

**Strengthening climate resilience of households and communities in
Wolaita, Ethiopia.**

Final narrative report – period: January to December 2024

Project implemented by *Caritas International – Belgium* and *Ethiopian Catholic Church – Social and Development Commission of Soddo*

Project financed by the Provincie Vlaams-Brabant

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0. Abbreviations

AGB	Above-ground biomass
ANR	Assisted Natural Regeneration
CI.be	Caritas International Belgium
CMDRR	Community-managed disaster risk reduction
CRS	Catholic Relief Services
CSA	Climate-smart agriculture
DA	Development Agent
DRR	Disaster Risk Reduction
ECC-SDCO/S	Ethiopian Catholic Church – Social and Development Commission of Soddo
ETB	Ethiopian Birr
EWC	Early Warning Committee
FMNR	Farmer Managed Natural Regeneration
FTC	Farmer Training Centre
ILM	Integrated Landscape Management
PSNP	Productive Safety Net Program
SHG	Self-help group
SWC	Soil and Water Conservation
WMC	Watershed Management Committee

1. Project summary

Project title	Strengthening climate resilience of households and communities in Wolaita, Ethiopia.
Dossier	LM/NOM/KLIMAATZUIDEN-2023-ETHIOPIECARITAS1-FASE 2-1
Grant beneficiary	Caritas International asbl.
Implementing partner	Ethiopian Catholic Church – Social and Development Commission of Soddo
Project location	Subdistrict Abaya Chokare, Abala Abaya district, Wolaita zone, Ethiopia.
Project objectives	<p>Global objective: Contribute to climate mitigation by improving the Ethiopian carbon balance and to the strengthening of households’ and communities’ climate adaptation capacities.</p> <p>Specific objective: Strengthen the climate resilience of 360 vulnerable households by increasing their capacities to deal with climate-change related shocks and stresses.</p>
Expected results	<p>Result 1: By the end of 2024, 203 ha of degraded farm land is rehabilitated in view of improving households’ climate resilience and of contributing – on the longer term – to climate mitigation.</p> <p>Result 2: By the end of 2024, 360 vulnerable households have improved their knowledge of and timely access to relevant information regarding climate change hazards and climate adaptation practices.</p>
Project activities	<p>Result 1:</p> <ul style="list-style-type: none"> ▪ Train watershed management committee and government and project staff on FMNR (refresher), CSA (refresher) and integrated landscape management (new); ▪ Conduct watershed assessment; ▪ Facilitate integrated landscape management;

	<ul style="list-style-type: none"> ▪ Ensure continued closure of 197 ha of degraded communal land from livestock and human interference; ▪ Facilitate Assisted Natural Regeneration on communal land and Farmer Managed Natural Regeneration on individually owned farm land; ▪ Promote cut-and-carry system for livestock feeding and supply households with fast-growing fodder grass seedlings; ▪ Construct soil and water conservation structures on 400 ha of degraded land (197 ha communal land, 203 ha household-owned land); ▪ Support the production of 80,000 multipurpose tree seedlings; ▪ Plant 77,600 multipurpose trees on 400 ha of degraded land; ▪ Provide 360 households with fuel-saving stoves; ▪ Support briquette fabrication by two organized groups; ▪ Promote household-level solar energy use; ▪ Organize farmers in a cooperative and link them with carbon trade opportunities; <p>Result 2:</p> <ul style="list-style-type: none"> ▪ Strengthen and train the community-level early warning committee; ▪ Strengthen the Farmer Training Centre in its capacity to collect, compile and document timely and relevant information on climate change hazards and adaptation practices; ▪ Establish 10 self-help groups (SHGs) for savings and credit activities and awareness raising on climate-change hazards and adaptation; ▪ Train 10 SHG leaders on basic business skills; ▪ Facilitate Climate Smart Agriculture; ▪ Promote the use of Moringa leaves as livestock feed (train 50 model farmers).
Beneficiaries	<ul style="list-style-type: none"> ▪ 360 vulnerable households (2,160 persons). ▪ Government (district) offices' staff.
Project duration	12 months (January - December 2024).
Project budget	<p>Total project budget is € 100,000, provided exclusively by Provincie Vlaams-Brabant:</p> <ul style="list-style-type: none"> ● Investment grant: € 33,289 ● Operational grant: € 66,711 <p>Local community and government contributions equivalent to € 5,212:</p> <ul style="list-style-type: none"> ▪ Planting 25,763 tree seedlings equivalent to € 3,000; ▪ Contribution to SWC works equivalent to € 2,212. <p>Furthermore, the government contributed:</p> <ul style="list-style-type: none"> ▪ Land for the tree nursery; ▪ Payment of 2 guards of the closed communal area; ▪ Monitoring and technical backstopping (by staff trained by the project).
Summary description	<p>Rural livelihoods in Wolaita, concerning 70% of the zone's population, are mainly dependent on rainfed subsistence agriculture and animal husbandry (average landholding of 0.7 ha/household). These livelihoods are threatened by land degradation and desertification, which are driven by deforestation, intensive crop farming (small landholding, lack of alternative employment opportunities) and overgrazing. In these circumstances, the rural population is highly vulnerable to climate-change hazards, which manifest themselves in the form of irregular and unpredictable rainfall and occur ever more frequently. As a consequence of alternations of dry spells and extreme rainfall events run-off and soil loss intensify and soil fertility and soil moisture retention capacity decline. The consequences in terms decreasing crop and livestock productivity, and/or harvest and livestock loss, further</p>

	<p>add to the (climate-change) vulnerabilities of livelihoods based on rainfed agriculture. In Abala Abaya, the district where the project was carried out, households' resilience had weakened to such an extent that 84% of the households came to depend on cash or food-for-work and/or emergency food assistance. In the wider Wolaita Zone, poverty, food insecurity and child malnutrition are major problems.</p> <p>The climate resilience project was carried out in Abaya Chokare, a subdivision of the district Abala Abaya in Wolaita, at about 370 km south of Addis Ababa. The project aimed at improving climate-change resilience while ensuring both economic returns for vulnerable households and soil and water conservation for land rehabilitation, carbon sequestration and carbon emission reduction. The project relied on two key approaches – Farmer Managed/Assisted Natural Regeneration and climate-smart agriculture – and adopted two integrating perspectives – Integrated Landscape Management and Community-Managed Disaster Risk Reduction – to ensure mutual reinforcing effects – to secure, that is, climate change adaptation and mitigation impact as well as vulnerable households' livelihood improvement.</p> <p>Overall, the project resulted in the following advantages for 1) the local population:</p> <ul style="list-style-type: none"> ● Stronger climate resilience in response to extreme weather events, thanks to the rehabilitation of 203 ha of individually held farm land and the adoption by 360 farmers of climate-smart agricultural practices; ● Improved livelihoods thanks to, among other things, multipurpose tree production, higher agricultural productivity thanks to improved soil fertility, reduced expenses thanks to fuel-saving stoves, ...; ● Better availability of water thanks to improved groundwater levels and flow of sources; ● Improved availability of fodder for livestock and improved soil fertility for crop production; ● Improved knowledge and skills with regard to climate change hazards and responses thanks to, among others, strengthened EWC and FTC; ● Easing of the tasks of women and children thanks to fuel-saving stoves. <p>And 2) the environment:</p> <ul style="list-style-type: none"> ● Closure of 392 ha of communal land¹ and rehabilitation of an additional 197 ha of communal land and 203 ha of individually owned land; ● Carbon sequestration and above-the-ground biomass increase thanks to afforestation activities; ● Reduced erosion thanks to planting of trees and SWC measures; ● Less deforestation and carbon emission thanks to the use of fuel-saving stoves; ● Reduced siltation of downstream Lake Abaya.
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2. Introduction

The project entitled “Strengthening climate resilience of households and communities in Wolaita, Ethiopia”, was financed by the province Vlaams-Brabant, without other co-funding. It was carried out by Caritas International Belgium (CI.be) in partnership with Ethiopian Catholic Church – Social and Development Commission of Soddo (ECC-SDCO/S).

