Darwin Initiative Main & Extra Annual Report

To be completed with reference to the "Project Reporting Information Note":
(https://www.darwininitiative.org.uk/resources/information-notes/)

It is expected that this report will be a **maximum of 20 pages** in length, excluding annexes)

Submission Deadline: 30th April 2025

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Darwin Initiative Project Information

Scheme (Main or Extra)	Main
Project reference	28-010
Project title	Developing rural pathways to community resilience and ecosystem restoration
Country/ies	Ethiopia
Lead Organisation	Tree Aid
Project partner(s)	Ethiopia – SUNARMA UK - Swansea and Forest Research
Darwin Initiative grant value	£383,527
Start/end dates of project	Nov 21 – July 25
Reporting period (e.g. Apr 2024 – Mar 2025) and number (e.g. Annual Report 1, 2, 3)	April 2024 – Mar 2025 (Annual Report 4)
Project Leader name	Cheru Tessema Mammo
Project website/blog/social media	https://www.treeaid.org/projects/ethiopia/developing-rural-resilience-and-restoring-land/
Report author(s) and date	Tekle Jirane, Cheru Tessema Mammo, Katerina Velychko, Fazal Mabood

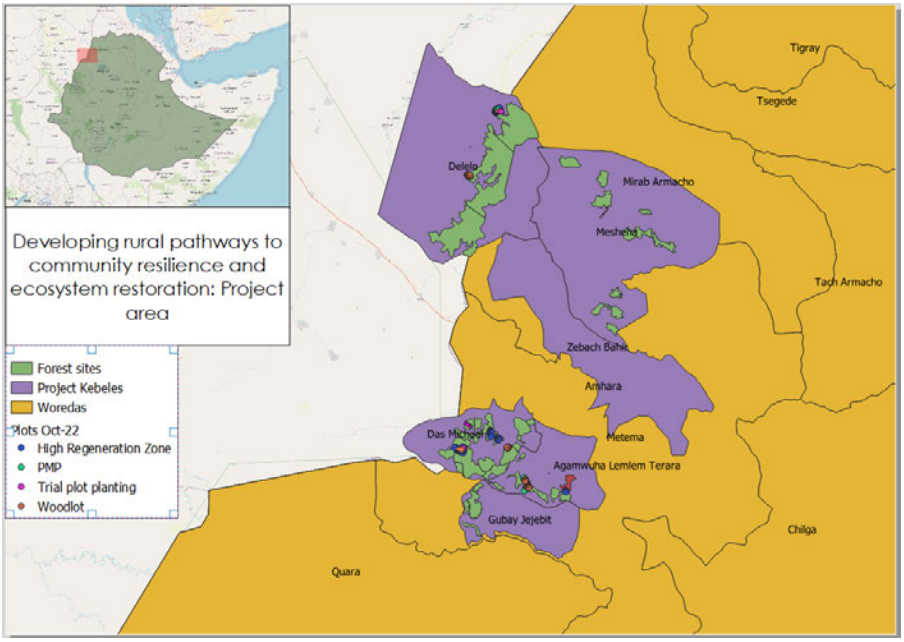
Project summary

Ethiopia's dry forests are diverse and resilient ecosystems rich in Acacia, Boswellia, and Commiphora species. The Combretum-Terminalia woodlands are significant carbon sinks, supporting both climate mitigation and local livelihoods. These forests produce commercial gums and resins, particularly *Boswellia papyrifera*, which supplies two-thirds of global frankincense. In areas like Metema, *B. papyrifera* contributes up to 30% of agro-pastoral households' income, acting as a crucial safety net during dry seasons.

However, unsustainable practices—over-tapping, agriculture, overgrazing, and bushfires—are degrading the forests and reducing regeneration. Over-tapped trees yield lower-quality seeds and reduced germination rates (from 80% to 14%). Studies warn of a 50% drop in frankincense production over the next 20 years. A 2020 Tree Aid assessment in Metema revealed declining forest product yields and poor value chain infrastructure. Immediate actions are needed to promote sustainable tapping, improve product grading, and restore *Boswellia* forests to prevent ecosystem and livelihood collapse.

This project aims to reverse ongoing degradation by strengthening governance and ensuring inclusive decision-making. By introducing sustainable harvesting and regeneration techniques for frankincense, along with improved land management practices on farmland, the project endeavours to help restore forest ecosystems and boost agricultural productivity, ultimately reducing the need for farmland expansion. Through its interventions, the project also tries to create alternative livelihood opportunities, encouraging responsible resource use while raising household incomes. The overarching goal is to improve the livelihoods of 2,250 vulnerable households by enhancing the management of 25,388 hectares of Combretum-Terminalia woodlands across six kebeles in North Gondar: Das Gundo, Lemlem Terera, Gubay Jejebit, Meshiha, Zewde Badime, and Agamwuha.

Fig. 1 Map of project kebeles and forest sites



Project stakeholders/ partners

The lead implementing partner in this project is the Sustainable Natural Resource Management Association (SUNARMA). SUNARMA is an environmental NGO (established in 2000), with an experienced project management team and expertise in natural resource management (NRM) and enterprise development. SUNARMA has been implementing a project around the frankincense value chain in the Metema area of Ethiopia since 2017, has in-depth community development experience and strong links with local and national government.

Tree Aid and SUNARMA have worked in partnership since 2013 on a series of projects which has helped to foster a strong working relationship. Tree Aid Ethiopia (TAE), Tree Aid UK and SUNARMA work closely and collaboratively to plan, implement and monitor the planned activities. Communication between parties is regular via email and remote meetings. The TAE Project Manager engages frequently with SUNARMA, and they have conducted joint trips to the project location in Metema for data collection and community engagement missions. SUNARMA was involved in the preparation of project documents according to government guidelines and got them signed by the regional government partners (the finance bureau, environmental and forest protection authority, and cooperative promotion agency). This is an essential process for projects in Ethiopia. SUNARMA's expertise and experience in this regard is especially valuable.

Gondar University, with whom SUNARMA has a long-standing partnership, is providing technical support in the project, specifically with on-the-ground GIS training. Through this project, Gondar University was also connected with Swansea University - a positive step in making links between the stakeholders as well.

Swansea University and Forest Research (UK) are contributing to the project by using remote sensing to monitor Boswellia trees. While Tree Aid UK leads on contracting and engagement, joint meetings with all partners, including Gondar University, support collaboration and planning. Despite challenges in fieldwork due to insecurity and travel bans, partners are adapting by replacing in-person visits with virtual meetings where possible.

The Ethiopian Forest Development (EFD) is actively introducing and promoting improved frankincense tapping techniques through hands-on training and field assessments. These efforts include a comparative study to evaluate the benefits of using enhanced tapping tools versus traditional methods. For this project they have also identified and selected different sites for the traditional and Indian tapping techniques to support the research. Further information on this study is provided under the relevant activities/output sections of this report.

