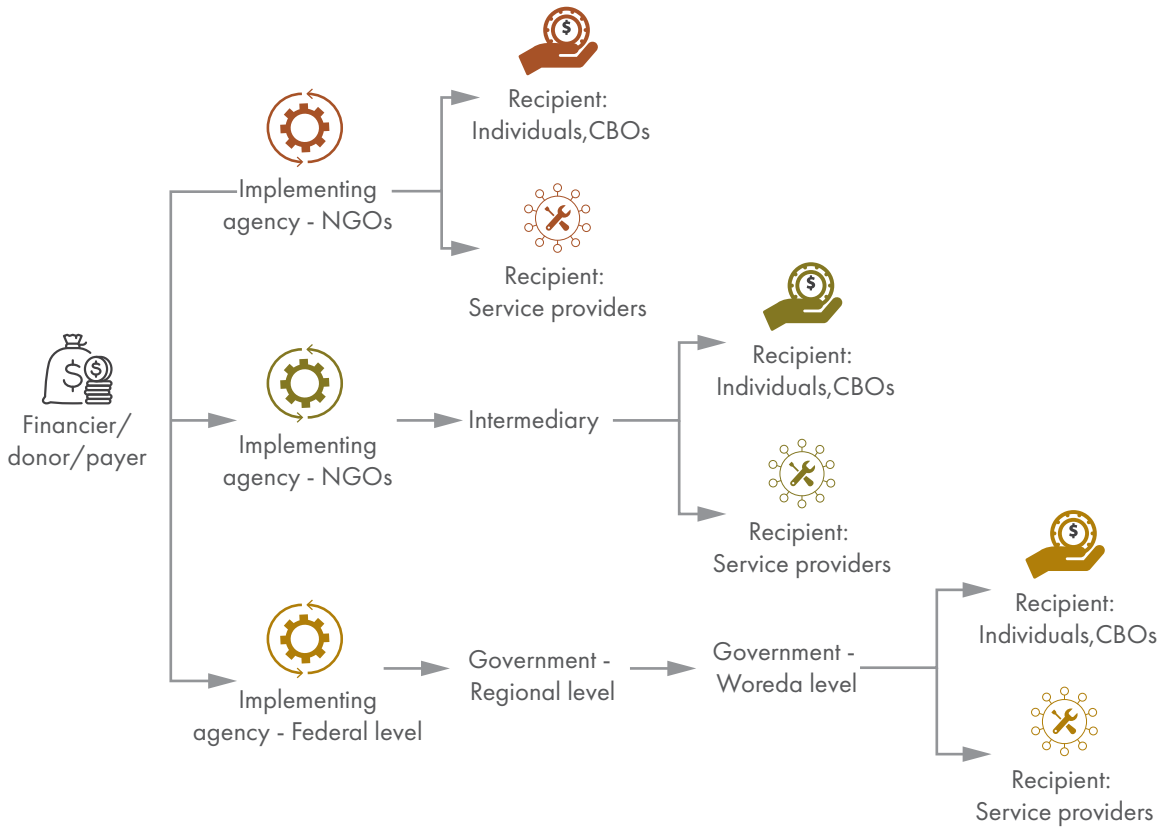
3. Results and discussion

3.1 National overview of financing restoration programs

3.1.1 Financial flows

Responses gathered from seven-restoration program implementing agencies revealed that there are three main kinds of financial flows and arrangements across participating actors (Fig. 4). These flows were from donor or financier to the IA and then directly to recipients and, in some cases, with an intermediary between the IA and the recipients, typically NGOs who are active in implementing restoration programs. However, programs like REDD+, being run by the government, have a different channelling of finance that is longer than the channel for restoration programs run by NGOs (Fig. 4).

Figure 4. Major financial/fund flows arrangements across the participating actors.



In the case of NGOs as restoration IAs, it was found that financial flows have been mainly through grants. The amount of the grant that was channelled from IAs to the intermediatory and then to the end users varies in amount and as a percentage, as there are costs to be deducted for various operations along the channel of funding. The responses from the IAs indicated that costs to be deducted along the way, while chanelling funds from one actor to the other, are mainly related to staffing and overheads, office supplies and travel costs (substantial, given the large areas covered), capacity building (technical support and backstopping), organizing higher level experience sharing and exchange visits, as well as monitoring and evaluation activities. The percentage of funds reaching the final beneficiaries is not known. None of the NGO programs are able to provide this datum.

Beneficiaries receive the funds in a variety of ways, through employment opportunities created, through cash payments, in some cases, through in-kind support and technical assistance, both from the IAs and from service providers, as well as in the form of broader ecosystem-based benefits and services resulting from restoration in their landscapes. There has been no rigorous analysis of the economic value of the in-kind support provided to communities. For example, where funds are used to provide a new water point for a community, an economic assessment needs to take into account not just the cash value of the water point, but also factors such as the benefits in terms of reduced costs associated with fetching water and reduced expenditure on purchased water from other sources. From the point of view of the incentives for conservation, the indirect and modest nature of the benefits derived raises concerns. And, with respect to the management of NGO programs, the lack of precision on the allocation of funds raises additional concerns. It is also clear that programs such as the one implemented by Farm Africa involve substantial management costs that are not captured in many assessments of Ethiopian carbon finance programs, and present an obstacle to replication and expansion. This particular program applies to the first and second financial flow indicated in Fig 4.

However, according to Gonfa (2021), who was also interviewed as the representative of the OFLP during this study, in the case of the government led REDD+ restoration program, it was noted that there is a different channelling of funds, with a benefit sharing mechanism that allocates money in two ways: vertical and horizontal. The OFLP is the first pilot sub-national emission reduction program being implemented in Ethiopia and was designed as part of Ethiopia's REDD+ Readiness Process (Gonfa, 2021). The vertical benefit sharing is set at 20%:75%:5% between government: community: and private forest developers. The government, in the context of this benefit sharing mechanism, comprises distinct entities that include the Environment, Forest and Climate Change Commission (EFCCC) at federal level, and the Oromia Environment, Forest and Climate Change Authority (OEFCCA) at regional level, along with other relevant land use sector bureaus coordinating REDD+ activities at their respective levels in the governance hierarchy (Gonfa, 2021). It was also noted that the 20% government share is further divided between the federal and regional entities at 5%:15% (federal: regional) and it is specified that the funds should be used to promote activities that will generate additional emission reductions and to coordinate activities and policies among sectors. The underlying principle in the utilization of the government share at federal and regional levels is to ensure that it is used for REDD+ related activities and address the drivers of deforestation and forest degradation.

According to Gonfa (2021), the horizonal share relates to the 75% community share that must be dispensed among the different administrative entities in Oromia region that represent communities across the region (at zone, district/woreda and then kebele levels). Accordingly, the horizontal benefit share involves a three-step process: 1st step - sharing among administrative zones, 2nd step – sharing among districts in each zone, and 3rd step – sharing among kebeles in each district. This financing arrangement was chosen due to its suitability for forest governance and service provision to the forest managing communities, and the benefit sharing among the various zones in the region depends on performance and forest area. Performance refers mainly to avoided deforestation and forest enhancement, and forest area refers to the forest cover that exists in the zone at the time of performance monitoring. Further clarification is needed how and at what rate this ultimately reaches forest managing communities.

3.1.2 Risks, barriers, and mitigation measures for each segment of the fund flows

Interviews with restoration program implementing agencies (IAs) aimed to identify the risks and barriers and provide their respective suggestions for mitigation measures that could be considered by stakeholders along the financing chain in future financing restoration programming. The suggested measures are based on lessons and learning from restoration programs run by IAs, in which various actors participated along the finance flow pathway, as financiers and fund recipients or as end users. IAs were also interviewed in order to ascertain their views about the risks and barriers perceived by the IA in relation to the fund flow towards the end user (Table 1 and 2).

Generally, from the responses of IAs, it was observed that there are gaps in understanding in relation to the types of risk in restoration programs, where various stakeholders are involved along the finance chains. Particularly, there are risks in relation to production hazards like floods, droughts, pests and diseases, and technology induced risks that did not come out well, as compared to the results from the case study respondents (Table 4). Other risks related to financial, institutional, human, and marketing/price hazards were observed in the responses from both the case study respondents and other restoration IA respondents.

Table 1: The perspective of seven IAs on different risks in the financial flows that may prevent achievement of restoration goals, and suggested mitigation measures for each segment of fund flows

Major risks	Suggested mitigation strategies/measures for future programming
1. The perspective of IAs in relation to fund flows from donors	
1.1. Lack of sustainable financing	• Promote innovative finance mechanisms • Establish proper communication channels • Ensure reliable and traceable reporting • Develop cost sharing mechanisms involving communities, government, NGOs and other stakeholders (addressing risk 1.2) • Not to make promises and plans that the IA cannot achieve • Seek out and communicate around updated carbon financing opportunities, taking into consideration Government, research institutions and NGOs • Develop regular and clear communications: request reports and activity stories regularly • Organize regular visits to funded project sites • Try to meet donor requirements and grant covenants in financial and procurement management *Note: These risks relate to poor program management and relationships between donors and IAs that undermine outcomes and threaten larger aims.*
1.2. When there are high expectations or a need for high levels of capital investment, there is always a concern about government/communities becoming dependent on donor funding	
1.3. Absence of reliable and strong communication system	
1.4. Funding may not be available as promised due to various reasons	
1.5. Most donors require carbon financing schemes, rather than simply donating for broader development purposes. [*Note: The donor group in our validation workshop did not accept this point, citing USAID as an example.*]	
1.6. Insecurity and conflict across the country	
1.7. Carbon financing is not properly promoted (such that there is a lack of awareness and understanding around it)	
1.8. Unreliable carbon market and lack of carbon buyers	

Major risks	Suggested mitigation strategies/measures for future programming
2. The perspective of the IAs in general	
2.1. Low risk with regular financial checks 2.2. Concerns about government/ communities becoming dependent on donor funding 2.3. Issues regarding how to achieve sustainable development outcomes when inflation and costs of FLR inputs increase, while funding is becoming more limited 2.4. Security concerns (conflict/civil war) and natural disasters (e.g., frosts and locust invasions, pests and diseases) 2.5. Weak community commitment and limited stakeholder participation and commitment 2.6. Ineffectiveness of government policies/enforcement of laws and regulations in forest conservation and management issues 2.7. Limited capacity of stakeholders to use program funds and report on them in a timely manner 2.8. Long channels and arrangements of financial flows that lead to the end user receiving only a small proportion of the funds available	• Adopt and promote a systems capacity and skills building approach with both government and communities, so that they can take on greater responsibility in, and lead, sustainable development activities • Adopt a market systems development approach (that takes into account the policy environment and relationships between all market actors) • Subcontract grants to local NGOs/CBOs or the private sector • Have good community mobilization and extension programs • Invest in developing local NRM bylaws and legalize them so that they gain greater power and acceptance at all levels • Approach several donor organizations to reduce financial risks due to dependence on one funding source • Livelihood programs should be cost sharing schemes (with significant community contributions) to avoid community dependency and develop ownership • Develop good communication with stakeholders, donors, and the community, and maintain budgets in foreign currencies • Ensure participation of all relevant stakeholders during the whole process of restoration and in all phases of the project (Engage communities, from project launch and throughout the project cycle, in planning, monitoring & evaluation, including at micro-level induction; Conduct regular monitoring and share signed project agreement document at the community level) • Adapt restoration and livelihood technologies to fit the local context and develop structures to deploy staff down to lower levels (on the ground) • Closely follow-up with stakeholders on proper accounting, timely reporting, and provide tailored training to program focal persons on financial management
3. The perspective of the IAs in relation to flows towards end users (individuals, CBOs, etc..).	
3.1. Communities may start questioning how much of the funding reaches them (the percentage of funding that goes to beneficiaries)	• Set up community level organizations and commit to learning new skills and business development opportunities • IA and other relevant local actors should discuss and convince end users not to expect too much from projects before activities commence. IA needs to manage expectations and stress the need to become funder independent.