By enclosing degraded communal land, by engaging in assisted and farmer managed natural regeneration and soil and water conservation – including the planting of trees – and by promoting climate-smart agricultural practices, fuel-saving stoves, briquette fabrication and use, and

¹ The protection of 195 ha enclosed in 2023 has continued in 2024. Another 197 ha was added for enclosure in 2024.

household-level solar energy use, the project wanted to accomplish both climate-change mitigation and climate-change adaptation impact.

In 2023, a preceding project, also financed by the province of Vlaams-Brabant, had started rehabilitating both communal and privately owned land as well as enhancing households' capacity to withstand and respond to climate-change related and other shocks. If certain of this preceding project's activities (e.g. SWC, promotion of fuel-saving stoves) entailed immediate results (reduced run-off, erosion and carbon emissions), its biological measures (tree planting, ANR) will take time to translate into quantifiable ecological and economic (livelihood) benefits. Therefore, to ensure sustainability of results and impact, a number of these activities were continued in the follow-up project that is here reported upon. In parallel new elements, selected for their complementarity and/or synergy with the preceding project's activities, were introduced (promotion of solar energy use, promotion of the moringa multipurpose tree, linking of the community to carbon trading opportunities). The new activities were in line with the growing awareness that addressing complex issues of climate-change adaptation requires integrating ecological, economic and social dimensions and aimed reinforcing the sustainability of activities initiated in 2023 (SWC, area closure, land cover regeneration, etc.) by diminishing resource use pressure (notably firewood consumption) and allowing communities to benefit directly (e.g. fodder for livestock, carbon trade income).

Before the start of the project, it was expected that, when the afforestation realized thanks to the project will be full-grown, an estimated additional 25,840 t CO₂ eq will be sequestered annually on the 400 ha land rehabilitated in 2024 (197 ha communal land, 203 ha individually owned land).²



Picture 1: Water pond in the rehabilitated watershed.

The present final report covers the entire project duration, that is, from 1 January to 31 December 2024. During this period, all planned activities were carried out, with the exception of the support for the fabrication of briquettes and the promotion of their use, the reason being that the price for the compacting machines had risen beyond reach of the project budget. This activity was replaced, after having consulted with the donor, by providing support to a beekeeping and honey production group (see § 4.1.11).

² That is, exclusive of the annual sequestration of 15,363 t CO₂ eq expected to be realized thanks to the afforestation carried out in 2023 by the preceding project.

Some of the outputs were realized well beyond what was initially planned, among other things thanks to collaboration with the main stakeholders, that is, the members of the target group and government services and authorities. Thus, a significantly higher number of tree seedlings could be produced and planted than originally planned. Also, while the plan was to merely ensure continued enclosure of the communal area of which protection started in 2023, an additional area of 197 ha of communal land was protected in 2024, and treated by means of soil and water conservation, tree planting and/or assisted natural regeneration. Another major achievement is the rehabilitation and/or regeneration of 203 ha of individually owned land by means of soil and water conservation measures, farmer managed natural regeneration and climate smart agricultural practices. One activity achieved its target only partly. The supply of solar panels was planned for 20 households, because of budgetary constraints, only 16 households received one (see sections 4 and 5 below for details of activities carried out and results achieved).

A number of activities will be continued by the target group (through the SILCs, watershed management and early warning committees) and government services, ensuring the sustainability of the project results, notably the enclosure and protection of communal land, the promotion of climate-smart agriculture and community-managed disaster risk reduction.

3. Output achieved versus output initially planned

See annex 1.

4. Activities accomplished by the project

To secure smooth and constructive collaboration with government authorities and services, a project agreement was signed with the regional bureaus of finance and economic development and of agriculture and natural resource management and subsequently shared with line departments at zone and district levels.

ECC-SDCO/S hired staff required for carrying out and monitoring and supervising the activities (a natural resource management expert, a community facilitator/development agent and two community animators), while 4 permanent staff members (coordinator, M&E expert, driver and accountant) were assigned part-time in support of the project. Also, equipment for facilitating staff's tasks was purchased (laptop and scanner).



Picture 2: Project launch at community level.

A one-day kick-off workshop was organized in which, besides project staff, several government zone and district offices participated, among which those of agriculture and natural resource management and of finance and economic development, as well as the sub-district's leader and DA. During the workshop, the project and its implementation plan were presented, after having first discussed the lessons learned from the 1st climate resilience project that was carried out in 2023.

The project was also launched at community level. It was decided to have this coincide with the kick-off of the district-level 2024 watershed development mobilization. A total of 450 persons (357 men, 93 women) participated, mostly villagers but also government stakeholders and, of course, the project team. The event provided an opportunity to give visibility to Vlaams-Brabant and ECC-SDCO/S (a.o. distribution of T-shirts and caps with the organizations' logo), all the more so since it was covered and broadcasted by Wolaita Television and Radio. In view of ensuring the sustainability of project results after phasing-out, these launching events constituted crucial steps.

4.1 *Activities accomplished under result 1*

Result 1: By the end of 2024, 203 ha of degraded farm land is rehabilitated in view of improving households' climate resilience and of contributing – on the longer term – to climate mitigation.

4.1.1 Activity 1.1: Train watershed management committee and government and project staff on FMNR, CSA and integrated landscape management

A two-days training was organized on integrated landscape management (ILM), in which 23 persons participated (21 men, 2 women): the 12 members of the watershed management committee (WMC), the project's natural resource management expert and DA, two partner staff members and 7 government staff members (4 DAs, 2 district agricultural experts, 1 sub-district leader). The ILM training provided an opportunity to give participants a refresher on CSA and ANR/FMNR, to evaluate the achievements of the first 2023 climate resilience project and to have an exchange of experiences for WMC members and government staff who had not been involved in the first phase.

The training, facilitated by government natural resource and agriculture experts, focused on topics such as multi-stakeholder interventions, joint planning, integration of livelihood improvement and natural resource management activities, ... The government staff that participated in the training subsequently contributed significantly to project implementation.