The Ethiopian Biodiversity Institute (EBI), a government body, oversaw establishing an in-situ conservation site for Boswelia in year 3 which will later be considered a national site that focuses on conserving the Combretum–Terminalia woodlands dominated by Boswellia papyrifera trees. A detailed report and management plan were submitted to local authorities in year 3. The site data supported the selection of monitoring plots to track changes in seedlings, saplings, and trees. Regular monitoring and observation of

the site was planned for this reporting year but due to security concerns, the expert team couldn't make any progress. In addition, EBI were responsible for conducting the baseline ecological survey and socio-economic survey.

Local communities, particularly the Participatory Forest Management Cooperatives (PFMCs), play a central role in the conservation, development, and sustainable use of forest resources. As community-based institutions, PFMCs are responsible for the proper management and stewardship of these resources, and they are essential to the success of the project. Local leaders, including elders and religious figures, contribute both directly and indirectly through their involvement in PFMCs and ongoing engagement in project activities. Project achievement reviews with key stakeholders are conducted twice a year to assess progress and strengthen collaboration.

Project progress

1.1 Progress in carrying out project Activities

Output 1: Equitable governance and environmental stewardship of Combretum Terminalia woodland in six kebeles is promoted through eight PFMCs

Activities under Output 1 were completed and reported in the previous year. Key accomplishments included: awareness-raising on biodiversity conservation and environmental management, forest boundary demarcation and area mapping, training for PFMC leaders on cooperative management, enclosure area management training, support in developing PFMC by-laws, and the completion of a gender study which informed training events with 7 PFMCs (see GESI section).

One of the important activities under this output was the selection of an in-situ conservation site, which EBI did in year 3, alongside submitting a study report and suggested in-situ management plan to the local government and Kebele administration . Detailed site data helped the project select monitoring plots serving to measure changes in the number of seedlings, saplings, and trees in the forests. Unfortunately the monitoring and reporting visits planned for this reporting period were not able to take place due to security concerns.

Output 2. Sustainable harvesting and regeneration techniques of frankincense begin to be used in Combretum Terminalia woodlands to promote responsible exploitation and reverse resource degradation

Activity 2.3: Training on Indian tapping method (20 PP*12 VTEs) 120 people in year-1 and 120 people in year-2

This activity was successfully achieved. The training was delivered in two phases, in total reaching 362 people, including 240 tappers. In the second year, 132 men received training, followed by an additional 130 participants in a second round conducted in May 2024. Whilst all training participants were men, due to the nature of tapping being traditionally male-dominated profession, Tree Aid organised a workshop on frankincense sorting and grading (see activity 4.2) which is an activity primarily carried out by women and to which more women participated. Trainees included tappers, government development agents, and woreda experts. To support the training, 130 copies of manuals and informational leaflets, written in the local language and focused on tapping Boswellia papyrifera trees, were distributed. These materials serve as reference tools for tappers in the field. The newly trained tappers are currently applying the techniques at demonstration sites as part of a research initiative aimed at assessing their effectiveness and benefits. If proven successful, the findings are expected to boost confidence among tappers and encourage wider adoption of the new methods in routine tapping practices. EFD conducted these trainings, using the manual (see Annex 9) drafted under this project's support in 2023.

Activity 2.4: Distribution of improved tapping tools.

In total, 130 Indian tapping tools were produced by a local tool smith based on an improved design and distributed to selected local tappers in April 2025. Tappers had field-level, practical, hands-on exposure to the use of the Indian tool as part of the training event. The EFD office, based on a service contract signed with Tree Aid, is fully involved in the design preparation and production of the Indian tapping tools. Additionally, the EFD team established five research plots, each containing 60 Boswellia trees, with 30 trees assigned to traditional tapping methods and 30 to Indian techniques, totalling 300 trees. Every tree has been marked, numbered, measured for diameter at breast height (DBH), and its GPS coordinates recorded. Sample data is collected from each tree every 15 days when the situation in the forests is normal and there are no security risks.

Activity 2.5: Field and spectral data collection for inventory and condition assessment

This data collection is part of the research project commissioned to Forest Research and Swansea University to conduct an analysis on how different tapping methods and frequencies affect the health of Boswellia trees. Despite security challenges in the project area for much of the reporting year, the project field team managed to collect leaf data from *Boswellia* trees during periods when conditions were slightly stable enough to access the forests in July last year safely. A total of 576 spectral measurements were taken from 288 leaves, collected from 96 trees. For each tree, data was gathered from three different heights, using two PolyPen devices, and covering four different tree types. The sampled trees were those selected for tapping research by the Ethiopian Forest Development. Originally, the plan was to collect data from five tapping research sites (Gundo, Delello, Agamwuha, and Lemlem Terara x2 sites). However, due to ongoing security challenges in one site (Delello), the data was only collected from four sites.

The data was collected from 80 Boswellia trees and 16 other tree species using two PolyPen devices. Half of the Boswellia trees were selected from sites where traditional tapping techniques were applied, and half were from sites where the new Indian tapping techniques were applied. Leaves were collected from three points on each tree - top, middle, and bottom - for measurement.

The data collection focused on three factors/indexes: 1.Reflectance; 2.Absorbance; 3.Transmittance

For the Boswellia trees, selection was based on traditional and Indian tapping techniques. For other trees, selection was based on the dominant species found around each tapping site. In total, 576 measurements were taken from 288 leaves and 96 trees of four different species at three different heights. Details of the collected data are summarized in the following table.

Site	Tapping Tool	No. of trees	No. of leaves	No of Measurement	Tree species
Das Gundo	Traditional	10	30	60	Boswellia papyriferra
	Indian	10	30	60	Boswellia papyriferra
	No tapping techniques (other trees species)	4	12	24	Terminalia laxiflora
Agamwuha	Traditional	10	30	60	Boswellia papyriferra
	Indian	10	30	60	Boswellia papyriferra
	No tapping techniques (other trees species)	4	12	24	Pterocarpus Lucen
Lemlem terara_1	Traditional	10	30	60	Boswellia papyriferra
	Indian	10	30	60	Boswellia papyriferra
	No tapping techniques (other trees species)	4	12	24	Stercullia stigera
Lemlem terara_2	Traditional	10	30	60	Boswellia papyriferra
	Indian	10	30	60	Boswellia papyriferra
	No tapping techniques (other trees species)	4	12	24	Stercullia stigera
Total		96	288	576	

Initial analysis of PolyPen spectral data to obtain leaf reflectance (Swansea university)

The summary report can be found in Annex 4. The report refers to the initial analysis of PolyPen spectral data collected at four sites to obtain leaf reflectance measurements from Boswellian trees. The fifth site (dello) was not able to participate in the research due to security issues.