Major risks	Suggested mitigation strategies/measures for future programming
3.2. Concern that funding does not reach the ground level as per the initial expectations of the community	• Set-up a mechanism for good communication with IA and other partner organizations and participate in planning, implementation, evaluation, and review meetings with the IA • Tailored capacity building activities for organized forest management groups (Cooperatives or CBOs) • Restoration programs support should focus both on individual and group IGAs. When establishing group IGAs, it is important from the beginning to invest in creating capacity and a positive team spirit among the members, so that they may not fall into conflicts that induce corruption. • Encourage community contributions in any restoration programs and establish incentive mechanisms for end users having a good level of achievement in the restoration activities.
3.3. Security concerns (conflict and civil war, crime and theft) and natural disasters (e.g. frost and locust invasions, pests and diseases) can affect community livelihoods, with loss of assets or reduced prices for marketed products	
3.4. Market price fluctuations for inputs and outputs and services	
3.5. Proper accounting and maintaining of program accounting records	
3.6. Income Generating Activities (IGAs) sometimes becoming the source of conflicts and corruption within groups, as end users may gradually develop a dependency syndrome when projects provide free support	
4. The perspective of IAs in relation to finance flows towards service providers	
4.1. Government offices want to receive funding directly and to have greater control over funding resources	• Government work is needed to improve understanding of multistakeholder dialogue approaches • The private sector needs to have a better understanding of, and explore, its potential role in sustainable development roles • Closely follow-up on the implementation of the contracts as per agreed terms of the contract • Capacity building and supervision support in preparing budgets and reporting on financial expenditure to woreda finance officers
4.2. Business start-ups cannot access state funds because such funding is not perceived to be helping the poor	
4.3. Timely delivery of services as per the contractual agreement	
4.4. Poor financial management at woreda level due to capacity limitations	

Table 2: The perspective of seven IAs on the different barriers to financial flows that may prevent achievement of restoration goals, and suggested mitigation measures for each segment of finance flows

Major barriers	Suggested mitigation measures for future financing restoration programming
1. The perspective of the IAs in relation to the fund flow from the donor to the IAs	
1.1. Issues surrounding the effectiveness of approaches and stakeholder commitment	• Promoting bottom-up development approaches • Encouraging investors and/or IAs to take risks and invest in communities • The institutional set up of the forestry sector should be empowered • Establish a clear national policy on carbon financing schemes and a benefit sharing mechanism • Tailored capacity building to enhance IAs capacity to manage restoration funds
1.2. Difference in IAs objectives on forest landscape restoration, and implementation modalities even in the same agroecological and socioeconomic settings	
1.3. Frequent restructuring of the forestry sector from the government side, which creates trust issues towards the government and long term investment of the restoration programs	

Major barriers	Suggested mitigation measures for future financing restoration programming
1.4. Unclear policies on carbon financing schemes and benefit sharing mechanisms	• Donors should understand and take the emerging issues into consideration so as to allow flexibility of budget use without compromising restoration program activities • Ensure quality programming and develop strong communication strategy • Establish local capacity and confirm the tools are communicated properly by donors during agreements
1.5. The financial envelopes committed are insufficient to meet the needs of IAs	
1.6. Flexibility of donors in budget use is required - programs strictly follow predetermined agreements and project proposals	
1.7. Lack of transparency	
1.8. Weak compliance with donor requirements	
2. The perspective of the IAs in general	
2.1. Land and tree tenure issues at all levels	• Promote bottom-up and inclusive development approaches as it also helps to avoid unnecessary expectations • Accepting the taking of risks when investing in communities • Create capacity and develop good communication with all relevant stakeholders • The government should work on land use planning and motivate agencies working in FLR programs • Approach different donors as FLR requires huge investments • Government should elaborate and share its policy on carbon financing schemes and work to attract investors • The forestry sector should have a stable structure at all levels • Enhance capacity of IAs to properly use funds, and develop the skills and knowledge of local actors to improve their planning, and implementation efficiencies. • Sensitize on use of international agreements such as the UNCCD, UNCBD and UNFCCC as an entry point to mobilizing finance from developed countries, and introduce carbon trading and other payments for ecosystem services, linking upstream and downstream communities
2.2. Inadequate long term commitments and financial sources for forest landscape restoration investments	
2.3. Lack of proper land use planning and weak stakeholder commitment	
2.4. Unclear government policy on carbon financing schemes and benefit sharing mechanism	
2.5. Unclear institutional arrangements on matters related to forest landscape restoration	
2.6. Proper and timely use of funds in line with financing/donor requirements	
2.8. Limited technical capacity of government sector offices at local level	
2.9. Access to land, slow growth rates of dryland vegetation and hence carbon sequestration, limited benefits to local people	
3. The perspective of the IAs in relation to the flow towards the end user (individuals, CBOs, etc..)	
3.1. Why make the investment if it does not belong to you, i.e., what stake do I have in managing communal resources?	• Need security of tenure/legal contracts • More funding should be allocated to the end users • Learn from past bad experiences and devise a mechanism in an inclusive and participatory manner • Devise new roles for socially responsible private sector actors

Major barriers	Suggested mitigation measures for future financing restoration programming
3.2. Lack of critical review of past experiences leads to continuation of experiences that have poor performance	
3.3. Broken promises – communities promised payments which seldom materialize	
3.4. Funds reaching the end users/communities are not enough to bring about a significant change in livelihoods	
3.5. There is no payment methodology for local financing access, i.e. payments for eco-system services. How much should be paid for (different) ecosystem services? There are no resource valuation systems and practices	
3.6. Limited engagement with potential local carbon market resources - Ethiopian Airlines, water packaging industries, cement factories, Ethiopian Electric Power Corporation (EEPCO) present good opportunities for local carbon financing	
3.7. Short duration of projects and limited capacity of the government to sustain projects after hand-over	
3.8. Limited private sector engagement on FLR financing – e.g. in seedling production as green enterprises	
3.9. Failure of the government to incentivise the private sector, through, for example, loan facilitation, and limited tools available to government for the stimulation of private sector involvement.	
3.10. Failure to maximize potential of income generating activities, e.g. promotion of non-timber forest products and value addition activities that can increase the income of the community	
3.11. Limited livelihoods-based forest interventions	
3.12. "Unfair" carbon price applied without proper consideration of the Paris Climate Agreement	
4. The perspective of the IAs in relation to the flow towards service providers	
4.1. Poor past experiences tend to be repeated	• New roles for socially responsible private sector actor
4.2. Broken promises – communities promised payments which seldom materialize	

3.1.3 Lessons learned from the perspective of implementing agencies

Despite the different financial flows with various risks and barriers, the objectives of the restoration programs, whether they are run by NGOs or by the Government (such as the REDD+ and Oromia forest landscape restoration programs), are broadly more or less similar, with similar aims.

1. Improve sustainable forest management for forest goods and ecosystem services, with carbon finance.
2. Nurture community livelihoods through community engagement in sustainable forestry management and restore degraded landscapes and conserve biodiversity.
3. Reduce pressure on natural forests and reduce carbon dioxide emissions that result from deforestation and degradation.
4. Improve the implementation capacity of community and service providers.
5. Restore native vegetation and forests in order to enhance carbon sequestration.
6. Map forest areas and develop management plans and land use planning.
7. Introduce soil and water management practices.
8. Secure communal tenure and pastoralist resource use rights over rangelands and water resources.
9. Improve practical rangeland management for improved livelihoods and environment and ecosystem functions.
10. Improve the resilience of smallholder farmers through increased productivity and production.

With respect to the perspectives of IAs, all respondents confirmed that feedback from their donors has been positive in terms of program planning, implementation, monitoring and evaluation (M&E). IAs indicated that they had faced various challenges during the design, implementation and M&E of their restoration programs. To resolve the challenges, various strategies were suggested to be applied over the whole process of restoration program planning, implementation and M&E, which can be taken as lessons of extensive, practical experience over a period of time. Some of the major ones as perceived by the IAs are highlighted below.

Inclusiveness and participation

In any restoration program, end users - including individuals, communities, CBOs and services providers - must be at the forefront. Moreover, experts' input, adequate financing, access to land and the participation of local communities are crucial to reducing the risks and overcoming the barriers.

Time span of restoration programs

Restoration programs and projects should have an adequate time span, of at least 10 years. Moreover, the financing of restoration should involve an appropriate investment per ha, considering the local context. Restoration financing should look at planting, livelihoods and conservation, and not only at tree planting, and accept communities as the owners of the project and listen to them at all stages. Dry forest restoration requires long-term and sufficient investment for management interventions. Restoration projects have always set ambitious goals of restoring vast areas. However, meeting such targets is determined by numerous factors, including the availability of finance, local community awareness, the clarity of land tenure systems, local implementation capacity, post-planting management, follow-up and monitoring, local institutions, policy enforcement and implementations, inter alia.