4.1.2 Activity 1.2: Conduct watershed assessment and establish the project baseline

First, the watershed that was going to be the object of the project's intervention was delineated by a team consisting of community representatives, district and project natural resource management experts and sub-district leaders, using a data recorder, boundary indicators and GPS/GIS technologies. The total area of the watershed thus delineated for rehabilitation by the project was 400 ha, consisting of 203 ha individually held land and 197 ha communal land. To ensure the sustainability of the previous year's results, the watershed area that had been protected and/or rehabilitated in 2023 was considered for technical support and protection from human and livestock interference during this second project phase as well.³

Next, a technical survey was conducted with the participation of experts from Wolaita Soddo University to establish the new project's baseline as well as the end-line of the 2023 project. The survey was repeated at the end of 2024 in order to measure the progress achieved by the present project. The assessment concerned key indicators such as carbon sequestration, soil loss, above ground biomass (AGB) and vegetation coverage, and changes in land cover by land use type. A separate assessment was carried out of hydrology and sediment yield to set the 2024 baseline value for groundwater potential, surface runoff and sediment yield of the targeted watershed.

³ In 2023, a watershed of 295 ha was delineated (195 ha communal land and 100 ha individually held by farmers).

To measure the overall land-use-land-cover status of the watershed, the survey team made use of several tools and approaches, such as transect walks and GPS/GIS (for x-y coordinates recording), Google Earth and satellite images (Earth Explorer) and focus group discussions. The revised universal soil loss equation (RUSLE) was applied to estimate annual soil loss/ha. For data analysis, the team made use of the Earth Resource Data Analysis System (ERDAS version 2024), GIS and SWAT (Soil and Water Assessment Tool) to classify the land use type coverage and to assess the impacts of LULC (Land Use Land Cover) changes on hydrological landscape components and on sediment yield. To measure the watershed's AGB – which in turn allows to estimate carbon sequestration – the Inventory Based Estimation Technique was used, while for measuring vegetation coverage the Normalized Difference Vegetation Index (NDVI) was applied.

4.1.3 [Activity 1.3: Facilitate integrated landscape management](#)

To promote long-term collaboration, the project organized dialogue among stakeholders. It provided clear information on the watershed's status, the activities planned by the project and the roles and responsibilities expected from different actors to ensure sustainability of project results. In this effort to coordinate actors, the project took the role of facilitator whereas local government actors mobilized communities. Integrated landscape management was promoted at various occasions such as the project launch at grassroots level, SHG meetings and farmer-to-farmer learning events. In fact, throughout the project period, ILM as well as FMNR and ANR were integrated as cross-cutting issues at each event organized by the project. In terms of roles and responsibilities, the WMC has taken on the task of watershed protection whereas the early warning committee (EWC) and the government's food security office are to compile early warning data, among others based upon meteorological data updates, and share these with watershed communities. In addition, the youth group supported by the project for beekeeping and honey production (see below activity 1.11) and the cooperative established in view of future carbon trade opportunities committed to contribute to watershed protection.

4.1.4 [Activity 1.4: Ensure continued enclosure of 197 ha of degraded land from livestock and human interference](#)

In 2024, 197 ha of communal land were closed from livestock and human interference, except for physical and biological conservation works required for watershed rehabilitation. With the 195 ha of communal land already enclosed in 2023, the total area protected reached 392 ha in 2024. The effectiveness of area protection is ensured thanks to the enforcement of the watershed management committee's bylaw (updated in 2024) for which the local authorities assigned 2 paid guards.

4.1.5 [Activity 1.5: Facilitate Assisted Natural Regeneration on communal land and Farmer Managed Natural Regeneration on individually owned farm land](#)

The project intended to invest in the rehabilitation of the enclosed communal land by means of soil and water conservation (SWC) measures and the planting of trees. However, treating the entire enclosed area in this way was beyond the project's means (in terms of both budget and time). It was decided to concentrate the heaviest investments of tree planting and SWC on the most degraded parts of the communal area. ANR – encouraging natural regeneration of grasses, shrubs and (native) trees from shoots and seeds stored in the soil, pruning, protection from human and livestock interference – was facilitated especially on the more mildly degraded parts of the watershed. Thus, ANR practices that were introduced the previous year were extended and this in collaboration with government natural resource management experts. The ANR work was carried out by the guards and, during off-season, by the tree nursery workers.



SPARK 30C

• 27mm f/1.6 1/510s ISO101

Picture 3: Farmer Managed Natural Regeneration

FMNR was promoted – besides through sensitization at various events (see above activity 1.3) – by organizing a refresher training for 10 model farmers (8 men, 2 women). Six of these model farmers already made available their farms as sites for demonstration and experience sharing events. The refresher training was facilitated by the project’s natural resource management expert, supported by a district agriculture expert.

4.1.6 [Activity 1.6:](#) Promote cut-and-carry for livestock feeding and supply fast-growing fodder grass seedlings

To discourage free grazing of livestock, which is common in the project area, and to thus ensure effectiveness of area closure from livestock and human interference, a cut-and-carry system for fodder collection has been promoted. Already in 2023, awareness on the significance of cut-and-carry for watershed rehabilitation and sustainability of results was created among 800 persons (538 men, 262 women), from Abaya Chokare and neighbouring sub-districts. The community then adopted a bylaw which stipulates how fodder from the watershed can be used by cut-and-carry. The sensibilization on cut-and-carry was continued throughout the year at several public events. Additionally, 360 households were provided as planned with fast-growing drought-tolerant fodder seedlings (50 to 200 seedlings per household, depending on their farm size and number of livestock), which were produced by the nursery that had been established by the project in 2023.⁴

4.1.7 [Activity 1.7:](#) Construct soil and water conservation structures on 400 ha of degraded land (197 ha communal land, 203 ha household-owned land)

In 2023, SWC measures were carried out on 65.5 ha of the then enclosed area of 195 ha, meaning that 129.5 ha were left untreated, except for ANR. The present project succeeded in carrying out SWC measures on a total of 326.5 ha of communal land (that is, 197 ha of newly enclosed land in addition to the 129.5 ha that was left untreated the previous year). This was achieved by constructing 21.75 km soil bunds, 12.25 km of stone-faced soil bunds, 16.18 km of ordinary stone bunds, 1,664 m³ stone check dams (for gully rehabilitation), 1,724 m of wooden check dams, and

⁴ In 2023, 400 households had already received fodder grass seedlings.

1,500 micro-basins (for water percolation; eyebrow basin, half-moon). In addition, 3 large water percolation ponds of 1,000 m³ each were constructed to strengthen moisture retention of the watershed; around the ponds, biological conservation measures were taken (e.g. planting of grasses on embankments to minimize siltation). The ponds were filled by the rains and served as main source for watering the newly planted seedlings during the dry season as well as during dry spells that occurred in the rainy season (see below activity 1.9).



Picture 4: Soil and Water Conservation on communal land.

A total of 250 persons (165 men and 85 women) participated as daily laborers in the SWC activities. They were paid according to the prevailing Productive Safety Net Program rates. In addition, another 450 community members (357 men and 93 women) participated voluntarily and for free for 4 consecutive days (starting at the day of the project kick-off at community level, which coincided with the mobilization by the district of the population for watershed development).