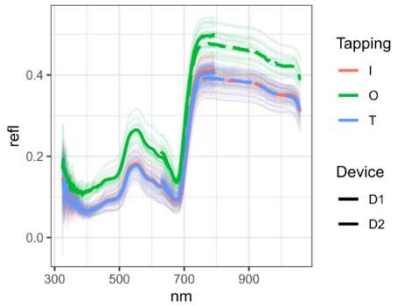
Reflectance is a calculation based on the raw reflectance (transmittance) and white and dark references. The data was collected over 4 days, using two devices (one covering visible light, and the other covering Near-Infrared).

The analysis revealed some learnings in the process of obtaining the data:

- White references should ideally be taken at regular intervals to ensure best quality data, for example, every 10 minutes or when moving between tapping methods.
- There was bad quality data for day 3 and 4. This could be due to instrument malfunction, instrument contamination, miss calibration or human error. One possibility is that the calibrations (white references) were taken without the white reference panel or that external light was entering.
- Combining results from the two devices (one covering visible light, and the other covering near-infrared) can work as there is a consistency shown by overlapping spectra ranges. A method to combine results from the two devices should be developed.

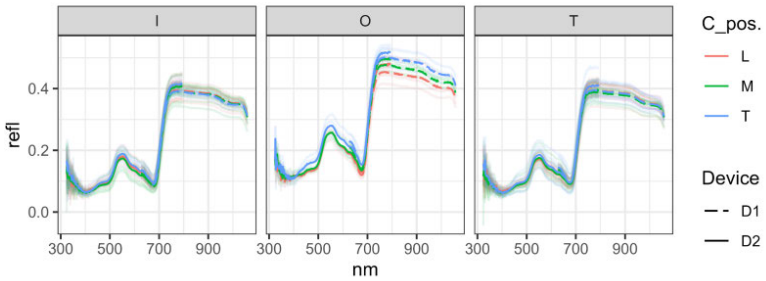
Just one site - Agamwuha (AW-1) - had the full analysable dataset. The spectral data for this site shows how there is visually very little spectral difference between the two tapping methods (Indian and traditional), suggesting that the tapping method doesn't alter reflectance of Boswellia trees enough to the detectable with Polypen devices.

Reflectance differences are noticeable however between Boswellia trees and non-boswellia trees found in the same sites. This was shown by consistently brighter (seen by higher reflectance).



Caption: AW-1 spectrum - colours represent the Tapping method groups (I = Indian, T - traditional and O = Other). The Thicker bold lines are the group averages. Little observable difference between the Indian and Traditional tapping is observed. The solid lines are Device 2 and the dashed lines are Device 1. refl = Reflectance.

The analysis also showed limited differences between the three canopy positions where the leaf was taken (top, middle, lower) is visible in the Indian and Traditional plants. Greater differences are seen in the Other group where Top canopy has higher reflectance across the spectrum and all canopy positions vary in the NIR 700 - 100 nm.



Caption: AW-1 spectra for each Tapping method (I = Indian, O = Other and T = traditional) and each canopy position (L = lower, M = Middle, T = Top). refl = Reflectance.

Activity 2.6: Development of cartographic products using remote sensing to support the development of forest management plans (by Swansea University with Forest Research)

The necessary data for analysis and the development of cartographic products to support the project's management plans has been collected under Activity 2.5 and is currently undergoing analysis by the consultants. However, the consultant has indicated concerns that a significant portion of the data may be defective, and it is likely that re-collection will be required. If confirmed, the data will need to be re-collected between late June and early July of this year

Activity 2.7: Training government and project staff on GIS and remote sensing (by Forest Research remotely).

The development of the training modules is now complete. Last year, it was anticipated that easing security conditions in the country and the project area might allow the trainer to visit Ethiopia to deliver the training. Unfortunately, due to ongoing strict protocols, the consultant will not be able to conduct the training on-site. Instead, a remote training has now been rescheduled for July this year.

Activity 2.8: Determination of Frankincense quality variables

There has been significant progress in the efforts to agree on who will conduct the analysis to determine the quality variables of frankincense. Samples of the frankincense have already been collected and handed over to the consultant from Forest Research. The consultant has successfully contacted and negotiated with the University of Birmingham to conduct the analysis on the resins. Some preliminary research work has started now, a summary of the initial work on the frankincense quality is below and the report is attached as Annex 5 .

Untargeted metabolomics analysis of Frankincense samples from Boswellia trees – University of Birmingham (Annex 5)

This study aimed to evaluate the effect of different methods of extracting Frankincense from Boswelia trees on the Frankincense metabolic composition.

23 Frankincense samples were collected from two sites: Das Gundo and Lemlem Terara at two points in the year (6th and 10th rounds) - with three trees per each of the two extraction methods: Local Mingaf and Saluli. Both of these, are traditional methods. Local mingaf method uses a sharp, metal tool (Mingaf) to make deep incisions in the bark; whilst Saluli method relies on more shallow, smaller, and more precise incisions in strategic places on the tree.

The results showed that the time of extraction, the method used, and to a lesser extent, the location are variables which affect the metabolites found within Frankincense.

A machine (LC-MS/MS) was used to analyse the chemicals in two different ways (positive and negative ion modes). Using both modes helps get a fuller picture of all the different chemicals in a sample as some molecules are easier to detect in positive mode, and some are easier in negative mode.

In the negative ion mode, the chemical profiles of the samples were very similar and did not cluster based on the collection method used. Instead, the samples clustered based on when they were collected (the extraction round), showing that the time of year had a bigger impact on the metabolites than the method of collection. When analysing the rounds separately, however, there were differences between both methods in the 6th round, thus a subset of the samples from this round was created and individually analysed to determine if there were any metabolic differences in the obtained Frankincense. Using this model, 99 chemical features were identified that differ between the methods, of which 51 were significant.

These features showed only few (3-5) fragments (peaks) in the MSMS spectrum profile, meaning that their identification and chemical classification was challenging and thus the metabolites remain “unknown compounds”. Using a molecular networking analysis on Global Natural Products Social Molecular Networking (GNPS) Platform, however, it was shown that despite not being able to match the saluli metablites to known compounds, most metabolites with high levels in Saluli samples cluster together, suggesting they are molecules with similar chemical structures.

For Local Mingaf samples, One metabolite (ID 11987) did group with biologically active fatty acids (e.g. azelaic acid), suggesting it is probably a similar saturated fatty acid. Five other features abundant in Local Mingaf samples formed a network including known phenolic compounds (such as dihydroquercetin and dihydrokaempferol). Some unknown features in this network may also be flavonoid-like compounds as they are similar to these phenolics.