Insufficient investment is one of the key factors in the failure of restoration programs in the drylands. The Economics of Ecosystem and Biodiversity report (TEEB, 2009; FAO and GM-UNCCD, 2015) suggests that at least US$2,390 is needed to restore one hectare of land. Moreover, in the face of various barriers and challenges, FAO (2021) estimated that the implementation of forest and landscape

restoration globally requires an investment of between US$35 billion and US$49 billion per year to achieve the ambitious FLR targets set. The same report also revealed that, to acquire these funds, various financing and market-based sources are available. Funds can be raised from, amongst others, development cooperation resources, climate finance, NGOs' resources, national budgets, environmental funds, crowdfunding and private sector investments. However, at present Ethiopian programs are overly dependent on donor and NGO funding, with an evident need to develop international and domestic private sector funding and tap into the international carbon market.

Investment approach

FLR initiatives should invest in both biophysical and livelihood activities, and should not rely only on tree planting and forest conservation, as this will not incentivize people to sustain the desired practices. Technologies and practices must also be adapted to the local context and establish the local communities as the owners of the projects, with IAs listening carefully to local people and resource users. Integrating livelihood activities with natural resource conservation is crucial to the sustainability of project activities as projects are phased out.

Results based conservation financing approach

Promoting a results based conservation financing approach, backed by real time monitoring of performance, will help to ensure the effectiveness of restoration programs. For effective monitoring and evaluation, criteria and indicators should be put in place from the start of the program. These criteria and indicators must be agreed jointly by the community, CBOs, program implementers and local government, along with any other relevant actors working in the landscape. Monitoring can be led either by an independent entity, or a group of people represented by the community, CBOs, government, and other stakeholders.

Influence on local, sub-national and national policy and implementation modalities

Many respondents from the interviewed IAs noted that they have limited influence especially on livelihood improvement aspects and in terms of taking restoration successes to scale with national and regional stakeholders, despite the tremendous efforts of many. The main reason is the short life span of most land restoration projects, but also the institutional arrangements, monitoring and evaluation systems, as well as the differing levels of commitment of actors working on restoration programs. Though the degree of influence varies between IAs, positive influences have also been registered, with some examples below.

- The Oromia Regional State provided a strong emphasis on the forest sector, with the OFLP intervention, and with a state-wide workshop convening top leadership at regional, zonal and woreda levels, at which the regional president addressed the need to conserve existing forest resources and establish new forests for the goods produced as well as for the forests' critical ecosystem services.
- The WeForest restoration program implementation strategy was adopted by the Tigray Bureau of Agriculture, which initiated a study of the forests and forested areas in the region, in order to develop management plans and implement restoration efforts on the basis of WeForest's analytical and program approach. An important element here was the quality of WeForest's analytical foundations, with highly qualified Ethiopian staff drawing on collaborative relationships with Mekelle University and Belgian academic partners. This has also been a factor in the success of the Farm Africa program, led by Ethiopian experts and bringing in consultants from Wondo Genet College, the national centre of excellence in forestry. Open collaboration and information sharing with core national institutions enhances

implementation, deepens and entrenches learning, and broadens influence.

- CARE Ethiopia has had a positive influence in terms of community involvement and ownership in implementation modalities through its restoration program in the drylands of Oromia, Afar and Somali regional states, where the modality is being adopted at local level and can be further replicated to other areas.
- The experiences and lessons from AN/ANR activities involving communities in Oromia, SNNP, Tigray and Amhara regions implemented by EFCCC through the REDD+ program are proving helpful, with positive lessons that will bolster governmental efforts to meet commitments for restoration and tree planting programs. Successful reforestation outcomes, as compared to other tree planting activities in the country, have been based on expert leadership, appropriate inputs, and continuous technical backstopping. Where experts have not been involved or consulted, tree planting has been conducted without regard to the matching of tree species with the local environment, and to water needs and seedling management, resulting in low survival rates.
- The CRS led regreening project implementation approach and results achieved have positively influenced stakeholders at local, regional and national level. Before, stakeholders were not familiar with the use of farmer managed natural regeneration (FMNR) techniques, and leveraging approaches to restore degraded landscapes. However, with continuous capacity building through awareness raising events, peer to peer learning, experience sharing visits, video shows, radio messages and practical training, the attitudes and mindsets of stakeholders have changed. Accordingly, stakeholders are now extensively applying FMNR practices after witnessing successes of pilots. Thus, to stimulate upscaling, landscape restoration program IAs should always consider providing continuous technical assistance, and to demonstrating success in pilots.

Biodiversity conservation and reducing greenhouse gas emissions

All the respondents from the IAs confirmed that the financing of restoration programs has been contributing to enhancing or conserving biodiversity, and reducing greenhouse gas emissions. Many programs focused on restoration of native species and degraded areas either through planting, ANR/FMNR, area exclosures, or PFM, and their contribution to enhancing or conserving biodiversity and reducing greenhouse gas emissions. Though these contributions are not well quantified, it was confirmed by respondents that the social, economic, and environmental contributions are visible in many ways. Taking the CARE Ethiopia restoration program as one case, it was estimated to save 339 tonnes of fuel wood and with emissions reductions of 502 tonnes of CO_2 equivalent per year. These figures are based on a World Bank policy research working paper (Beyene et al., 2015; Dissanayake et al., 2018), indicating that one improved stove can save 634 kg of fuelwood and reduce emissions by 0.94 tons of CO_2 equivalent. In the project period, a total of 534 improved stoves and 745 solar lanterns were distributed to communities as beneficiaries of the restoration program. Moreover, the project restored 4856 hectares of degraded land that resulted in increasing vegetation and tree cover, which also helped to sequester more carbon in those areas.

Generally, from the responses of the IAs, it is possible to conclude that the approaches and modalities being used appear reasonable and appropriate, as their ultimate goal is not always cash payments for carbon restored. All restoration program IA respondents agreed on one point, that the aim of the restoration programs is mainly to maintain available resources like forests and rangelands, while restoring degraded landscapes and then improving the livelihoods of the community

through the benefits and services that are a result of restoration efforts. However, the exact amount of finance, particularly in terms of cash that reached communities is not clear, nor is it well documented. Rather, IAs reported that communities received other benefits in terms of inputs, materials, capacity development, technical and materials support and sometimes cash when they participated as casual labourers, as guards, or in individual or group-based small business activities. These activities were usually nature based business models that can be operated either individually or in groups. The restoration programs give micro-enterprises start-up support either in cash or in the form of materials/infrastructure or both, which is usually in line with the interests of the beneficiary.

Responses from restoration programs IAs put forward suggestions on how to ensure successful financing for effective degraded landscape restoration modalities.

- Ensure an inclusive and participatory approach, taking the community as the focus during planning, implementation and M&E, as well as in benefit sharing and resources auditing.
- Invest in both biophysical and livelihood activities so as to achieve the environmental, social and economic benefits at similar stages, rather than assuming that communities have the stamina to endure long periods before direct and indirect payoffs materialize.
- Establish long-term restoration programs, spanning a minimum of 10 years, and ensure active engagement and resource leverage from the local communities.

These suggested modalities of successful financing noted by the restoration IAs are also in line with the suggested key elements within financial plans proposed under the FAO's forest and landscape restoration mechanism (FAO, 2021). This focuses on facilitating and establishing value chain development to enable the sustainability of investments in restoration and to increase the value of restored areas; promoting payments for ecosystem services as useful funding schemes to provide incentives to local communities; establishing and operationalizing national forest funds to enable the channelling of finance for landscape and forest restoration activities; and developing innovative blended financial initiatives or public–private partnerships to fund forest landscape restoration projects.

Restoration program IAs were also requested to give their reflections and opinions on what would happen if the current financing restoration program design, implementation, monitoring and evaluation modalities continued. Of the seven IAs consulted, four provided a list of risks based on their experience, and rated them as low, medium or high, regarding the likelihood of them occurring as well as the severity of their impacts. Respondents also suggested possible mitigation measures if these risks arise along the process of the planning and implementation of restoration programs and financial flows to the stakeholders. The specific responses of these four IAs are summarized below (Table 3).

Table 3: Summary of the major risks along with their likelihood of occurrence and impact and migration strategies as perceived by the implementing agencies (IAs)

Type of risk	Details	Likelihood of risk	Impact of risk	Mitigation measure
Limited support from the Government	Doubts on NGOs	Medium	Medium	Build and maintain working relationships. Provide evidence on the ground and undertake a series of consultations and joint program activity visits
Limited support and commitment of local communities	Lack of land and tree tenure on communal lands	High	High	Lobby government to improve tenure security
Over-estimation of benefits that do not materialize	Many communities have been promised carbon payments that have never been realized	High	High	Do not raise unrealistic expectations and try to keep benefit systems simple and transparent
Lack of benefit sharing mechanisms	Government decides how the community will receive their share of benefits – often avoiding direct payments	High	High	Ensure benefit sharing modalities are worked out at the start of the project and make these legally binding
Continued top-down centralized FLR planning	Government and NGOs continue to make all the decisions	High	High	Work from the bottom up, work differently, better and openly, in consultation with communities.
Government and/or communities become revenue dependent, particularly where high levels of investment are required.	Making the restoration and sustainable management of land and resources payment-based runs the risk of collapse if payments stop	High	High	Think long term, think sustainable utilization, and aim to ensure diverse streams of revenue including from local actors
The amounts of restoration funding provided are not sufficient to keep communities from degrading forest areas or incentivize them to conserve & restore degraded landscapes.	In many restoration programs the proportion of money reaching end users (individuals or groups of community members) is unknown/ not specified, and separately not sufficient to run restoration activities in a sustainable manner, while it (modestly) improves community livelihoods and environmental resilience	High	High	Allocate sufficient resources for restoration programs as per the level of degradation in the target sites, as well as the socioeconomic status and social/institutional set-ups of the program implementation sites, considering both the need for a physical presence and the need to operate remotely/virtually.