At household level, the project and local government assisted 360 farmer households with carrying out various SWC measures (soil bunds, fanayiju terraces, stone-faced soil bunds and stone bunds), thus protecting in total 203 ha of farm land. In addition, 10 small private water harvesting ponds of 100 m³ each were constructed. The project together with district experts provided technical assistance, while the farmers provided their labor for free.

4.1.8 [Activity 1.8: Support the production of 80,000 multipurpose tree seedlings](#)

On request of the project, the district had provided already in 2023 a nursery site of 1.5 ha for seedling production. The site was selected taking into account all-seasons water availability, agroecology and distance from the plantation site. For the management of the nursery 20 unemployed youths (14 men, 6 women) had been recruited and trained. For the present project, only 10 youth (7 men, 3 women) remained employed. They were selected on the basis of their previous performance (work attendance and commitment) and paid by the project as daily laborers according to the PSNP norm for nursery work (106 ETB/day/person). A work agreement was signed between the laborers, the project and the district government and, to ensure the youth group's temporary access to the nursery land, the land use agreement signed between the youth group and the local administration was updated. Thus, the project continued to provide temporary employment for 10 otherwise unemployed youth.

In response to shortcomings identified by ECC-SDCO/S's monitoring and evaluation team and feedback from stakeholders during joint supervision meetings, an additional two-days practical and theoretical on-the-job training was organized for the youth group. It was facilitated by the project's natural resource management expert, supported by a forest and environmental protection expert of Wolaita Zone. Main topics of this refresher training were specific varieties' management, seasonality and seedling care during transportation. In order to efficiently use labour and to minimize risk of water shortage on the nursery site, a rope and washer pump was installed.

The project supplied 73 kg of seed to the nursery: 28 kg multi-purpose tree seed, 20 kg forest tree seed and 25 kg of fodder seed. In addition, the district agriculture and natural resource management office supplied another 20 kg: 12 kg multi-purpose tree seed and 8 kg forest tree seed. The plan was to produce 80,000 seedlings, but thanks to the joining of efforts by project and government and the experience gained in 2023, it was possible to produce as many as 120,050 seedlings of which 31,873 multi-purpose tree seedlings (26%), 33,081 forage seedlings (29%) and 55,096 (45%) forest tree seedlings.

Initially, it was planned to grow at least 10,000 seedlings using seedling bags made of false banana leaves, but during the 2023 after-action review (which was conducted after submission of 2024 project proposal), it was concluded that the banana leaves decayed before seedling maturation and therefore were an inappropriate solution making seedling transport impossible. Seedling bags made of false banana leaves were therefore not used in the present project.

4.1.9 [Activity 1.9: Plant 77,600 multipurpose trees on 400 ha of degraded land](#)

It was planned to plant a total of 77,600 trees on communal and household-owned land. Thanks to the synergy accomplished with government services, this target was exceeded by far. A total of 116,449 seedlings were planted, of which 30,920 multi-purpose tree seedlings, 39,865 agroforestry tree seedlings and 45,664 fodder seedlings. Of these, 65,792 seedlings were planted on communal land (concerning 25 ha) and 50,657 seedlings on household-owned land (concerning 16 ha).

To ensure seedling survival, protection from human and livestock interference was strengthened (two guards assigned by the local government). Thanks to the availability of water in 6 ponds (3 of which were constructed by the present project, 3 others by the 2023 project) and the watering of the planted seedlings by community members (which was still ongoing at the time of reporting), and despite dry spells that interrupted the rainy season, the seedling survival rate is acceptable (73.35 %) according to an assessment conducted by experts of Wolaita zone.

Finally, in the planting of the seedlings on communal land as well, 250 persons (165 men, 85 women) participated as laborers, paid on the basis of the PSNP rate.



Picture 5: Tree seedlings planted on communal land.

4.1.10 Activity 1.10: Provide 360 households with fuel-saving stoves

Rural energy in Ethiopia mostly (for approximately 99%) depends on biomass (wood, cow dung, crop residues). Since fuel-wood is scarce in many rural areas, women and children travel long distances to collect firewood. With the objective not only to diminish women’s workload, but also to reduce households’ carbon emission and pressure on forest vegetation, the project provided energy-saving stoves for 360 poor households. The stoves are produced from locally available materials by women groups organized and supported by the water, mine and energy office of Wolaita Zone. Orientation on the importance of the new type of stove and on how to use and maintain it was given by the producers at the distribution site.



Picture 6: Fuel-saving stoves distribution

4.1.11 [Activity 1.11](#): Support briquette fabrication by two organized groups

Originally, it was planned to support briquette fabrication by organizing 20 youth into two groups and provide them with the required equipment (moulds, compacting machines). The idea was to promote the replacement of wood charcoal by briquettes fabricated from crop residues and thus reduce pressure on forests. However, in the period between submission of the project proposal to the province of Vlaams-Brabant and the start of the project, the prices of moulds and compacting machines increased by 250 %, forcing the project to abandon the initial plan for budgetary reasons.

The project team then proposed to substitute the briquette promotion activity by an activity in support of bee keeping and honey production, that is, a so-called ecosystem-based livelihood activity compatible with integrated landscape management. This proposition was accepted by the donor. Accordingly, the project organized – in collaboration with the district agriculture and job creation offices – 10 unemployed young men in a honey production group.⁵ The group members were selected on the basis of interest, experience and willingness to contribute to watershed protection.



Picture 7: Beehives hand-over.

The project provided a one-day training on basic bee keeping, facilitated by a district expert, and constructed a 100 m² shelter. The group was then supplied with 60 German model beehives and some other equipment. To further ensure sustainability of project results, an agreement was signed between the honey production group and the local authority, according to which the group members commit to contribute to the protection of the enclosed communal area from livestock and human interference.

It was intended to link the honey production group with the market, but given the late start of the activity, there was no production yet at the end of 2024. Fortunately, ECC-SDCO/S is currently implementing another project which focuses on agricultural value chain improvement and which will include support to the honey production group.

4.1.12 [Activity 1.12](#): Promote household-level solar energy use

In order to promote household-level solar energy use, the project provided low-cost solar panels for 16 households (initially 20 households were planned, but the number had to be reduced because of budgetary constraints). The solar panels allow the beneficiary households to charge mobile phones, to have electric lighting, ... The community has been brought into contact with the suppliers of the solar panels.

4.1.13 [Activity 1.13](#): Organize farmers in a cooperative and link them with carbon trade opportunities

⁵ Due to the nature of beekeeping and honey production, only men engage in this activity.

In 2023, the 440 households living at the up-stream side of the watershed organized themselves into the Abaya Chokare kebele Forest Development and Protection Cooperative primary association, with the aim to prepare the linking of the community with carbon trade opportunities (building upon the experience from neighboring Humbo district). In 2024, another 360 households joined, so that the total number of cooperative members is now 800 (616 men, 184 women).

So far members organized into six groups (based on their geographic location) and established three committees (executive committee, monitoring committee and forest protection committee). Except for the forest protection committee, this is similar to what is done according to basic cooperative principles. Cooperative leaders are strongly supporting the watershed management committee, and synergy between the two has a positive impact on watershed protection and community mobilization and ownership. The local government supports the cooperative with making available a field office at the FTC and also by having its technical experts provide overall cooperative support.