In the positive ion mode data, the extraction method and the time of extraction (round) affect the levels of certain compounds called diterpenes and sesquiterpenes in the frankincense. Unlike the negative mode data, the samples here grouped (clustered) based on the production method — meaning the chemical profiles are different between methods. Once four inconsistent samples removed, the model became valid and showed clear differences (114 metabolites that significantly differed) between Local Mingaf and Saluli methods. Most of these metabolites were found in the Saluli method. These were a combination of fatty acids, prenol lipids, diterpenoids and 1 sesquiterpenoid. Just 3 metabolites could be tentatively matched to known compounds in databases—but as the matches weren’t strong, they are likely similar in structure to known compounds but not exact matches. Key learnings for future research are that there should be a higher sample size and improved MSMS fragmentation acquisition settings so we can identify the compounds more accurately using computer analysis.

Output 3: Improved farmland productivity through the adoption of sustainable land management and climate smart agriculture practices for 2,250 households

All of the following activities under this output have already been completed and reported in the previous reporting years.

Activity 3.1: Training on locally appropriate climate smart agriculture practices and technologies for project staff and local government experts for 3 days at woreda level

Activity 3.2: Training on locally appropriate climate smart agriculture practices and technologies for smallholder farmers

Activity 3.3: Distribution of agroforestry trees for individual beneficiaries 1000 fruit seedling/year

Activity 3.4 Distribution of forage seeds, cutting, and seedlings for selected 540 households 50 per household

Output 4: Household income of 360 men and women households improved through establishment of Village Tree Enterprises

4.2 Training on drying, storing and grading of frankincense for 240 tappers

This second round of the training was integrated with the tappers' training on the Indian tapping techniques. In addition to 130 male tappers and government development agents, 79 women participated in this training. The trainees were from seven FMCs. The training was delivered in accordance with the national standard for frankincense grading. The trainees valued the training and reflected that the training was an eye-opener for them and that they were committed to engaging in sorting and grading so long as the FMCs and the Tewodros Union warehouses are ready to undertake the process. They also hoped that these skills in sorting and grading would offer employment opportunities for them.

Activity 4.3 Material support for drying and storage of Frankincense groups

In March 2025, the project procured 500 storage sacks to support PFMCs in storing frankincense. Distribution is scheduled for April and will be guided by specific criteria, including the amount/quantity of frankincense produced per cooperative, the number of members, forest size, and overall production capacity. Based on these factors, the sacks will be allocated as follows: Agamwuha – 75 sacks, Das – 50, Delello – 150, Gundo – 55, Lay Lemlem Terara – 85, and Tach Lemlem Terara – 85.

Activity 4.4 Provide beekeeping training to members of 6 beekeeping enterprise members

The project facilitated refresher training on beekeeping for 10 beekeeping enterprises (VTEs) across five PFMCs. Prior to the training, regular monitoring in Das PFMC revealed that large group sizes and members living far apart had negatively impacted the effectiveness of some beekeeping VTEs. In contrast, smaller groups with members residing close to each other showed better performance. These groups were found to be more cohesive and connected and were more active in managing their beehives and collecting and selling their honey products.

Based on this insight, the project supported the restructuring of the beekeeping VTE in Das PFMC, splitting it into smaller, more functional groups. As a result, two new VTEs were established in Das PFMC, with grouping based on proximity and willingness to work together. Additionally, three new VTEs were formed in Tach Lemlem Terara PFMC, increasing the total number of beekeeping VTEs from six to eleven, comprising 83 members, including eight women.

Following the restructuring, 10 of the beekeeping VTEs had a refresher training. Due to security issues, the Gundo PFMC VTE could not participate. The training was attended by 64 beekeepers, including eight women. The training covered both theoretical and practical components:

- Theoretical sessions focused on bee biology, the honeybee life cycle, and management practices.
- Practical sessions included Kenyan Top-Bar (KTB) hive construction using local materials, apiary site management, colony transfer, hive inspection, honey harvesting, and post-harvest handling.

A post-training assessment showed participants gained valuable knowledge and practical skills. The sessions also served to assess the material needs of the VTEs and facilitated action planning. It was agreed that each enterprise must establish or strengthen its apiary site (improve the conditions, infrastructure, and or management practices) as a prerequisite for receiving additional inputs, including hives and accessories.

Table 1: Number of VTEs, members, and trainees by PFMCs

No.	PFMCs	Number of VTEs	Membership size			Number of attendees by gender		
			M	F	T	M	F	T
1	Agamwuha	1	8	0	8	8	0	8
2	Das	3	13	3	16	13	3	16
3	Delello	1	12	5	17	12	5	17
4	Gundo	1	17	0	17	5	0	5
5	Lay Lemlem terara	2	12	0	12	10	0	10
6	Tach Lemlem terara	3	13	0	13	13	0	13
	Total	**11**	**75**	**8**	**83**	**56**	**8**	**64**

Activity 4.5 Provide beehives and accessories to 6 beekeeping enterprise groups (Completed)

Following the refresher training on beekeeping, the project procured additional equipment in March 2025, including 25 modern box hives and 23 transitional KTB hives, along with essential accessories such as 6 smokers, 40 pairs of boots, 40 aprons with mesh eye protectors, 40 pairs of gloves, and 6 hive forks. Distribution tool place in late April, as per the table below according to the need of the VTE groups identified in the assessment.

The transfer of bee colonies and related activities will take place in June 2025, aligning with the peak season when local conditions are most favourable, characterized by abundant bee forage and increased swarming activity.

Table 2: Distribution plan for beehives and accessories based on an equipment needs assessment

# of VTE groups in each PFMC	**Box hive**	**KTB hive**	**Smoker**	**boots**	**Apron**	**Gloves**	**Forks**
1 VTE in Agamwuha PFMC	0	0	0	8	8	8	0
3 VTE in Das PFMC	8	8	2	13	13	13	2
1 VTE in Delello PFMC	0	0	0	0	0	0	0
2 VTE in Lay Lelem terara PFMC	0	0	0	5	5	5	0
3 VTE in Tach Lelem terara PFMC	13	12	3	13	13	13	3
Kumer Demonstration Site	4	3	1	1	1	1	1
Total	**25**	**23**	**6**	**40**	**40**	**40**	**6**

M&E Activities:

M&E 7: ***Monthly beneficiary families and groups visit by project staffs. 2 staff days/kebele/month***

The project team visited VTE groups engaged in beekeeping activities. As a follow-up to the suggestions provided during the recent annual review workshop on the need to further strengthen the capacity of beekeeping VTE groups in order to enhance their performance, the existing beekeeping VTE groups at Das, Lay Lemlem Terara, and Gundo FMCs were restructured to improve their functioning.