Type of risk	Details	Likelihood of risk	Impact of risk	Mitigation measure
Security issues – conflict, civil war and occasional unrest	Cause loss of both human lives, natural resources and property	High	High	Carefully plan restoration programs and avoid investments in politically sensitive areas
Climate change; natural disasters; and drought	Frost, floods and locusts	Medium	Medium	Develop soil and water harvesting structures to retain moisture; plant drought and frost resistant native tree species; strengthen post planting, and plant trees around homesteads to provide shade, mitigating against frost, and pay attention to watering requirements of seedlings
Declining prices and currency fluctuations and inflation	Cost increases for different restoration and FLR inputs	Medium	Medium	During budgeting, consider inflation and potentially reserve the money in foreign currency to mitigate against local currency depreciation and maintain purchasing power
Land use changes and occurrences of illegal grazing and logging	Changing forest land/restoration land to other uses, and damage to restoration sites and reduction remaining forests	Medium	High	Respect agreement with regional governments as a guarantee, and establish a strong forest protection system. Provide energy efficient cookstoves and develop woodlots to mitigate against illegal logging and wood extraction for firewood
Short term and limited funding	Limited funding to cover different activities in the framework of the restoration program	High	High	Look for different funding institutions and sources, as well as empowering communities to share finance for restoration work
Pandemic/Covid-19 and other diseases	These affect community mobilization and movement in restoration programs	Low	Low	Revise plans accordingly, and take all the necessary measures (recommended by the health authorities) to reduce risks

3.2 The REDD+ project in Bale Mountains Eco-region: a case study of restoration financing

This section looks in more detail at one particular project in order to gain a deeper understanding of restoration finance related risks and barriers, as well as mitigation strategies, from the perspectives of Farm Africa as the IA, of the beneficiaries as fund recipients, of service providers, and of non-beneficiary community members residing within the restoration project area. Farm Africa, an international NGO, is the implementing agency for the Bale Mountains Eco-region REDD+ Project in Ethiopia, working in collaboration with SOS Sahel Ethiopia as its local partner. This study looks at carbon finance in this part of Oromia region with a view to drawing lessons for other restoration programs in Ethiopia, and addressing three related priorities. There is a need to develop sustainable financing mechanisms:

- that support restoration efforts which rely on payments for ecosystem services and carbon finance and carbon offsets;
- that support the sustainable exploitation of forests and woodlands, with the expansion and upgrading of local enterprises;
- that allow for the integration of restoration and the sustainable exploitation of forests and woodlands.

The perspectives of Farm Africa and the other actors involved, with respect to the financial flows and benefit sharing mechanisms, risks and barriers, and the mitigation measures applied or suggested to be taken forward for future programming, were gathered and are presented below.

3.2.1 Expected effects of the carbon project and financial flows in the eco-region

Communities in the project areas have various livelihood schemes. The carbon project adds additional revenue from carbon sales, and has been making a significant contribution to local livelihoods, bringing multiple co-benefits through the activities that protect, develop and manage the forests. Both fund recipients and non-recipients mentioned crops (barley, wheat, oats and beans) and livestock (sheep and cattle) as the main income sources, followed by vegetable production (carrot, cabbage, garlic, potato and beetroot), NTFPs (honey) and firewood. Focus group discussants revealed that poor farmers rely heavily on forest-based incomes (e.g. firewood), in contrast to better-off farmers, for whom these are at most supplementary incomes. They also stated that agricultural production is mostly constrained by harsh environmental conditions, the lack of improved inputs, and pests and diseases, and that these significantly limited their incomes.

Most respondents acknowledged the 1.7 million Birr (US$42,500) revenue from the certified emission reduction activities by the cooperative. With transparent and inclusive discussion, they agreed to use part of the money to address particular social and economic issues in their kebele. They purchased two-grain mills for 600,000 Birr (US$15,000), set up in Seysula and Shabe villages. The grain mills are managed by the cooperative and serve the whole community. Non-members can also use the mills, and who make a modest payment as clients, that covers maintenance costs and wage payments. Most respondents were happy with the carbon money and the decisions of cooperative members. The positive effects of the financial flow were equally perceived by fund recipients and non-recipients, as well as by the IA and other service providers. All respondents noted that the carbon money will have a positive effect in terms of reducing illegal activities in the natural forest (deforestation, illegal settlement, and agricultural expansion), in terms of extraction of forest products for cash income, and will strengthen the protection of the forest. The executive committees also indicated that carbon money and inclusive decision-making attracted many non-members to join the cooperative. While both fund recipients and non-recipients identified

restricted use rights, the allocation of money for certain activities without the consent and knowledge of all CBOs members, and the need to seek permission to utilize carbon money, as negative aspects, which they believe can readily be handled in consultation with all relevant actors in the carbon finance chain. Focus group discussants argue that the carbon money will help to regulate illegal access and prevent further destruction of the forest. They also emphasized their confidence that it would ensure the sustainable use of forest resources, as well as help preserve the natural forest for future generations.

3.2.2 Financial flows and benefit sharing mechanisms: underlying processes and expectations

Farm Africa, as the IA, indicated that natural resource conservation can only be successful if communities and the government work together to take joint responsibility for protecting natural resources. To this end, Farm Africa together with SOS Sahel Ethiopia and the Oromia Forest and Wildlife Enterprise (OFWE) as the REDD+ project proponent, has been working to address unsustainable practices from multiple angles and endeavouring to ensure that all stakeholders along the financial flow and value chains become active participants in the sustainable management of the Bale Mountains Eco-region's forests and restored areas, while increasing livelihood opportunities for communities living in the area.

Farm Africa plays a facilitation role in channelling carbon finance from the carbon buyer to OFWE, as the legal entity representing Oromia region and administering the forest area in the Bale Mountains Eco-region and many other forests in the Oromia regional state. Following its benefit sharing mechanisms guidelines and regulations, OFWE channelled carbon funds to end users or beneficiaries established as PFMs and legalized as CBOs (cooperatives). This implies that in practical terms, Farm Africa together with SOS Sahel Ethiopia have been working as facilitators for the channelling of carbon funds from the financier or carbon buyer to OFWE, whereas OFWE is the legal entity and the owner of the forests. Here a lesson can be learned from the work of Farm Africa and SOS Sahel Ethiopia that made it possible to sell carbon credits to the voluntary market. OFWE's role is mainly related to law enforcement, protection, and the development of the forest. OFWE has a branch office at district level, which directly handles the organisation's roles and responsibilities. Capacity building is conducted through training and exchange visits, forest inventories and biomass estimations, with the establishment of CBOs and the facilitation of carbon sales mentioned as the key roles and responsibilities of the IA. In support of these activities, Farm Africa and its partner received funding from the Norwegian government.

In addition to the district level OFWE branch office, there are other district level government sector offices, such as the Environment, Forest and Climate Change Agency and the Cooperative Promotion Agency, who have been working as service providers. A task force at district level has the role of overseeing the REDD+ carbon project and other related forest landscape restoration activities, especially regarding issues that require joint action and decisions, and issues raised by any parties along the financial chain. Members of the task force include representatives of the district offices of the agencies, the police, and the local courts, and the OFWE branch office.

In key informant interviews, the local committees operating under these arrangements in the Bale Mountains Eco-region REDD+ project confirmed that the Hidha Birra cooperative (a carbon fund recipient) is one of the PFM cooperatives established in 2013 with the support of the Farm Africa REDD+ project to manage and utilize natural forests in Wajitu Shabe kebele. The cooperative signed a participatory joint forest management agreement with OFWE. The two parties also agreed to share the benefits from joint natural forest management efforts on a 60% (community) and 40 % (OFWE) basis, as well as on a 10% (community) and 90%

(OFWE) basis with respect to the establishment and management of plantation forests.

Respondents from the IA and PFM members indicated that a baseline resource assessment was conducted by establishing permanent sample plots (2500 m2) in each compartment with the support of the Farm Africa REDD+ project, for monitoring and verification purposes. Accordingly, species composition, density, basal area, volume stock, biomass and carbon stock were determined, and a forest management plan was prepared. Based on guidance from the cooperative promotion agency and with the participation of farmer households in Wajitu kebele, leaders of the cooperative were selected. They developed bylaws and registered interested farmers, who volunteered to pay 50 Birr (US$1.25) for registration and 250 Birr (US$6.25) for share contributions. The committees and PFM/CBO members indicated that membership was voluntary and open to all farming households in their kebele. They agreed to pay registration and share-contribution fees and to share the benefits accrued from various activities (trophy hunting, payments to access the forest by CBO members, and payments from the sale of carbon). They also indicated that cooperative members agreed to seek permission and make payments to access and utilize the forest. For example, paying 2 Birr for firewood collection from fallen/dead trees, and 150 Birr (US$3.75) for construction wood collection. With participatory forest management activities, the cooperative managed to reduce illegal activities (deforestation, agricultural expansion, free grazing, etc.) and were able to store a large amount of carbon (emission reductions) in their natural forest. The emission reductions were verified by an independent consultant and sold under the verified carbon standard (VCS) market mechanism.

The response from stakeholders along this REDD+ carbon funding pathway was incoherent with the carbon credit benefit sharing, which was based on the predefined agreements between OFWE and the CBOs in the project area. The parties agreed to share carbon credit revenues on a 60:40 basis. However, benefit sharing among the CBOs was defined on basis of agreed criteria, as indicated in Table 4. Key informants indicated that, with extended discussions between OFWE, NGOs, and the CBOs, consensus was reached on the benefit sharing mechanism. All members of the CBOs were given the chance to suggest their own criteria and assigned one representative at district level meetings. Based on intensive discussions, the 64 CBOs (PFM groups) in the Bale eco-region set four criteria and agreed weightings, to facilitate the fair distribution to the CBOs of the expected benefits from their efforts. The evaluation or verification of the criteria used as a basis to give scores is subject to the efforts made to avoid deforestation, total forest areas maintained, participation of women as members, and other issues related to the capacity assessments of each CBO (Table 4).

Table 4: The criteria and percentages used to share the carbon revenue among CBOs

Criteria	Weight (%) given
Efforts to avoiding deforestation	50%
The total forest area (size) maintained	20%
The total number of male and female members	18%
OCAT (Organizational Capacity Assessment Tool) • Exemplary leadership of the CBO • Income creation (business opportunity) • Forest development efforts • Women's involvement/empowerment in the executive committee	12%

Committees and cooperative members received 1.7 million Birr (US$42,500) from the sale of verified emission reductions, in the very first distribution of funds. They allocated part of the revenue from the carbon sale to address particular social and development issues in Wajitu kebele. Based on open discussions between members and non-members of the cooperative, they decided to buy two grinding mills and planned to build an animal health clinic. This is in line with the approach and experience under the Humbo carbon finance project (Shames et al., 2012), particularly in the use of the revenue earned from carbon sales. In both cases, community members prioritized building and strengthening local infrastructure, and purchasing productive equipment such as grinding mills, which provide important services to members of the local community with agreed and affordable payments, including those who are not recipients of carbon revenues. The payments are used to cover maintenance, labour, and other related costs. Such types of infrastructure are highly valued in the study locality as elsewhere in rural Ethiopia.