4.2 *Activities accomplished under result 2*

Result 2: By the end of 2024, 360 vulnerable households have improved their knowledge of and timely access to relevant information regarding climate change hazards and climate adaptation practices.

4.2.1 *Activity 2.1: Strengthen and train the community-level early warning committee*

To ensure sustainability of its results, the project sought to reinforce community-managed disaster risk reduction (CMDRR). A first activity to achieve this was the strengthening of the early warning committee (EWC). In addition, three complementary activities were carried out, that is, 1) providing support to the sub-district's FTC (see below activity 2.2), 2) establish SHGs and train them for advocacy on climate-change related issues (see below activity 2.3), and 3) train model farmers on CSA to enable them to become community change agents (see activity 2.5 below). CMDRR, promoted from the very beginning of the project, will be continued after the project's phasing out, thanks to the strengthened community-based institutions.

To strengthen reliable data collection and analysis and understanding of climate-change hazards at grassroots, and to promote the linking of EWC and WMC, a two-days refresher training was organized for 24 persons, that is, 12 EWC members and 12 WMC members. The training focused on data collection, identification of climate-change hazards, contingency planning, climate-change adaptation and response to hazards. It was facilitated by district and zone DRR experts. In addition, taking into account experiences gained during the 2023 project and the then established link between EWC and FTC focal person, clear communication and reporting channels were identified. At present, any EWC member can report incidences to the FTC focal person by phone, written report or in person. The focal person then is responsible for arranging the collected reports in the FTC where they can be accessed by other actors concerned.

4.2.2 *Activity 2.2: Strengthen the FTC in its capacity to collect, compile and document timely and relevant information on climate-change hazards and adaptation practices*

Already during the 2023 project, the building of Abaya Chokare FTC's capacity to provide support to farmers with regard to new technology and climate-change adaptation was started. Stationaries, shelves, chairs and a table were provided by the project and the local government assigned a natural resource management expert (focal person) to collect, compile and document information on climate-change and adaptation practices. All trainings⁶ provided by the present project (e.g. of the EWC, model farmers and SHGs) were organized at the FTC and the tie between the FTC's focal person

⁶ Even though it was not initially planned, the project organized, in response to the reality on the ground, a training of 10 model farmers (8 men, 2 women) on soil health improvement at the FTC (including a demonstration of (vermi) compost preparation and other soil moisture keeping methods).

and the EWC was further strengthened (see activity 2.1 above). Abaya Chokare's FTC is now recognized as a model FTC by the district, which is using it as an experience sharing and learning centre for other sub-districts.

4.2.2 Activity 2.3: Establish 10 self-help groups (SHG) for savings and credit and awareness raising

The project planned to establish 10 SHGs – in addition to the 22 SHGs established in 2023 – with the objective of empowering women and raising awareness on climate change. Accordingly, 10 SHGs with a total of 199 women members were established and supported. The groups were accompanied in developing and adopting bylaws and supported with saving boxes and stationaries for simple bookkeeping and reporting. The groups elected their leaders and started saving. Together, the 199 women saved ETB 159,200 and 62 women who saved sufficient starting capital engaged in petty trade. They were thus not only empowered economically, but also significantly strengthened their confidence (see, for instance, their greater participation in public meetings). The women insisted that their participation in the SHG and the savings and loan activities in which they now engage freed them from the grip of moneylenders to which they are otherwise delivered and who charge loan shark interest rates.



Picture 8: Awareness raising through SHGs.

Finally, the project used the SHGs as an entry point to raise awareness on climate-change hazards and adaptation. The SHG members have a role-model function towards other community members and advocate on climate-change related issues (plant multipurpose trees, not to cut trees, use fuel-saving stoves, etc.).

4.2.4 Activity 2.4: Train SHG leaders on basic business skills

A three days basic business skills training was organized for 99 SHG leaders (that is, from both SHGs established in 2024 and SHGs already existing since 2023). The training focused on issues of savings, loan repayment, business plan preparation, marketing and working in team. The training was given at the FTC by well-experienced staff of ECC-SDCO/S.

4.2.5 Activity 2.5: Facilitate Climate Smart Agriculture

To sustain the impact of CSA-activities carried out in 2023 and to extend lessons learned to the farmers addressed by the present project, it was planned to mobilize the 60 model farmers (44 men, 16 women) who were trained in 2023 on climate smart livestock, climate smart crop and backyard production and climate-smart agroforestry. Thereto, the present project organized in its 1st quarter a

one-day refresher training for the 60 model farmers, with the focus being not so much on technical issues but rather on how to communicate and share knowledge and expertise with other farmers (farmer-to-farmer learning approach). Thus, each model farmer addressed 6 other farmers, so that in the end CSA was promoted among 360 other farmers (270 men, 90 women), that is 60 more than initially planned.⁷ Monitoring and progress reporting of this activity (see also table 1 below) was carried out by sub-district DAs and project and district staff, who also provided technical backstopping.

4.2.6 [Activity 2.6: Promote the use of Moringa leaves as livestock feed \(train 50 model farmers\)](#)

The project has promoted Moringa as a climate smart solution because of its multiple advantages (drought resistant, fast growing, high nutritional value, ...). Moringa is not new to the target group, but one particular use of Moringa seems to have been neglected hitherto, that is, the use of its leaves as livestock feed. The project provided a three days training for 65 model farmers (53 men and 12 women), facilitated by a livestock production expert from Wolaita zone's agriculture department.



Picture 9: Moringa training for model farmers.

In collaboration with the government expert, the project team developed a simple training manual, focused specifically on the use of Moringa as livestock feed. It was planned to cascade the training by using the same approach as for the other CSA practices (see activity 2.5 above) and to thus address all 800 farmers living up- and downstream of the watershed. However, due to time constraints, the project had to rely on mass mobilization for various community gatherings and to seize the opportunity to inform and give orientation to farmers on the use of Moringa leaves as livestock feed.

5. Progress towards achieving the results and the specific objective

5.1 *Progress towards achieving the specific and overall objectives*

The overall objective of the project was **“to contribute to climate mitigation by improving the Ethiopian carbon balance and to the strengthening of households’ and communities’ climate adaptation capacities”**. To monitor progress towards this objective, the carbon balance with and without project must be measured. During the baseline survey, it was decided to do this by means of an assessment of *the increment of the above-ground biomass (AGB) in the targeted watershed*, given that changes in AGB can be translated into changes in carbon sequestration capacity. Thus, using the

⁷ In 2023, these model farmers that had already cascaded what they learned to 300 other farmers (225 men, 75 women).

“*Inventory Based Estimation Method* “, it was found that the AGB baseline for the watershed was 0.980 t C/ha, which increased to 1.532 t C/ha at the end of the year, i.e. a net growth of 0.552 t C/ha. It can then be estimated that in the last year an additional 0.276 t of CO₂ (50% of the net biomass change) per ha was sequestered. The change remains relatively modest, given that trees that were planted and/or regenerated still have to grow to maturation, but the trend towards improvement is clear, especially given the fact that already in 2023 an additional 0.092 t CO₂ sequestration per ha was measured. However, to make a truly significant contribution to the improvement of the Ethiopian national carbon balance, an even fuller and more intensive treatment of the watershed is required as well as a continuation of assisted natural regeneration for the next ten years.