Name of PFMC	**# of VTEs**	**# of members**			**# of hives**	**# hives with colonies**
		Men	**Women**	**Total**		
Das	3	13	3	16	24	17
Gundo	1	17	0	17	20	9
Lay Lemlem Terara	2	12	0	12	11	8
Total	**6**	**42**	**3**	**45**	**55**	**34**

M&E 11: Field monitoring, follow-up & support visits by HO
M&E 12: Joint project monitoring visits by Tree Aid Ethiopia.

The two monitoring activities were combined as a joint annual review and planning session that took place in May 2024 in Gondar town between TAE and SUNARMA. The review meeting brought together the project team based in the field and a team from Addis Ababa representing the head office of SUNARMA and the Program Country Office of TAE.
Additionally, other monitoring activities including regular field monitoring, follow-up, and technical support were conducted by the field-based project team. For example, the project beneficiaries who have received support to promote agroforestry practices through fruit seedlings were assisted in managing the fruit seedlings. The farmers who watered their seedlings during the prolonged dry season saw their fruit seedlings survive and grow very well. The survival rate of fruit trees planted in 2023 was 60%. This was considered a good outcome, considering that fruit production was a new experience in this dry agropastoral area of the country.

3.2 Progress towards project Outputs

Output 1: Equitable governance and environmental stewardship of Combretum Terminalia woodland in six kebeles is promoted through eight PFMCs

1.1 Eight legally recognised Participatory Forest Management Cooperatives (PFMCs) active by end of year 1

This indicator has been successfully realised. All eight PFMC groups are actively engaged in forest governance. Each PFMC has developed a long-term forest management plan along with internal rules created by members to guide its implementation. PFMCs have now further prepared their annual operational plans based on the overarching management strategies developed with the help of the project.

Field monitoring confirms that PFMCs are adhering to their internal regulations and are effectively using them to govern access to forest resources. The forest management plans and internal rules have proven to be essential tools for ensuring regulated and sustainable resource use. At this stage of the project, all PFMCs have been empowered to enforce their by-laws and manage their forests responsibly. There are some other indicators too that reveal that, with the project support, PFMCs are now better equipped to implement sound forest governance practices. They are actively applying principles of sustainable forest management, with one notable improvement being the introduction of full or partial rest periods for forest blocks. This practice allows Boswellia trees time to recover from tapping wounds, supporting long-term tree health and ensuring sustainable frankincense production. For instance, three PFMCs—Das, Delello, and Gundo—rested their entire forest blocks during the last production season as part of this improved management approach.

1.2 Women account for 30% of membership and leadership positions in PFM Cooperatives (year 2: 21%; year 3: 30%) Baseline: 0

This indicator was partially achieved. During this reporting year, the team was only able to collect data from four out of a total of eight PFMCs. The data collected from the 4 PFMCs in Dec 2024, through Tree Aid's Organisational Capacity Assessment tool (OCAT), revealed that women's membership was 28.2% on average. Whilst this is shy of the year 3 target, it is a 9% point increase from the baseline. Similarly, at the leadership level, women's percentage remained at 15.8%, which shows that there is a 2.9% point increase from the baseline. Below are the details of the data.

OCAT data from Lay Lemlem Terara; Tach Lemlem Terara, Agamwuha, Das PFMCs in 2024

	Baseline	**2024**			
	% women	**Men**	**Women**	**Total**	**% women 2024**
Members	18.8%	518	203	721	28.2%
Leadership positions	12.9%	32	6	38	15.8%

Tree Aid has delivered training on gender equality and social inclusion (GESI) during this reporting year, funded through a twinned project in the same Kebeles. This has helped to further understanding of the importance of women's participation in PFMC leadership. As a result, there is now a shared commitment among all PFMCs to support the inclusion of more women in leadership roles during the upcoming general assembly meetings, once the current two-year leadership terms conclude.

The women and disabled trainees who participated in the GESI training have also expressed their interest in being part of the PFMC leadership. They realised that their effectiveness in engaging in fuel-saving stove production is one indication that women can contribute if they get a chance in PFMC leadership positions.

Ahead of the next report, the team will aim to collect data on the leadership of the other 4 PFMCs.

1.3 Eight local land and forest tenure charters (by-laws) developed and adopted for the inclusive management of the woodland by the end of year 2

This indicator was successfully achieved in Year 3, with all eight PFMCs developing their own by-laws to strengthen forest governance. Now fully implemented and formally recognized by local authorities, these by-laws provide a clear framework for decision-making, equitable resource sharing, and inclusive participation. Each PFMC actively enforces them, including sanctions for violations by both members and outsiders, thereby reinforcing accountability and preserving the integrity of forest management systems.

1.4 8 Forest Management Plans reviewed/developed and adopted, for the area under the responsible of the PFM Cooperatives by the end of Yr 2

As reported in the Year 3 annual report, **this indicator has been achieved**, with all eight PFMCs adopting five-year forest management plans, effective since last year. These plans serve as strategic frameworks

for forest protection, sustainable resource use, development, and monitoring. Each PFMC aligns its annual activity plans with these strategies, and progress is monitored quarterly through defined performance indicators.

With support from the project team and local experts, PFMCs also developed by-laws to support the implementation of their plans. These by-laws function as internal legal frameworks that empower communities, reinforce good governance, and promote sustainable forest management. They define member responsibilities, decision-making procedures, forest use rules, sanctions for violations, and mechanisms for resolving disputes—ensuring local autonomy and accountability.

Output 2: Sustainable harvesting and regeneration techniques of frankincense begin to be used in Combretum Terminalia woodlands to promote responsible exploitation and reverse resource degradation.

One of the important developments observed in this reporting period is the positive impact tapping training has had on the behaviour of the PFMCs. The PFMCs have started exercising the practices of sustainable production of frankincense by adopting a two to three-year rest time for Boswellia trees from tapping. For example, this year Agamwuha and Zewudebadima PFMCs were at rest and Das, Delello, and Gundo PFMCs have scheduled such in their plans from the next harvest season. Also, there has been a tendency of tapping by members themselves which is contrary to the business as usual in which they used to hire skilled tappers from elsewhere who would make more wounding in a given tree to extract more products.

2.1 One in-situ biodiversity conservation enclosure site established and managed under the responsibility of Participatory Forest Management Cooperatives by the end of year 2

This has been achieved. 1 in-situ conservation site was established during Year 2 as evidenced by the EBI's report (Annex 4.10). To further see how this site is supporting in biodiversity conservation and how its benefits can be replicated in the rest of the project area still needs to know as due to the security concerns, where government officials were more at risk, EBI staff haven't been able to carry out this activity to it's full.