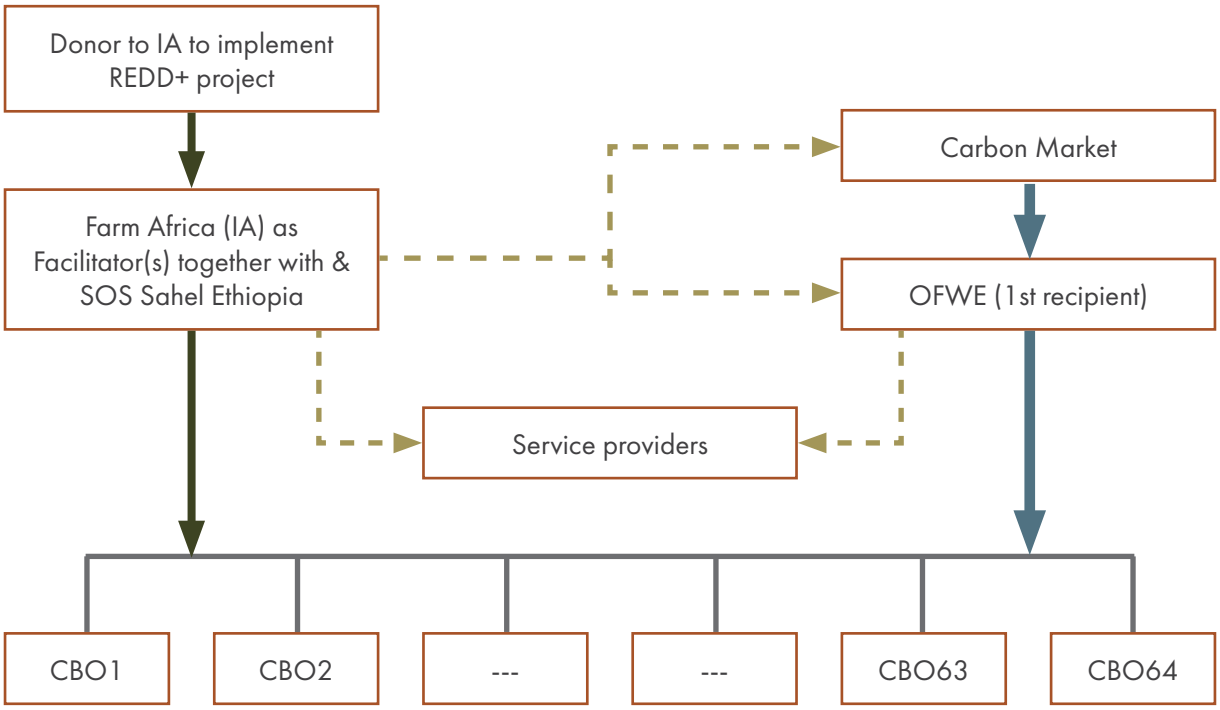
However, focus group discussants (in both male and female groups) indicated that the financing process was lengthy. It took a long time to get the carbon money and, moreover, the amounts received did not meet their expectations. This indicates that the expectations of recipients were high, perhaps as a result of unrealistic promises, loose discussions and a poor understanding of the nature of the payments due and of the benefit sharing mechanisms, and an overall lack of clarity during the project design process. The FGD participants also stated that the delay in receiving the funds diminished the motivation of members to protect the forest, created mistrust between the stakeholders along the finance chains, and led to the expansion of illegal activities such as agricultural expansion on forested areas. These issues might have arisen because of the lack of experiences of the actors in the finance chain, especially the CBOs or recipients, as this is the first time that they have received a carbon payment, and they may have lacked an understanding of the whole process of carbon finance, which in many cases is bureaucratic. This could be a good lesson for similar on-going restoration financing and carbon finance projects, and for future programming in the Bale Mountains Eco-region and other parts of the country. Participants along the funding channel, and in particular the community members upon whom everything depends, need to have a thorough understanding of the process.

At district level, the Cooperative Promotion office and the Environment and Climate Change Authority were the two government offices directly supporting the cooperatives as service providers. Experts from the two offices indicated that the carbon money from the REDD+ project for livelihood improvement as well as environmental protection in the area is highly significant to the eco-region. The beneficiaries (carbon payment recipients) also expressed their happiness with the first payment and their hope to receive more in the future. However, despite the multiple benefits associated to the payments, one interviewee among the service providers expressed the concern that the carbon money might not properly address the objectives of the project or the interests of the recipients. It was indicated that, in some cooperatives, the carbon money was used for other purposes, such as contribution to the government's mega infrastructure projects, without proper consultation with the communities and in some cases to cover security-related expenditures without the knowledge and consent of all members.

Issues including the relative share of money between OFWE and the CBOs, as well as the allocation of an adequate budget to the district level OFWE branch office to enable it to play its role as needed, were raised as concerns and these issues must be addressed. Given that this is the first carbon payment received under the project, and given the lack of relevant experience among all parties, some inefficiencies are to be expected and such concerns should not be overplayed.

Nevertheless, the potential to reduce community members' motivation to conserve and to reduce community participation, especially of non-members of the PFM groups, those who either planned to join or were interested in joining, is a serious issue. Accordingly, key informant interviewees and FGD discussants all emphasized that carbon revenues should be allocated to community projects with the knowledge and consent of all fund recipients or PFM members, and of other relevant stakeholders along the carbon finance chain. It was also suggested that there should be a regular evaluation and discussion forum to immediately address concerns and issues that may arise, among all stakeholders along the carbon finance chain under the REDD+ carbon project.

Figure 5: The existing financial flow channels from the carbon buyer to OFWE, and then from OFWE to CBOs/PFM groups through the facilitation of Farm Africa in relations with the carbon buyer.



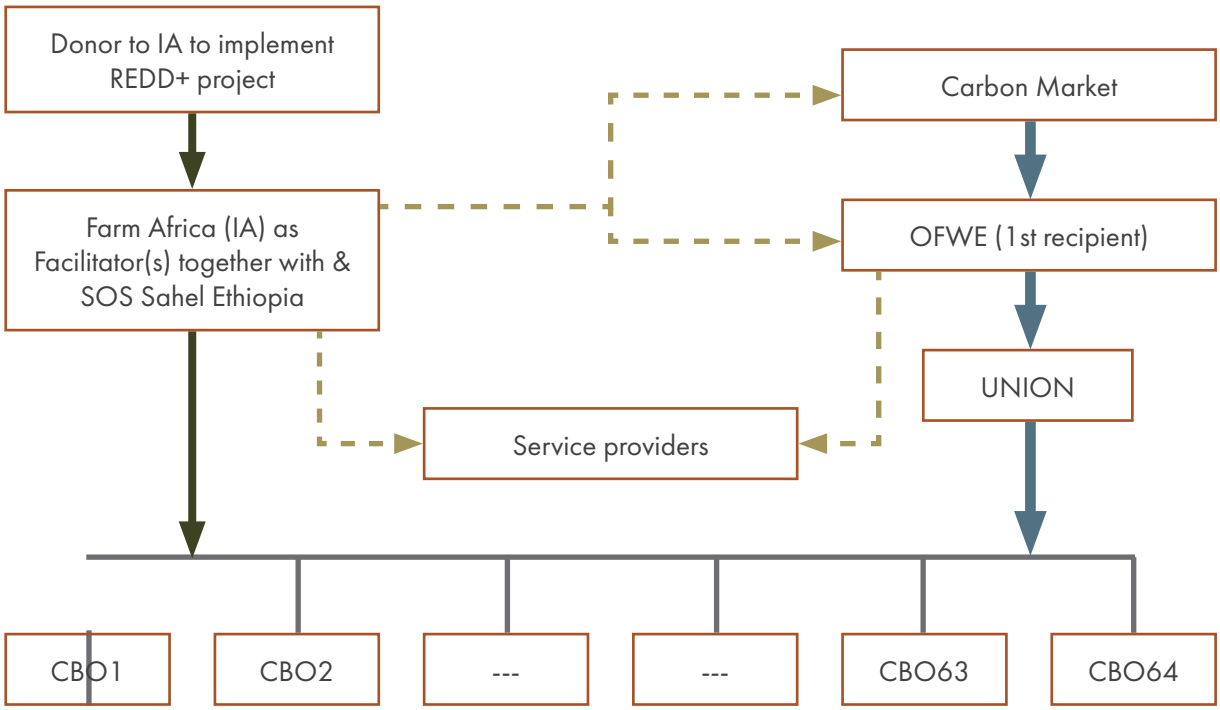
Note: The carbon finance from the carbon market to OFWE and then from OFWE to CBOs is shown in solid blue arrows, whereas the dark green arrows show the flow from the donor to IAs for restoration and facilitation activities. Service providers to the local community usually get support and finance either from the IAs (Farm Africa and SOS Sahel Ethiopia), OFWE or both (broken light green arrows).

The OFWE is the sole representative of the Oromia regional government legally entitled to administer, manage, and develop forests in the region. As highlighted above, the issue of the timely disbursement of carbon money from OFWE to CBOs/PFM groups and other associated concerns must be resolved. In response to the problems observed, the committees suggested a modified channel (Fig. 6) for finance flows in future, as well as further dialogue on arrangements for the percentage shares and mode of delivery that would better suit the interests of both parties.

The Union, suggested as a bridge between the OFWE and the CBOs, could reduce the delays in the release of carbon money from OFWE, and money held in Union accounts would accumulate interest that currently goes to OFWE. Unions are established to bring cooperative societies together under one umbrella organization, and in the Bale Mountains Eco-region there is such a Union, established to bring all 64 CBOs (cooperative societies) together. Thus, in this case the Union is the main link between the OFWE, the CBOs/PFM groups and other relevant actors

within the carbon finance chain. This approach worked well in the Humbo Carbon project (Shames et al., 2012) with all functions carried out by World Vision Ethiopia eventually being transferred to the Union, while WVE continued to play an advisory role, with the aim of building capacity of the cooperatives and working closely with the zone and district level cooperative offices to ensure the smooth running of activities until WVE pulls out of the project. In practical terms, the Union appears as an additional channel that makes the flow lengthier, but including the Union in between OFWE and the CBOs is perceived by the community as valuable. They see the Union as a well organised entity with good leadership that brought all the 64 CBOs under one umbrella, and the ability to strongly negotiate with OFWE to release the carbon finance immediately after its arrival at OFWE. Once the finance arrives at the Union, CBOs can discuss with the Union and ensure that they receive payments including the bank interest which they believe is credited to OFWE.