Progress towards the project’s specific objective – **“strengthen the climate resilience of 360 vulnerable households by increasing their capacities to deal with climate-change related shocks and stresses”** – was measured by means of two indicators:

1. To assess the 1st indicator – *targeted households’ perceived improvement of their ability to withstand climate shocks and stresses* – semi-structured interviews were conducted with 17 household heads from the target group:
 - From these interviews it was learned that the project created both tangible (physical structures that stabilise/reduce soil erosion and flooding, fodder vegetation, (multipurpose) trees, etc.) and intangible (knowledge, skills) assets. The interviewees confirmed that the project contributed to improving the natural environment by stabilizing and restoring land as well as increasing households’ potential thanks to improving soil fertility which results in higher productivity. They concluded that thanks to these achievements their ability to withstand shocks and stresses is improving;
 - Project team and other experts’ observations also confirm that the project had a positive impact on the following specific environmental factors: soil erosion reduction, water quality and availability, biodiversity, flooding risk reduction, energy consumption and management (fuel-saving stoves, solar panels), and overall environmental awareness. It can be concluded that the project thus has continued the process of improving ecosystem services that sustain the targeted community and that was initiated by the 2023 project. This ecosystem improvement in turn strengthens the community’s capacity to absorb climate-change related shocks;
 - The project has short- and longer-term livelihood improvement effects which also strengthen households’ climate resilience. Temporary work was thus created for 250 people: a total of 2,529,345 ETB or € 24,089 was paid for daily laborers who participated in SWC and tree planting. This money was used mostly for purchase of agricultural inputs and will thus contribute to food security improvement. Finally, not only do women use less firewood and has deforestation decreased, but the fuel-saving stoves resulted in increased income for the target groups (less expenses for preparation of *injera*, beverages, ...).
2. To monitor the 2nd indicator – *increase of the number of households having adopted climate-smart practices* – the project team conducted regular house-to-house visits to assess the extent to which supported households apply the knowledge and skills gained through training and technical backstopping services. Project monitoring records show that awareness of sustainable natural resource management continued to increase within the community and that both CSA practices and cut-and-carry livestock feeding that were promoted by the project are being progressively adopted by the target group. Thus, for instance, 134 of the 360 farmers who participated in CSA training have been afterwards visited at least twice by the project team, which could then observe that 104 farmers (78%) were appropriately applying knowledge and skills gained during training, while the other 30 farmers needed further follow-up and technical support.

Table 1: Responses (application) of farmers trained on CSA

Training	Households visited	Households applying the training	Households not applying	Remarks (good practices)
Livestock production	31	24	7	Feeding and fattening their cattle, multiplying forage, cut-and-carry system.
Crop production	37	26	11	Appropriate crop variety selection and technology use
Agroforestry	42	34	8	Planting high numbers of multipurpose tree species
Backyard gardening	24	20	4	Women trainees gained income from their backyard and improved their skills
Total	134	104	30	

5.2 Progress towards achieving the results

5.2.1 Progress towards result 1

Progress towards achieving the 1st result was to be monitored by means of 4 indicators:

1. *Vegetation cover increase* – Using the normalized difference vegetation index (NDVI), change in vegetation cover of the targeted watershed was estimated and found positive. Cloud/swampy/wet land, barren land and light green leafy vegetation diminished by 0.27 ha, 0.81 ha and 1.35 ha respectively, while medium green leafy vegetation increased by 2.68 ha (see table 2). Experts' transect walks confirmed that there is visible improvement in vegetation cover.

Table 2: Vegetation cover of the watershed (baseline and end line)

Class	Land cover type	Baseline (October 2023)		End line (October 2024)		Difference
		Area ha	%	Area ha	%	
Class 0	Cloud, swampy or wet land	0.27	0.09	0.00	0.00	-0.27
Class 1	Barren land/bare soil	1.35	0.46	0.29	0.36	-1.06
Class 2	Light green leafy vegetation/low vegetation	105.48	35.70	104.13	35.20	-1.35
Class 3	Medium green leafy vegetation/moderate vegetation	188.39	63.76	191.07	64.66	+2.68
	Total	295.49		295.49		

Even if progress seems slow and modest, it should not be forgotten that biological measures necessarily take time to translate into full results. The direction of change, however, is already apparent. Also, both CSA and ANR were initiated only in 2023 and expected to result in impact only progressively.

2. *Soil loss reduction* – The final technical survey conducted by the project shows that thanks to project intervention 12.53 ha of the watershed, where soil loss was “high” to “very high” has been shifted to the “low” or “moderated” soil-loss category. It is estimated that, in a year time, average soil loss of Bilbo Dache watershed decreased from 9.8 t/ha/year to 5.9 t/ha/year (after having already decreased thanks to the 2023 intervention from 11.5 t/ha/year to 9.8 t/ha/year). In other words, the intervention resulted in 1,528.8 tons less soil loss from the 392 ha watershed.

Table 3: Soil loss in the targeted watershed (baseline and end line)

<i>Class</i>	<i>Soil loss (t ha⁻¹ y⁻¹)</i>	<i>Severity</i>	<i>Baseline</i>	<i>End line</i>	<i>Difference</i>	<i>Change (%)</i>
1	0-10	Low to moderate	266.40 ha	278.93 ha	12.53 ha	5%
2	10 – 50	High	19.25 ha	10.59 ha	-8.66 ha	-45%
3	>50	Very high	9.68 ha	5.81 ha	-3.87 ha	-40%
	<i>Total area</i>		295.33	295.33		
	<i>Average soil loss</i>		9.8 t ha ⁻¹ y ⁻¹	5.9 t ha ⁻¹ y ⁻¹	-3.9 t ha ⁻¹ y ⁻¹	-40%

3. *Reduction of downstream flood-caused damage* – As described above, the project’s SWC interventions in the watershed prevented 1,528.8 tons of soil loss. Concurrently, siltation as well as the risk of flooding of downstream areas has decreased. It has been observed that about 5.2 ha of land, which was formerly suited only for grazing because of regular flooding, has been converted into farm land.
4. *Increase of CO₂ sequestration (baseline: 0.398 t/ha)* – It is estimated that in the last year an additional 0.276 t of CO₂ per ha was sequestered (see above § 5.1).