2.2 80% (192/240) of producers (VTE members; 12 groups) trained are using new tapping techniques by the end of year 2 (year 1: 96 (40%); year 2: 192 (80%))

Indicator achieved. This training on Indian tapping method and allowing the trees to rest for alternate years between tapping, was provided in two parts. 131 achieved the training in year 2. Another 120 persons were trained in the second round in May 2024. The tappers are currently applying these techniques in the demonstration sites for research purposes to identify the differences and the benefits. If successful and beneficial, this will increase the confidence in the new techniques among the tappers to use them during their normal tapping work.

Already, 3 PFMCs are reporting to be using the Indian tapping method and approximately 26,422 hectares of forest lands are in resting period in this reporting season.

2.3 50% increase of 1st (1A) and 2nd (1B) grade frankincense products produced and sold by each (of the eight) PFM Cooperative as measured from project baseline by the end of the project
(Baseline: High grade contains (1st grade special (1A), 1st grade (1B), 2nd grade, 3rd grade) Medium grade (4th grade special and 4th grade normal)Lower grade (5th grade) White: 545.73 Quintals (87.7%) - High grade, Black: 76.45 Quintals (12.3%) - medium grade (Based on x4 PFMC: Das; Gundo; Delello; Agamwuha))

In the 2024 production and marketing season, only 1216.7 hectares (3%) of the potential forest was used for production. Only one of the total eight target PFMCs that produced and sold their frankincense products as others were either in resting period (3 PFMCs, totalling 26422ha - 73% of the forest) or security prevented collection (3 PFMCs totalling 6,932ha- 19% of the forest). Finally, one PFMC, Tach Lemlem Tarara, with 1385 hectares of forest land (4%), was contracted out to a private investor in Frankincense production for this season.

Lay Lemlem Terera was the only PFMC to tap and produced a total of 86 quintals of frankincense, (80 white, 6 black). This means that high-quality frankincense produced was 93%. All the harvests were sold for ETB 28,000/quintal for the white and ETB 11,000/quintal for black. Sales (totalling 2,306,000) were done through the Union.

In 2025 season, although production will continue into late May and early June, so far 826 quintals of products have been reported to the union. Total production, grade, and marketing will be included in the final project report.

Baseline : *Das; Gundo; Delello; Agamwuha*					**2023**	
White quintals	**Black quintals**	**Total quintals**	**Average white quintals per PFMC**	**Average quintals per PFMC**	**Average white quintals per active PFMC**	**Average quintals per active PFMC**
545.73	76.45	622.18	136	155	147	174

PFMCs	**Size of forest managed (ha)**	**Trends of Annual frankincense production in quintal**					
		2022		**2023**		**2024**	
		Black + White	**% white**	**Black + White**	**% white**	**Black + White**	**% white**
Agamwuha	498	31.59	98%	10	100%	security concern	
Das	2641.1	95.26	77%	149.79	86%	rest year	
Delello	18,690.35	636.16	98%	527.63	92%	rest year	
Gundo	5090.6	158.73	72%	211.47	89%	rest year	
Meshaha	4743.9	752.36	70%	194.39	71%	security concern	
Laylemlem terara	1216.7	0		108.41	98%	86	93%
Tachlemlem terara	1384.9	0		170.79	60%	contracted	
Zewudebadima	1690	0		16.73	94%	security concern	
Total	**35955.55**	**1674.1**	**82%**	**1389.21**	**84%**		**93%**
Revenue (ETB)		**34,253,657**		**23,557,255**		**2,306,000**	

The project is offtrack for this target, with the target of a 50% increase in the high grade frankincense produced and sold seeming unattainable. The PFMCs are severely hindered by the security situation, however, encouragingly a trend can be seen in the % of the Frankincense tapped which is white. As white Frankincense continues to fetch considerably higher prices, this is a positive trend.

2.4 70% survival rate (naturally regenerated seedlings) as measured from project baseline by the end of the project (Disaggregated by species) *(Baseline: 16% survival of regenerated seedlings)*

This will be reported in the project final report.

Output 3: Improved farmland productivity through the adoption of climate smart agriculture (CSA) practices for 2,250 households

3.1 20% increase in crop yields (per Ha), as measured from project baseline, by the end of the project

According to the most recent Rural Household Multi-Indicator Survey (RHoMIS) survey conducted by the project in March 2025, average annual crop yields have increased, including cotton, soya, and sesame as shown below:

Crop	**Average annual Yield 2024/2025 (kg/ha)**	**% increase /decrease since baseline**
Cotton	1533	70
Sorghum	8000	60
Sesame	400	654
Teff	325	-19 (decrease)

Soya Beans	667	1568

However, the average annual household income from crops is reported to have declined.

Income source	Average annual HH income March 2025	% increase/decrease
NTFP	$249.49	+157%
Crop	$2218.27	(-21.4%)
Livestock	$1217.26 9	(+10.7%)
Off-farm	$653.42	(-35.1%)
Total	$4388.44	(-12.7%)

This is could be due to a number of factors proposed by the project team including: a lack of access to the market due to the security; goods being stolen by the local militia on the road to the market; households prioritising storing due to security concerns; and or market price changes.

The poor security situation is possibly also the cause for the notable decrease in off-farm income. Many individuals have either lost their jobs or are unwilling to take the risk of traveling or seeking work outside their immediate communities. In contrast, livestock income has increased, likely because households are selling their animals to compensate for income losses from crops and off-farm work, in order to meet urgent cash needs.

There has also been an increase in income from non-timber forest products (NTFPs), particularly frankincense, due to a rise in market prices driven by limited supply. Those who managed to tap and sell frankincense benefited from this price increase—white frankincense rose by 9,500 ETB and black frankincense by 2,400 ETB per quintal in this reporting year (white 28,000 ETB and black 11,000 ETB this year).

3.2 70% (1,575) of farmers practicing at least 3 climate smart agricultural techniques on their farms by the end of the project

Due to security concerns and partly due to budget constraints, the project team has only been able to train 1142 households on climate-smart agricultural techniques, which is 50% of the total target households. There are other reasons too. When we checked with the team, they were of the view that it's hard for all the farmers to adopt all the techniques on their farms. Some of them will apply one, and others will apply another technique based on their local needs. Therefore, it shouldn't be surprising that the climate-smart agriculture indicator is well below the target (70%) - in fact, it's identical to the baseline (17%). However, when the analysis was applied to at least one technique, the percentage went from 34% at baseline to 44% at endline. This at least shows that the adoption of these techniques improved during the project.