Figure 6: Modified financial flow channels suggested by the CBO committees



Note: Carbon finance from the carbon market to OFWE and then from OFWE to UNION and from UNION to CBOs is shown in solid blue arrows, whereas the dark green arrows show the flow from the donor to IAs for restoration and facilitation activities. Service providers to the local community usually get support and finance either from the IAs (Farm Africa and SOS Sahel Ethiopia), OFWE or both (broken light green arrows).

Key informants from OFWE and the Forest, Environment and Climate Change Authority indicated that inadequate budgets and lack of funds to cover logistics, including vehicles, fuel and (travel) allowances, are the major constraints that limit their engagement and ability to provide the required technical support for PFM cooperatives in their district regularly. They provide some technical support, with financial support from Farm Africa/SOS Sahel, and emphasized that these NGOs played a considerable role in the sustainable management, protection and use of forest resources in the region. This underlines the point that the current carbon finance projects are often dependent upon external NGO resources that are rarely considered in assessments. There is a need to develop sustainable financial sources for monitoring and law enforcement activities, and it is suggested that part of the revenue (OFWE's 40% share) be directly channelled to the Goba district OFWE branch office and used for these purposes.

3.2.3 Risk perceptions and mitigation measures adopted by different actors

Farm Africa outlined various risks as well as mitigation measures, those used so far and possibly to be continued, depending on the context and the risk type (Table 5). The key risks to the program were related to national and sub-national REDD+ policy and regulation changes; delay in emission reduction payments; weak law enforcement, such as the failure to take measures against illegal encroachment; the frequent changes in forest organizational structures; some indications of corruption and the misuse of funds, as well as delays in implementation due to social and political unrest in the region. Some risks were related to climate induced impacts, unemployment, and the lack of access to finance and credit.

Farm Africa, as the IA, indicated that, based on lessons learned during project implementation, giving more emphasis on the following key issues, among others, would help to mitigate/overcome the risks:

- Provide tailored training, awareness raising activities and continued capacity building, with law enforcing agencies, to provide strong support to community initiatives so that related risks will be minimized. It was also indicated that Farm Africa plans to purchase eight motorbikes to support more effective law enforcement. At the end of the project, the motorbikes will be handed over to district/woreda partners as part of capacity building. It was also suggested to work closely with all concerned bodies (police and courts) to identify gaps (capacity and material) in law enforcement and seek to inform both local, regional (particularly ORCU/OLFP and OEFCCA) and national government about the resources needed.
- Strategically and proactively engage with the new Oromia Environment, Forest, and Climate Change Authority (OEFCCA), and have them become signatories to the project implementation agreement with Oromia Regional State. To achieve this there should be a mechanism to engage OEFCCA closely from the start of the project, fully explaining its history, progress and achievements and the need for its continuation. This would help to catalyse establishment of a strong partnership between the authority and CBOs to work towards the effective nesting of the project into the OFLP, which is also governed by OEFCCA.
- Address implementation delays due to social and political unrest and unexpected climate induced risks. Farm Africa undertakes a weekly assessment of the situation in each of its implementation areas and develops mitigation measures in collaboration with its partners. Farm Africa underlines the need to continue this approach to overcoming risks, and adds that this process should also involve routine 'check-ins' with field staff, with appropriate advice around field movements and activities, as well as receiving updates from them so that it is possible to take advantage of Farm Africa's strong and positive relationship with the local community and local government to make any necessary adjustments to field activities, e.g. shifting dates or locality of planned activities. Farm Africa also indicated that as an IA, it is valuable to organize regularly meetings with their donors to provide updates on the situation and jointly identify any additional mitigation measures when necessary.

The other risks mentioned by the IA, such as climate-induced production and financial hazards as well as youth unemployment issues, were well articulated by the respondents from the CBOs/PFM committees, members, service providers and non-CBO/PFM members. Except for some few key risks related to production hazards, the risks perceived both by the case study and other restoration program IA respondents were similar. Risks related to production hazards came out more

clearly from the case study respondents as compared to respondents from the restoration program IAs. This can be explained by a difference in understanding of risks by IAs, as the assessment was conducted through email questionnaires. It would have been expected that face-to-face discussions or interviews with the IAs would have provided greater clarity on key questions and study objectives. Whereas the risks related to finance, institutions, people, marketing and price were similar, as perceived by respondents from the case study, and restoration program IAs which were included in this study to examine the national context. Similarly, there was no major difference in the mitigation measures suggested by both sets of respondents, where many of the risks can be resolved at local level. Moreover, both the case study and restoration program IA respondents gave similar suggestions for mitigation measures, such as giving due attention to developing a national standard on carbon financing and benefit sharing mechanism, so that regions and sub-national entities can receive appropriate guidance, and law enforcements as appropriate.

Table 5. Major risks and risk management strategies as perceived by Farm Africa

Major risks	Risk management strategies applied and suggested to be continued
Shift in National/sub-national REDD+ strategies	Closely follow up on any changes in policy, regulation and strategy, inform communities and determine best ways to adapt
Delays in emission reduction payments that reduce community motivation	Work intensively to manage expectations and re-focus community interest more on non-carbon benefits through sustainable forest management
Law enforcement support remains weak and illegal encroachment takes place	Provide tailored training, awareness raising activities and capacity building support to law enforcing agencies to provide strong support to community initiatives
Changes in organizational structure of forestry agencies affects well-established relationships between OFWE and CBOs	Strategically and proactively engage with the new agency, OEFCCA, including by having them become a signatory to the project implementation agreement with the Oromia Regional State
The project is affected by corrupt practices or misuse of funds	Strict financial procedures and monitoring systems are in place and should be continued, such as monthly accounts, quarterly reports, internal/external audits, training of staff, staff working allowances controlled, etc.
Implementation delays due to social and political unrest in the region	Undertake at regularly situation assessments in project implementation areas and take appropriate measures for unforeseeable conditions, in consultation with all stakeholders along the carbon finance chain, as well as with the donor
Increased risks due to climate change (drought, floods, pests and disease, etc.)	Adopt appropriate measures based on up-to-date weather and climate information and use appropriate forecasting mechanisms and tools. Also, create local capacity on how to adapt when such risks arise, making use of local indigenous knowledge
Limited access to agricultural and forest protection materials, inputs, and services	Build capacity of CBOs, the Union and other relevant government offices to improve access to all necessary inputs to local communities.
Unemployment of youth and lack of access to finance and credit	Government in collaboration with development actors, including NGOs, should develop job creation schemes in agriculture/forest and non-agriculture/forestry sectors and strengthen local credit and savings financial institutions

The major risks and risk management strategies proposed by CBO committees, CBO members (fund recipients), and non-members (non-recipients) are presented in Table 6. Both the fund recipients and non-fund recipients indicated adverse climatic conditions (droughts, floods), pests and disease, untimely delivery and price hikes of inputs, as well as lower than normal productivity as the major production risks in their localities. These adverse conditions combine to make it difficult for local people to meet their commitments under restoration agreements, and present major risks at program level.

The growing number of unemployed landless rural youth was mentioned as one of the main risks most frequently indicated by CBO committees, especially when they become a source of conflict and social unrest including theft and other crime. In contrast to these risks, it was also indicated that if employment schemes are diversified for the rural unemployed and landless youth, and they are seen as an effective labour force, this would be an opportunity for ongoing landscape restoration and other developmental efforts. In this regard, respondents also highlighted that if credit schemes are arranged for youth and other community members to diversify their income options, it would help to contribute to the sustainability of the ongoing restoration program. Otherwise, with the growing trends of unemployment and landlessness, it is hard to achieve sustainable results of restoration efforts, as they may trigger various challenges including illegal cutting of trees and expansion of agriculture to forest areas.

The other sources of risks mentioned were agricultural expansion, illegal settlement inside the forest, forest grazing, and climate variability and change. These identified risks could also lead to financial insecurity and induce non-fund recipients to increase their dependency on forest resources as a means of supplementing their incomes. Survey respondents indicated using several risk management strategies, but these might not be sustainable, and actors indicated that there should be a well thought out and sustainable risk mitigation strategy. Thus, both the risk mitigation strategies being used by the actors and the possible future risk mitigation strategies that can minimize or overcome the risks sustainably have been identified, as indicated in Table 6.

Table 6: Major risks and risk management strategies suggested by different actors in the financial flows that may prevent achievement of restoration goals.

Actors	Major risks	Existing risk management strategies	Suggested risk mitigation strategies
CBO committees	A growing number of unemployed landless rural youth	Off-farm employment in providing labour for other farmers	Provide interest-free loan services for jobless rural youth groups through the CBOs/local government
	Untimely and inadequate supply of agricultural inputs (seeds, fertilizer and pesticides), or their availability only at high prices	Purchase from neighbouring kebele/Goba woreda at high prices through informal paths from friends/other farmers	Empower the Union/CBOs or establish rural institutions at the local level so that they can supply all necessary inputs to communities
	Adverse weather conditions, frosts, floods, drought and poverty	Firewood collection, with necessary permissions, and loans from better-off farmers	Firewood collection and sale from the natural forest as well as loan services from the CBO

Actors	Major risks	Existing risk management strategies	Suggested risk mitigation strategies
CBO members	Adverse weather conditions, i.e., drought, frosts, floods, and poverty	Collect firewood and take it to the market twice a week, and/or borrow from better-off farmers	Firewood collection and sale from the natural forest and support from the regional government and NGOs
	Pests and diseases	Obtain pesticides etc. from the Union as well as purchase from the local businessmen at a high price	Empower the Union/CBOs or establish rural institutions at the local level so that they can supply all necessary inputs
	Low prices for agricultural products when sold in the local market	Travel long distances to get market access in the neighbouring woredas	Promote collective sales through the Union or get a loan from the CBO until the price of the product increases
Non-members	Delays in delivery of improved seed, fertilizer and pesticides, and quantities are insufficient	Use local low yielding crop varieties or purchase from the neighbouring kebele at a higher price	Provide the required amount of high yielding crop varieties and other inputs through the Union/CBOs
	Pest and diseases affecting the major crops	Purchase pesticides from local businesses at a higher price - or not use pesticides.	Empower the Union/ CBOs to supply pesticides and provide training on integrated pest management
	Price fluctuations of agricultural products sold in local markets	Travel long distances to get market access in the neighbouring woredas	Seek alternative markets through the Union or provide loan services for farmers from the CBO

3.2.4 Perceived barriers and mitigation strategies in accessing financial flows

Farm Africa together with SOS Sahel Ethiopia and OFWE identified forest coffee, forest honey, trophy hunting, forest bamboo, medicinal plants, essential oils, ecotourism, and appropriate micro-enterprises as additional income-generating activities for PFM cooperative members. The committees and members of the cooperative indicated the major sources of income as being registration and share contributions, trophy hunting, permitted activities inside the forest (i.e. livestock grazing, firewood and construction wood collection), fines from illegal activities, and emission reduction payments. They indicated that they have well-established performance-based benefit-sharing criteria among members, based on their level of participation in development activities in their kebele. They have a registration book that is used to record the participants in each activity. Based on this registry, members shared the revenue from trophy hunting (80 to 300 Birr, US$2.0-7.5) for the third round. However, the respondents in this study encountered several barriers to accessing the finance available through the REDD+ project, and that could prevent achievement of restoration goals.