5.2.2 [Progress towards result 2](#)

Progress towards achieving the 2nd result was to be monitored by means of 3 indicators:

1. *Improved knowledge of trained households on climate-change causes and effects* – After trainings and during SHG meetings, participants discuss and share their experiences of climate-change induced events (animal diseases, crop failure, etc.) and how these affect their livelihood, what measures they took in response and what they learned. The project expert’s observation records show that the level of knowledge of the targeted households (for instance, with regard to droughts and their impact on livestock and crop production) is increasing;
2. *Number of households that clearly identify the benefits of CSA practices* – As already mentioned above (see table 1), of the 360 farmers who participated in CSA training, 134 farmers have been visited by project team and M&E officer at least twice. It was found that 104 of them (78%) already started applying CSA practices. Of the households trained on livestock production, 24 (77%) out of 31 farmers visited by the project team adopted improved livestock production practices (planting improved fodder, cut-and-carry, ...). Of the households trained on backyard gardening, 20 (83%) out of 24 farmers visited adopted practices proposed during training. Of the households trained on crop production, 26 (70%) out of 37 farmers visited adopted improved crop production practices (crop diversification, organic fertilizers, ...). Finally, of those trained on agroforestry, 34 (81%) out of 42 farmers visited practiced improved agroforestry (diversification of edible and non-edible trees, tree management techniques, ...);
3. *Functional early warning system* – There now is a functional early warning system in Abaya Chokare. The EWC has been re-established and trained. It has 12 members (2 women, 10 men), including representatives of the sub-district administration and of various government sector offices. The EWC meets on monthly basis and shares information among themselves and with the community. Moreover, training manuals on context-specific agronomic practices of livestock keeping, crop cultivation, agroforestry and backyard gardening are available at the FTC.

6. Sustainability of results

6.1 *Social sustainability*

Thanks to strong participation from the very beginning and all along the project duration, community ownership of project results was secured. Important in that regard is the fact that watershed management plans were elaborated in a participatory way and that grassroots committees (watershed management committee, EWC) and SHGs developed and adopted their own bylaws by which they now abide. Note also that more than 250 households participated in SWC works and planting of tree seedlings on communal land at several instances of project implementation. At the project launch on community level, 450 persons actively participated for free in SWC on communal land (which corresponds to a contribution of € 2,212). On Green Legacy day, the community again participated for free in the planting of more than 26,000 seedlings (corresponding to a contribution of € 3,000).

6.2 *Technical sustainability*

The project used simple and locally applicable technology during watershed rehabilitation. All activities are easily replicable for community members and DAs. Likewise, the fuel-saving stoves that are promoted, are produced with local materials and easy to maintain by users.

6.3 *Financial sustainability*

Community guards, who enforce area closure, were paid during project implementation by the subdistrict, relying on the PSNP program. The subdistrict committed to continue doing so for the next five years, so that financial sustainability is ensured.

6.4 *Institutional sustainability*

The project is well in line with priorities and policies of the (local) government, to which certain project results are handed over (FTC, nursery site); the land for the nursery site was provided by the subdistrict of Abaya Chokare; already today, the nursery has become a learning and experience sharing center for groups from different neighboring subdistricts.

Government sector offices participated actively in project activities, whether as beneficiaries of training or as experts giving training (see above, section 4). Furthermore, the planting of trees successfully linked up with the Ethiopian government Green Legacy program (for which the nursery supported by the project produced additional seedlings). Also, the project paid daily labour according to PSNP rates, thus effectively inscribing itself in the government's efforts of providing cash- or food-for-work in the framework of establishing or improving collective facilities and infrastructure.

The FTC, which is key in Ethiopian agricultural extension and which is pivotal to knowledge and information sharing, among others with regard to CSA, was strengthened by the project. In addition to the focal person assigned by Abaya Chokare's agriculture office, the EWC – now strengthened by the project – will play a significant role in collecting data and disseminating information on climate adaptation and climate smart practices. Institutional sustainability is further ensured by the existence of a functioning watershed management committee with bylaws that clearly define roles and responsibilities with regard to the protection and use of communal land and its resources, and that are actually enforced (for instance, charcoal production used to be common but is now forbidden, trespassers are fined).

6.5 *Environmental sustainability*

In fact, ensuring environmental sustainability is a main focus of this project: promoting afforestation, protecting against deforestation, combating soil erosion, etc. By promoting SWC measures that are relatively simple and easily replicable and by constructing water percolation ponds in the rehabilitated areas, sustainability of SWC structures and a high survival rate of planted trees is secured. Environmental sustainability is enhanced thanks to the fact that the project worked to rehabilitate – through SWC and afforestation – not either communal or individually held land, but rather both. Also, a synergetic effect was obtained by accompanying land rehabilitation with the promotion of fuel-saving stoves, which resulted in reduced consumption and demand for firewood and hence a reduced pressure on forest resources.

7. Monitoring, evaluation and learning

In collaboration with focal persons assigned by the government, the project team conducted regular field visits for technical support and supervision. The implementing partner's M&E team developed data collecting tools from the earliest project stage onwards. Thus, data were collected regularly on savings by SHG members, cascading of trainings, extent of SWC structures, seedlings production, seedlings plantation, etc. At the same time, it could be observed during these field visits how households applied knowledge and skills promoted by the project.

In addition to expert observations, baseline and end line surveys were conducted to assess project performance. The survey team was composed of experts from Wolaita Soddo University, government agriculture and natural resource departments, World Vision Ethiopia and the project team. The surveys were complemented by focus group discussions, key informant interviews and transect walks (see also above, section 5).

A final evaluation was conducted by representatives from the government's signatory bodies (departments of finance and economic development and of agriculture and natural resources). Watershed management committee members, sub-district authorities, government DAs and the project team participated. Participants appreciated the project's approaches and achievements for their effectiveness, efficiency, relevance and potential of sustainability. The strong collaboration and ownership by community members were taken as indications for future sustainability of project results.

Lessons learned:

- Already at the end of 2023, the multiple effects of fuel-saving stoves were apparent. Less firewood was for sale in the local market, yet prices did not increase, which pointed to a combined effect of on the one hand closure of communal land and on the other hand the promotion and adoption of fuel-saving stoves (which results in 50-70% reduced consumption and demand for firewood). This is confirmed by women who are member of the SHGs and who added that the stoves contribute to improving their livelihoods given that they help to lower costs of certain of their (income generating) activities (e.g. *injera* and local beverages preparation and selling). By the end of 2024, fuel-saving stoves had been provided to nearly all households in the watershed.
- It is not straightforward to realize sustainable tree plantations in circumstances of increasingly unpredictable rainfall. The construction of water ponds near to important tree planting areas provided a response, allowing the watering of seedlings during dry spells and during the dry season. The government and other development actors have welcomed these ponds as a best practice.

8. Communication and visibility

In Ethiopia, the visibility of the project and its partners, in particular the province Vlaams-Brabant, was ensured by means of banners displayed at all events, such as workshops and trainings, and collective activities, such as SWC or planting of trees on communal land. In addition, sign boards were placed at the watershed and at the nursery site. Considerable visibility was also accomplished

14-04-25

thanks to the broadcasting by Wolaita radio and television of the project's launch at community level.



Picture 10: Project launch at community level.

In Belgium, the project is presented on CI.be's website:

<https://www.caritasinternational.be/nl/projects/noodhulp-ontwikkeling/klimaatweerbaarheid-versterken-in-ethiopie/>

On 12 November 2024, CI.be participated in a meeting with John Schrooten Foundation (Christoph Huygens) and Child-Help (Patrick de Vlieger), organized in the offices of the province Vlaams-Brabant with the aim to exchange experiences and explore possibilities for collaboration. The province did, however, not organize a network event in 2024 to which CI.be might have contributed.