Output 4: Household income of 360 men and women households improved through establishment of Village Tree Enterprises (VTE)

4.1 18 VTEs established and develop appropriate Enterprise Development Plans (EDPs) by the end of year 2 (currently funded through UKAM)

This indicator was already achieved and reported last year. However, due to the restructuring of the beekeeping VTE in Das PFMC and the establishment of new VTEs in Tach Lemlem Terara, the number of VTEs with Enterprise Development Plans (EDPs) has exceeded the original target by five. The total has now increased from 18 to 23 active VTEs—comprising 12 frankincense and 11 beekeeping enterprises—all of which are implementing their respective business plans.

During the current reporting period, the beekeeping groups received refresher training and subsequently requested additional support, including transitional Kenyan Top Bar (KTB) hives, modern box hives, and related accessories. These materials have been procured, and the distribution was done in April.

4.2 Average turnover for active VTEs established and increase to 150,000 Birr/enterprise/year ($3,800) by the end of the project (year 2: 75,000 Birr; $1,800) (To be confirmed at project baseline)

During the reporting period, data on beekeeping enterprise groups was collected from three PFMC sites: Gundo, Lay Lemlem Terara, and Tach Lemlem Terara. However, due to ongoing security challenges, only a single monitoring visit was possible for each site, limiting data collection. No access was gained to the remaining beekeeping VTEs, and subsequent harvests that took place after the visits were not recorded.

In this season, the VTEs in Gundo and Lay Lemlem Terara were in their second harvest cycle, with 110 kg of honey collected from nine beehives in Gundo and 16 kg from three beehives in Lay Lemlem Terara. The VTE in Tach Lemlem Terara completed its first harvest, producing 80 kg from six beehives. In total, 206 kg of honey was recorded from the three sites. The current local market price for honey is ETB 550 per kilogram, approximately £4.40.

Table 1: the amount of the production of honey is only based on the data from a single monitoring visit. And there may be more production after this visit.

Kebele /VTE	Number of productive hives	Amount produced (KG)	Amount in Monetary terms (ETB)
Gundo	9	110	60500
Lay Lemlem terara	3	16	8800
Tach Lemlem terara	6	80	44000
Total	**18**	**206**	**113300**

4.3 Three contracts relating to frankincense signed with buyers by the end of the project (To be confirmed at project baseline)

This indicator has been successfully realised. To date, the Union, representing 27 PFMC groups across the region, including the 8 project-supported PFMCs, has signed a total of four contracts with buyers over the course of the project. Three contracts were signed during previous reporting periods, and one additional contract was signed in the current reporting period. This most recent agreement covers the collective produce of all groups represented by the Union.

3.3 Progress towards the project Outcome

Overall, we remain confident that progress against the Outcomes can be made by project-end. Despite a general decrease in income, income for NTFPs has increased as hoped. As reported against Output 4.1, frankincense sales are also an area of success which will contribute to achieving Outcome indicator 0.1. A positive increase is also reported against Outcome indicator 0.3.

Challenges with being able to deliver the project as planned – especially regarding the research component – mean that a post-annual report review will take place. Eventually, an RFC was raised, which was accepted, and the project was extended for an additional 9 months, from October 2024 to July 2025.

Apart from one of the outcome level indicators which is mentioned in the next paragraph below, the challenge does not mainly lie with the project design and objectives, but rather with the context and security situation, which poses a significant obstacle. However, the team is closely monitoring the situation, as it fluctuates frequently and varies from one area to another. Therefore, the team continues to plan their activities based on regular weekly updates and takes action accordingly.

The outcome level indicator for the increase in total household income may remain a challenge, as overall household income is derived from various sources of agricultural production, including Non-Timber Forest Products (NTFPs), crops, and fruits. It is difficult to control the effects of fluctuations in crop and fruit yields and prices, which may still adversely affect overall household income, even if there is positive progress in NTFP income.

0.1Household income increase by 25% by end of the project as measured from project baseline. *(Baseline: Total Income: $5,027NTFP Income: $98(Proportion of income: 2%)Off Farm Income: $1,007 (Proportion of income: 20%) Crop Income: $2,823 (Proportion of income: 56%) Livestock Income: $1,100 (Proportion of income: 22%)Farm Income: $3,923 (Proportion of income: 78%)*

We have replaced the indicative baseline of 45,889.5 ETB with an updated baseline of 43,604 ETB ($5027.48) which Tree Aid collected through its RHoMIS survey in the first year of the project.

The data for the reporting period shows average total HH Income: $4388. This is below the baseline but this may be due to multiple reasons. Insecurity due to conflict and instability in the currency seems to be a major factor.

Whilst livestock and NTFP incomes increased, there have been large decreases in the income from crops and off-farm products. For in-depth understanding on the reasons require a more detailed investigation, however it is likely that people may have lost purchasing power due to inflation and on the other side those who would normally sell their products may have had to save them for their own consumption and therefore have lost the income from selling the surplus. Despite a slight reduction from 2024-2025, the NTFP income

is increasing which shows that people are increasingly relying on the NTFP produce as an alternative income source.

	2022	2023	2024	2025	$ change – 2022-25	% change – 2022-25
Crop	$2,823	$3,893	$2,319	$2218	-597	- 21%
Livestock	$1,100	$473	$389	$1217	80	7%
Off-farm	$1,007	$1,746	$399	$653	-351	-35%
NTFP	$98	$346	$358	$250	160	163%
Total	$5028	$6458	$3465	$4388	-658	

(Source: RHoMIS Survey)

0.2 5% increase in vegetation cover and production potential of 25,388ha of woodland area under forest management plans in the project area by the end of the project from project baseline *(Baseline: Baseline Survey (EBI report) 31 woody species; 26 genera and 15 families. Swansea University Ground Area: 67% Canopy Area: 33%(39 Sites; 34,002 Ha; June 2021))*

Progress against this outcome will be reported again at project endline. It is worth noting, however, that the area of woodland under community forest management (regulated by local community governance and protected from encroachment) has increased by 42% since the project began, from 25,388 ha to 35,941 ha. This is due to the two new PFMCs included in the project, which were established during this reporting period, Agamwuha and Delello PFMCs.

0.3 Tree density in enclosure areas increases in each of the PFMC sites established, by an average of 25% by end of the project as measured from project baseline (disaggregated by species)*. Baseline: Density: 598 Trees/Ha (based on the data collected from 27 permanent monitoring plots (PMPs) data) (Collected by TA Team in Jul-Sep2022)*

Tree Aid is collecting this data on an annual basis. The density in the enclosure areas recorded at the time of the baseline was 598 per hectare. This year, the team was only able to collect tree density data from 9 randomly selected PMPs due to security challenges at the remaining identified PMPs. The average tree density in the 9 surveyed PMPs is 605 per ha* (PMPs Dec 2024) and species diversity 17. When this data is compared with the data collected from the same 9 nine sites in 2023, it was noticed that there has been a slight increase in the density, which is 6.3%. The tree density recorded from these nine sites in 2023 was 569 per hectare. More detailed data is planned to be collected before the end of the project, in June/July 2025 provided the security situation improves, and the team is permitted to collect data from all identified PMPs.