The most common barriers that both fund recipients and non-recipients encountered in the financial flows and in accessing the available finance under the REDD+ project, as well as the most common barriers faced by the IA are listed in Table 7, along with the measures taken so far in response and those that need to be considered in future financing

restoration programming. The most crucial observed needs indicated as barriers by the fund recipients were the lack of sufficient and timely agricultural input supplies (improved seeds, fertilizers and pesticides), lack of interest-free and Sharia-compliant credit services, and lack of basic infrastructure (all-weather roads, clean drinking water, electricity, and local markets). Similarly, non-fund recipients also indicated as barriers the lack of basic infrastructure, lack of interest-free and Sharia-compliant credit access, shortage of farmland, and lack of sufficient and timely supply of improved seeds, fertilizers and pesticides as the main needs.

As perceived by both fund recipient and non-recipients, worsening of economic conditions threatens the viability of restoration programs that are being financed. This is often aggravated by governance-related barriers such as limited employment schemes for landless youth, limited infrastructure development activities, poor law enforcement, lack of transparency and top-down approaches, inadequate carbon fund management and benefit sharing, as well as land and forest and tree tenure issues.

The Bale eco-region restoration program in general and the Farm Africa and SOS Sahel Ethiopia led restoration program through the CBOs in particular, aim to restore but also to contribute to income generation and the improvement of local livelihoods. It provides income through the sale of carbon only to the fund recipients, but still this does not fulfil their needs, and that requires additional finance like through credit schemes from other sources. These types of arrangement were found to be highly important in the locality, and which contributes to the sustainability of the restoration program in the studied area, and the whole Bale eco-region. Therefore, it would be valuable if the restoration program could also facilitate access to additional credit so communities can start up other economic activities.

Generally, participants in this study stated that the lack of financial support is the major problem in their kebele. Both fund recipients and non-recipient respondents indicated that the Oromia Credit and Saving Share Company (OCSSCO) was the only financial institution that provides credit services, but it lends money at a high interest rates and some farmers face challenges paying back loans on time. Furthermore, the credit arrangement employed by the institution includes interest payments and which is not acceptable to Muslim communities. In the focus group discussions with fund recipients and non-recipients, discussants showed interest in participating in a credit service arrangement (interest-free loans) suitable for Muslims. Sharia-compliant loans, approved by Islamic authorities, allow for payments that cover related administration costs, but not interest. Unlike the OCSSCO and other regionally or locally based credit and saving financial associations and institutions, government owned and many national and international banks have arrangements for interest free banking mechanisms, developed to fulfil the needs of Muslim communities. But such interest-free credit schemes hardly exist locally, and these banks do not have branches at kebele level, with branches limited to distant district capitals. So, the Muslim communities at local level, including CBOs/PFM members, do not have access to suitable interest-free/ Sharia-compliant credit and saving schemes. From this perspective, as many CBO members are Muslim, it might be that a series of discussions and negotiations is needed to establish such services either at the corporative level, union level, or both. In principle, it should not be difficult for banks, government and local institutions to come together to develop modalities for the introduction of Sharia-compliant loans at all levels.

Table 7: The major barriers to access finance and proposed measures to overcome them

Actors	Major barriers to access finance	Proposed measures to be followed
CBO committees	Absence of microfinance institutions that can provide interest-free loans to Muslims	Provide loans from the cooperative and introduce credit services suitable for Muslims
	Lack of equal participation of cooperative members on development activities	Continuous awareness creation and encouragements
	Lack of information about and previous negative experience with credit services, i.e. high interest rates, the risk of losing an asset, and religious concerns	Provide the required information, follow-up, and technical guidance
	Unrest (public opposition) following the change of government in the country	Continuous awareness creation and law enforcement
	Complicated and lengthy carbon money disbursement processes by OFWE	Reduce the bureaucracy and release the shares on time
	High share for OFWE (40% of revenues) from the carbon payments	Develop new benefit-sharing mechanisms in agreement with OFWE through negotiation and dialogue
	Misuse/misallocation of cooperative money by local authorities for activities not in line with agreed community priorities	Awareness creation and mechanisms to ensure money is used for intended purposes, except when a joint agreement for alternative uses is reached among and between all actors
	Under development of all-weather roads, clean water, electricity, and market access	Infrastructure development, notably all-weather roads and bridges through government support and local community participation
	Lack of suitable credit services to access finance (lack of interest-free/Sharia compliant loans for Muslims)	Strengthen the CBOs' capacity to provide interest-free loans for members
CBO members	Absence of microfinance institutions that suit the needs of the Muslim community	Provide loans from the cooperative and introduce credit services suitable for Muslims
	Some negative experiences with past credit services close to high interest rates, risk of losing an asset, religious concerns	Continuous awareness creation, technical support and follow up
	Lack of skills and experience to generate additional cooperative income sources	Provide technical support guidance, and business development skills training
	The prevailing unrest (public opposition) following the change of government in the country	Awareness creation and law enforcement
	Very small amounts of cooperative money available for loans for members	Avail enough money for loans, and give priority to the poorest in the allocation of loans.
	The lack of all-weather roads, clean drinking water, and nearby market access	Infrastructure buildings including all-weather roads and bridges through government support and local community participation

Actors	Major barriers to access finance	Proposed measures to be followed
	Improved seeds, fertilizers, and pesticides do not arrive on time and in sufficient quantity and are expensive when available	Empower the Union/CBOs or establish rural institutions at the local level so that they can supply all necessary inputs
	A growing number of unemployed landless rural youth	Provide interest-free loans and deposits, training in nursery for jobless rural youth groups by the Union/ CBOs/local government/NGOs
Non-members	Negligence in and distrust towards cooperative committees	Continuous awareness creation and encouragement
	Unable to pay the required registration fees and share contributions to join the cooperative	Special arrangements for poor farmers, allowing firewood collection and sale, and other options, so they can pay the fee and become cooperative members
	Lack of information and negative experience with credit service, i.e. high interest rates, risk of losing an asset, religious concerns	Continuous awareness creation, technical support and follow up for making adaptable credit schemes
	Absence of microfinance institutions that suit the interest of Muslim community members	Provide loans from the cooperative and introduce credit services suitable for Muslims
	Inadequate access to all-weather roads, clean drinking water, and nearby markets	Infrastructure development through government support and local community participation
	Poverty and lack of suitable credit services	Provide loans from the cooperative - but need to introduce credit services suitable for the Muslim community
	Shortage of farmland and low crop productivity	Provide high yielding crop varieties through the Union/CBOs and introduce agroforestry (e.g. apple trees)
IA (Farm Africa)	Under developed carbon markets	Work closely with international communities and expand carbon market opportunities
	Low level of awareness among government officials on carbon money utilization policies	Conduct continuous capacity building and awareness creation sessions/events for officials at various levels

Cooperative committee members stated that membership is voluntary and open to all farmer households who live in Wajitu kebele. However, an individual who wants to be a member has to pay 60 Birr (US$1.5) for registration and 250 Birr (US$6.25) for a share contribution. Non-fund recipients indicated that the required registration fee and share contribution are high and reported these as the major barriers to becoming a member of the cooperative and accessing the finance associated with the REDD+ project in their kebele.

SECTION IV

4. Conclusions

This analysis of the carbon payment models (under the REDD+ Project) implemented by Farm Africa in collaboration with its local partner SOS Sahel Ethiopia in the Bale Mountains Eco-region, and the overall experience in financing restoration of the other seven NGOs and GOs, has provided some important lessons for policy and practice. Three major pathways for financial flows were observed. The NGOs involved have similar arrangements for fund transfers in their restoration programs, which flow from the financing agency to the Implementing Agency (NGOs) and then from the NGOs to the end users, in many cases through grants for local development projects. Here, it was very difficult to identify the precise amount of money reaching the end users, or the economic value of the grants to communities and individuals. But importantly, it was noted that many of the IAs in addition to channelling the funds, provide multiple capacity building activities and technical and material assistance to end users and the service providers linked to the programs. Lessons from the Humbo Carbon project, implemented by World Vision Ethiopia, indicated that carbon money received from carbon buyers was directly transferred to end users, and that this more direct pathway is preferable in areas where forest and restoration areas are administered by the community. This could have been preferable in the Bale eco region as well, but the forest administration system is different, where the forest area is administered by OFWE and which does not allow direct transfer of carbon money from the carbon buyer to the end users. In the Bale Mountains Eco-region REDD+ project, with the facilitation of Farm Africa and SOS Sahel, the carbon finance flow is from the carbon buyer to the Oromia Forest and Wildlife Enterprise, as the official entity responsible for the administration of the forest, and then on to the end users, established as CBOs/PFM groups.

The different fund channelling arrangements described in this study show that there is no fixed or prescribed way of channelling funds, and that this rather depends on the type of funding involved and the nature of agreement between and among the donors, IAs and end users which also reflect the different contexts and tenure issues in particular forests and restoration areas.

In the case of the government-led REDD+ restoration program in Oromia region, the first pilot sub-national emission reduction program, there are regional level benefit sharing mechanisms for carbon finance programs, whereby the benefit sharing is defined as vertical (20% to government, 75% to communities and 5% to private forest developers) and horizonal, relating to the 75% community share. Though this is described as the community share, the disbursement actually goes to the lower administrative entities in Oromia region (zone, district and kebele), assuming they represent their respective communities. It is not clear how much of this money will reach community members, or each community member. But at least there are clear guidelines established for benefit sharing mechanisms in Oromia. This is not the case at national level or for other regions. Still, the benefit sharing set by Oromia region for its pilot REDD+ sub-national emission reduction program requires further detailed investigation in terms of the distribution of benefits and the amount of carbon finance that reaches individual community members. A rigorous analysis of per capita benefits as well as of the economic value of the community projects financed will be important in determining whether or not the incentives for conservation are adequate. And having these details will ultimately provide learning that supports upscaling to other regions and beyond.