9. Challenges

Only one major challenge was encountered, that is, the impossibility to purchase compacting machines for the fabrication of briquettes. This was due to the huge price increase that occurred in the period between submission of the project proposal to the donor and the actual start of the project a few months later. The issue was addressed by replacing the support for briquette making by the establishment and support of a beekeeping and honey production group (see § 4.1.11).

10. Multiplier effect

Multiplier effects were achieved by:

- Having trainees training and/or exchanging information with five other neighbouring farmers (for instance, with regard to the CSA training where model farmers trained by the project in turn train 6 other farmers);
- The SHGs, which constitute the context in which awareness is raised on climate-change hazards, responses and adaptation. The women who are member of these SHGs further raise awareness among their family members and in the wider community;

- The promotion and adoption of fuel-saving stoves. These reduce women's workload by reducing the need for firewood by 50 to 70%. Thus women gain time for leisure or to spend on productive activities. The improved stoves furthermore produce less smoke and therefore reduce health risks for women and children, who are most intensively exposed. The promotion of fuel-saving stoves also stimulates the local economy, since they are produced, using locally available materials, by organized women groups. Finally, the use of the stoves has a positive effect on the profitability of certain income generating activities in which women engage, such as the making of *injera* or local beverages (less firewood is needed, and therefore production costs are reduced substantially);
- The young men organized in a beekeeping and honey production group have committed in an agreement with local authorities to participate in the protection of the enclosed area in which beekeeping is taking place.

11. Testimonies

See annex 3.

12. Expenses versus budget

The project budget of € 100,000 was used entirely, with € 33,141 having been utilized for investment (€ 33,289 budgeted) and € 66,859 having been utilized for project operation (€ 66,711 budgeted). Of the total of € 66,859 operational expenses, € 18,729 or 28% accounts for salary costs. No significant over- or underspending of main budget categories occurred.

Table 4: Budget utilization (see also annex 2)

Budgetlines	Description	Budget 2024	Expenses EUR	Balance
1. Investments				
1.1	Electronic office equipment	2.440,00	2.684,15	-244,15
1.1.1	Computer	1.400,00	1.410,20	-10,20
1.1.2	Scanner	1.040,00	1.273,96	-233,96
1.2	Soil and water conservation structures	24.089,00	24.205,56	-116,56
1.2.1	Construction "gabion check-dams"	4.200,00	3.930,35	269,65
1.2.2	Construction "gully rehabilitation"	7.650,00	7.376,34	273,66
1.2.3	Construction "check-dams"	1.350,00	1.393,16	-43,16
1.2.4	Construction stenen dammen	1.800,00	2.309,37	-509,37
1.2.5	Construction waterbekkens	7.140,00	6.731,20	408,80
1.2.6	Construction microbassins	1.949,00	2.465,14	-516,14
1.3	Purchase of energy-saving Equipment	6.760,00	6.251,19	508,81
1.3.1	Fuel saving oven	3.960,00	3.939,76	20,24
1.3.2	Solar panels	2.800,00	2.311,43	488,57
\$/total investissements		33.289,00	33.140,90	148,10
2. Operational costs				
2.1	Office operational costs	3.060,00	2.316,82	743,18
2.1.1	Part in fixed expenses of office (electricity, water, ...)	540,00	26,84	513,16
2.1.2	Rent office and costs field office	1.020,00	658,37	361,63
2.1.3	Office material	720,00	800,65	-80,65
2.1.4	Telecommunication (telephone, internet, fax)	780,00	830,96	-50,96
2.2	Vehicle costs	4.640,00	4.737,33	-97,33
2.2.1	Fuel	3.660,00	3.916,60	-256,60
2.2.2	Maintenance	980,00	820,73	159,27
2.3	Supporting the production of 80,000 multipurpose trees, planting trees and ANR/FMNR	9.750,00	13.632,42	-3.882,42
2.3.1	Seeds for seeding production in nurseries	1.200,00	973,42	226,58
2.3.2	Payment of youth group members	5.400,00	4.426,97	973,03
2.3.3	Payment for planting trees on community land	3.150,00	8.232,02	-5.082,02
2.4	Strengthening CMDRR	2.300,00	2.837,18	-537,18
2.4.1	Establish 10 self-help groups for savings and credit and climate awareness	500,00	620,35	-120,35
2.4.2	Office supplies for 10 self-help-groups	500,00	309,59	190,41
2.4.3	Support for Farmer Training Centre (especially equipment for demonstration site)	1.300,00	1.907,23	-607,23
2.5	Training and learning	4.344,00	5.114,58	-770,58
2.5.1	Training for 10 newly established self-help groups	840,00	1.244,01	-404,01
2.5.2	Basic business skills training for leaders of new self-help groups	280,00	242,65	37,35
2.5.3	Workshop for exchange of experiences and learning for watershed management committee, etc., and project launch	704,00	1.592,69	-888,69
2.5.4	Training of 50 farmers in moringa cultivation	1.400,00	1.484,29	-84,29
2.5.5	Training of members of the briquette production groups	1.120,00	550,94	569,06
2.6	Costs of materials/investments linked to functioning	7.126,00	6.290,95	835,05
2.6.1	Equipment for nursery (mulching, shading, compost, etc.)	640,00	647,56	-7,56
2.6.2	Fast-growing forage grasses for 360 farmers	900,00	1.145,09	-245,09
2.6.3	Molds and materials for briquette production	1.280,00	354,20	925,80
2.6.4	Compacting machines for briquette production	1.920,00	2.002,66	-82,66
2.6.5	"Rope and washer pump"	1.300,00	1.974,36	-674,36
2.6.6	Materials for workshops, trainings, etc. (stationery, catering, etc.)	1.086,00	167,08	918,92
2.7	Monitoring and evaluation by implementing partner	4.691,00	5.454,33	-763,33
2.7.1	Travel costs for monitoring and supervision	3.000,00	2.838,48	161,52
2.7.2	Technical consultant fee (evaluation of watershed regarding CO2 sequestration, soil loss)	1.000,00	1.929,06	-929,06
2.7.3	Audit costs	691,00	686,78	4,22
2.8	Local staff	23.300,00	18.729,07	4.570,93
2.8.1	Expert natural resources management (100%)	4.320,00	5.833,06	-1.513,06
2.8.2	Development Agents (100%)	3.360,00	3.341,58	18,42
2.8.3	Community animators	3.344,00	841,88	2.502,12
2.8.4	Accountant (50%)	2.814,00	2.927,45	-113,45
2.8.5	Project coordinator (50%)	1.680,00	2.855,43	-1.175,43
2.8.6	MEA officer (25%)	1.680,00	2.220,53	-540,53
2.8.7	Driver (30%)	1.080,00	510,27	569,73
2.8.8	Fringe benefit (insurances, severance payments, ...) (27%)	5.022,00	199,08	4.822,92
2.9	Administrative costs Caritas International Belgium	7.500,00	7.746,43	-246,43
2.9.1	Participation country office in monitoring and evaluation	1.500,00	1.508,41	-8,41
2.9.2	% accountant and country representative (country office)	6.000,00	6.238,02	-238,02
\$/total operational costs		66.711,00	66.859,10	-148,10
TOTAL PROJECT COSTS		100.000,00	100.000,00	0,00