One of the main aims of this study was to understand the risks and barriers across the

whole process of financial restoration and the channelling of carbon finance to recipients, as well as the mitigation measures and strategies applied to overcome them. One limitation of the current study was its reliance on questionnaires submitted to IAs, in lieu of face-to-face interviews. Many of the IAs struggled to understand the concept of risk advanced here. More in-depth, face-to-face discussion, would have provided greater clarity on key questions and study objectives. In FGDs and key informant interviews, with rich and wide ranging discussions, participants and end users identified very important risks, different from those identified by the restoration implementing agencies.

The most important risks and barriers revealed by the carbon finance recipients have many implications and lessons for future financing restoration programming. Major risks, particularly those related to production hazards, were articulately defined and listed by the end users or carbon finance recipients. Other risks related to financial, institutional, human as well as marketing and price hazards were described by the IAs, fund recipients and services providers. This is positive in that it indicates that they have a similar understanding and potentially a consensus that might enable them to develop common mitigation measures.

Based on experiences and lessons from the stakeholders along fund flows for carbon financing in forest and landscape restoration, various mitigation strategies and measures have been suggested to minimise and overcome the risks and barriers occurring at different stages, whereby many of them may be solved at local level. However, some important issues, such as the absence of a national level standard for carbon financing and for benefit sharing mechanism need attention, so that regions and sub-national entities can receive appropriate guidance to avoid corruption and misuse of carbon money, and build trust among parties and confidence of fund recipients. Without a national policy, strategy and guidelines for carbon financing and benefit sharing mechanisms it might be difficult to attract carbon finance for the restoration of degraded landscapes and implement restoration programs with the active engagement and participation of local communities in a sustainable manner. Putting these policies, strategies and benefit sharing mechanisms in place at national and sub-national level can help to underpin successful restoration financing programs. These should also be in line with the suggested key elements put forward in the FAO forest and landscape restoration mechanism, which focuses on facilitating and establishing value chain development; promoting payments for ecosystem services; the establishment and operationalisation of national forest funds; and developing innovative blended financial initiatives. Promoting a result-based conservation financing approach backed by real time monitoring of performance has also come out as one of the important modalities for financing restoration programs, which needs to be adopted by implementing agencies in Ethiopia and beyond so as to ensure the effectiveness of restoration programs.

Moreover, this case study revealed that trust and transparency as well as continuous and inclusive dialogue are vitally important, among all stakeholders along the carbon financing chain in the Bale Eco-region REDD+ carbon project. Although the CBOs and PFM members, as fund recipients, and the other actors in the carbon finance chain in the Bale Eco-Region REDD+ carbon finance project acknowledged and appreciated the carbon payments received so far, they mentioned a number of issues with respect to the arrangements and processes that require further dialogue in order to establish more efficient financial flows and better arrangements. In particular, they highlighted the need to shorten the lengthy process of fund transfers to CBO/PFM members from the OFWE, the need to build trust and to prevent any misuse of carbon money. The service providers at local levels like OFWE district branch office and the task force members should also get enough budget to run their activities in the

areas of law enforcements, forest protection, development, and management as well as to provide continuous technical assistance to the CBOs/PFM groups. As many of COBs/PFM members are Muslim, the cooperative and other local financial institutions should consider and devise a mechanism for having interest free credit and savings services available to the Muslim community members. It is important to initiate a process through which banks can work with local institutions to establish Sharia-compliant lending at all levels. These will help the Muslim youth and vulnerable community members to diversify their income sources and livelihoods options and contribute positively to the sustainability of the landscape restoration activities.

As this study has only examined the experience of one CBO/PFM group among the many involved in the Bale Eco-region REDD+ carbon project, the authors feel that a larger study covering a number of CBOs/PFM groups would be worthwhile, generating more data and information and a stronger evidence base. In particular this study should focus on a rigorous analysis of the economic benefits, direct and indirect, to communities and individuals, with a consideration of opportunity costs.

It was noted that for effective and sustainable restoration programs, it is crucial to develop innovative and sustainable financing mechanisms, with integrated packages that start from community contributions (either in-kind or finance from the incomes they earn because of restoration outcomes), and establish national and sub-national level grant/environmental funding, as well as revolving funds at local level.

Some reflections and issues for further analysis

The hidden costs in terms of funding program consultations, setting up groups, conducting baseline surveys, training and technical support, etc. implemented by NGOs like Farm Africa and World Vision are often not considered in assessments. These costs are substantial and are covered by donor support. For example, the regional authorities (OFWE and EFCCC) are supposed to deal with encroachment. In practice, Farm Africa has to cover this, including purchasing motorbikes for monitoring. In other words, a large part of the true costs of these programs are covered not by carbon finance, but by donor aid.

How much money do people actually get under these schemes? Is this adequate to provide the needed incentive to not convert forest to farmland? None of the agencies involved in this study could provide data on per capita benefits, or rigorously estimate the value of the community support provided. Ultimately, this is the central risk for all the actors in the financing chain. If the benefits to communities and individuals in those communities are insufficient to maintain their participation, the whole basis for this kind of carbon financing will collapse.

There are also broader questions around approaches to carbon financing. There are risks associated with trends in the international price of carbon. For Ethiopian carbon finance schemes, there is the risk of being locked into a low carbon price under 30-year agreements, while the price of carbon can be expected to increase substantially from the currently low levels. And, in general, there is a lack of knowledge about how to deal with international finance and investors.

There may be questions around the role of the private sector, given the general feeling that forests belong to the nation. And the Constitution says that natural resources are managed by the regional states. But, given the interdependencies across regions and, if there is an orientation towards the welfare of the nation as a whole, then should Gambella and Afar regions benefit from carbon financing programs that protect Oromia forests? With the current low carbon prices, there is no windfall to spread around. But if substantial funds begin to flow to particular forests and regions,

there might be calls to spread benefits across regions.

Another issue is that drylands make up much of Ethiopia's land area and account for much of its carbon sequestration potential. But carbon density is low, which makes them less attractive to international donors and financiers, with much greater interest in areas such as Bale, with high carbon density and a much greater number of trees per unit area. Another point is that many of the trees in Ethiopia are on smallholders' farms. There are some 54 million hectares in the highlands that need tree-based restoration. In the long run, it will be important to create opportunities for financing smallholders, perhaps with land registration and certificates used as collateral to finance restoration.

We have seen that shorter, more direct channelling of funds, with fewer intermediaries, may be more efficient and produce better outcomes. There are international examples of direct transfers to individual farmers, such as the SLAT Project in China where students from local universities are used to check the survival rates of trees. Indeed, the involvement of a university can provide a credible, independent actor, playing a role in verification, and perhaps reducing risks and enhancing confidence among international actors and among communities. Communities need their voices to be heard, somewhere they can take their complaints and to be reassured by an independent eye on the process, which could be provided by universities and/or CSOs. Universities can also play a valuable role in documenting and learning from experiences. Beyond this, there is a need for an institute at the national level that can provide related analysis and guidance, and contribute to the development of a suitable policy, as a regulatory and legal foundation for carbon finance in Ethiopia. A consortium of leading universities and colleges in regional states could provide this, working in collaboration with NGOs. Mekelle University in Tigray has built considerable related capacity, and Wondo Genet College, near Hawassa, was founded decades ago as Ethiopia's primary centre for forestry research and teaching.

In Oromia, the parastatal OFWE is seen by cooperatives and community members as a competitor in the development of enterprises, and as an intermediary, takes a substantial portion of the carbon financing. However, people would prefer money going directly to their pockets, rather than to groups and cooperatives. Mobile banking offers the prospect of simplified funding channels, which need to be accompanied by supporting rules and regulations.

The challenge is fundamentally to give people the incentive to conserve forests, and ideally to have quick and transparent financing processes that support this.

At the international level, carbon finance for forest conservation and restoration ultimately depends on maintaining gains at the local level. The risks at the local level must be addressed, because if they are not verified conservation and restoration gains can quickly be reversed.

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About Tropenbos International (TBI)

Tropenbos International (TBI) is a not-for-profit foundation that envisions a future in which forests and trees are used sustainably for the benefit of local people and the global community. By making knowledge work for forests and people, Tropenbos International contributes to inclusive and evidence-based decision making for the improved management and governance of tropical forests. TBI's longstanding local presence and ability to bring together local, national and international partners makes it a trusted partner in sustainable development. Since 2017, Tropenbos International (TBI) has been a managing partner of the CGIAR Global Research programme on Forests, Trees and Agroforestry (FTA). www.tropenbos.org

Pastoral & Environmental Network in the Horn of Africa

About PENHA

The Pastoral and Environmental Network in the Horn of Africa (PENHA) is a regional NGO, combining grassroots project implementation with research and policy analysis, focusing on rangelands and dry forests, governance and gender. The team working with TBI is led by Mitiku Haile, Professor at Mekelle University and PENHA senior advisor, alongside PENHA regional programmes coordinator Amsale Shibeshi, and regional policy officer John Livingstone. PENHA was established in 1981 by concerned professionals from Horn countries and is registered in the UK, with offices in Addis Ababa, Hargeisa (Somaliland) and London.

RESEARCH PROGRAM ON Forests, Trees and Agroforestry

About the Forests, Trees and Agroforestry (FTA) research program of the CGIAR

The Forests, Trees and Agroforestry (FTA) program of CGIAR is coordinated by CIFOR in partnership with CGIAR centers ICRAF and Biodiversity/CIAT, and non-CGIAR partners CIRAD, CATIE, INBAR and TBI. It aims to reduce poverty, ensure food and nutrition security for all, address climate change, protect natural resources and ecosystem services, and achieve sustainable production and consumption by enhancing the role of forests, trees and agroforestry systems in addressing these challenges. FTA considers the landscape to be the spatial unit that is most appropriate to study in order to improve these contributions of forests, trees and agroforestry. The program recognizes that the sustainability of landscapes depends on seeking a balance between various objectives and land uses in order to maximize synergies and minimize trade-offs. Studying how to increase investments in land uses in such landscapes, and improving the social and environmental impacts of these investments, is one of the priorities of the FTA program.

Pastoral & Environmental Network in the Horn of Africa

TROPENBOS INTERNATIONAL

PENHA Ethiopia

P. O. Box 26975/1000
Addis Ababa, Ethiopia
e-mail: info@penhaethiopia.org
www.penhanetwork.org

Tropenbos International

Horaplantsoen 12, 6717LT
Ede, the Netherlands
e–mail: tropenbos@tropenbos.org
www.tropenbos.org