**Note: this should not be directly compared with last year's figure, as it is only for a subset of PMPs. If we look at only those 9 PMPs in 2023, they had a density of 569 per ha, indicating an improvement in 2024 of 6.3%.*

3.4 Monitoring of assumptions

All outcome and output level assumptions still hold true, and Tree Aid continues to monitor closely the critical conditions for the project success. Assumptions where challenges have arisen are detailed below, and these are consistent with the areas of focus for assumptions during the last reporting period. The global economic situation which has resulted in extreme inflation in Ethiopia is still ongoing, particularly after the official announcement of local currency devaluation around July 2024.

Outcome level assumptions

Outcome assumption 6: Political situation remains stable enough for project activities to take place.

Comments: The armed conflict between local militias of the Amhara region and the federal troops which broke out in April 2023 is now in its second year. The conflict led to a state of emergency which was in action for nearly a year and officially ended in June 2024. Yet, we have observed little improvements to the situation when the state of emergency was active. The frequency of field monitoring visits by the project team has reduced and that of the team from the Addis Ababa office was limited to only one visit made to the regional city in Gondar. Also, activities in the forest have significantly reduced. For instance, most of the PFMCs could not produce frankincense in this reporting year.

Outcome assumption 7: No significant changes to international markets for frankincense and no major price fluctuations.

Comments: The demand and price for frankincense has been high this time around compared to the situation during the last reporting period. At the time of the last reporting period (2024) price for the white

grade of frankincense was 18,500 ETB and for the black grade produce it was 8,600 ETB. There is a significant increase in the prices during the reporting period which are 28,000 ETB for the white and 11,000 ETB for the black grade. The selling of frankincense was carried out a month before the announcement of ETB devaluation. Thus, the devaluation that the country has been experiencing recently did not account for the increased price of frankincense in this reporting year.

Output level assumptions

Output assumption 1.3: No reappearance of civil unrest

Comments: Continued insecurity in the project area has resulted in curfews and restrictions on movements, causing activities to be shifted from one quarter to another or put on hold, including activities 2.1, 2.3, 2.4, 2.5, 2.6, and 4.2. The project team is closely monitoring the situation, and we have seen signs of returning to normalcy, as the team and one of our government partners were able to visit the area in May 2024. During this visit, they conducted training sessions and organized planning meetings for data collection. Later, in July of last year, the project field team and data collectors were also permitted by government authorities to visit the forests and collect the data.

3.5 Impact: achievement of positive impact on biodiversity and poverty reduction

Impact: Forest ecosystems and biodiversity restoration are improved, and livelihoods for vulnerable people in Ethiopia are improved

This project aims to contribute to the restoration and improvement of forest ecosystems and biodiversity by empowering local communities and establishing community-led, sustainable management structures for forest resources. This will reduce pressures on natural resources and promote biodiversity restoration. The sustainable exploitation of forest resources will support rural communities in increasing their incomes and improving their resilience to the climate crisis, thereby helping to reduce poverty in the region.

To contribute to improved forest ecosystems and biodiversity restoration in the Metema region, this project aims to achieve a 5% increase in vegetation cover and production potential of 25,388 ha of woodland. With re-organisation/formation of 8 PFMCs, establishing their structures, and their registration with the local authorities, this area is now managed by 8 PFMCs. The project has supported these cooperatives to create their management plans and put bylaws in place to ensure long-term sustainability. During this reporting period, the process of establishing these bodies and developing their by-laws is now completed. All PFMC groups have been empowered to undertake forest governance through the development and implementation of bylaws which clearly define the rights and responsibilities of land users towards the forests, which will help to protect forest resources and ensure they are used sustainably in the long-term. Also, the area of woodland under community forest management has increased from 25,388 ha to 35,941 ha due to PFM expansion to new sites such as Agamwuha and Delello. This has resulted in another 10,553 hectares of natural forests added increasing from the baseline by 42%.

The project is further supporting the restoration and protection of land through improved farmland productivity, reducing the need for further agricultural expansion. The introduction of improved forage seeds such as cowpea to the project area during the reporting period has multiple benefits to the local communities, such as increased biomass, cattle feed, food, soil fertility improvement, and income generation. This crop species is well accepted by the local communities and majority of those who produced the crop have saved the seeds after harvest to produce in the next planting season and multiply the seed.

To support improved livelihoods, the project has supported communities to establish 23 VTE groups working on beekeeping(11) and frankincense (12). These activities target 358 households. There is one member per household, including nine women and 349 men. Total membership in Frankincense VTEs is 275, including one woman, and in beekeeping VTEs there are 83 members, including eight women. During the reporting period, VTEs have sold produce to increase household incomes, as reported under activity 4.2, output 2, and the outcome. Further material support was also provided to the groups to strengthen their capacity. PFMCs were also trained on the sustainable use of forest resources and to save Boswellia trees from being overly exploited. The PFMCs have started exercising the practices of sustainable production of frankincense by adopting a two to three-year rest time for Boswellia trees from tapping. For example, this year Agamwuha and Zewudebadima PFMCs were at rest and Das, Delello, and Gundo PFMCs have such schedule in their plans from the next harvest season.

There has been noticeable quality improvement of frankincense produced by the PFMCs supported by this project compared to last year's data (93% white and 7% black). This is mainly attributed to improved post-harvesting due to quality management training and provision of storage materials such as sacks. In the long-term, the VTE structure supported by the larger PFMCs can continue to support local communities to increase incomes.

Project support to the Conventions, Treaties or Agreements

The project has made significant contributions to Ethiopia's commitments under national and international biodiversity and development frameworks, including the National Biodiversity Strategy and Action Plan (NBSAP) 2015–2020, the Convention on Biological Diversity (CBD) Aichi Targets, and the more recent Kunming-Montreal Global Biodiversity Framework.

At the national level, the project has supported the implementation of Ethiopia's NBSAP by promoting community-based natural resource governance and enhancing the sustainable use of woodland ecosystems, particularly in six kebeles through the establishment of eight legally recognised PFMCs. These PFMCs have developed and are now enforcing long-term forest management plans and inclusive local by-laws, directly aligning with NBSAP objectives to decentralise biodiversity management and engage local communities in conservation (NBSAP Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use). These efforts also contribute to Ethiopia's Nationally Determined Contributions (NDCs) by supporting land restoration, resilience to climate impacts, and sustainable livelihoods, all of which are central to the country's climate adaptation goals.

In relation to the CBD Aichi Biodiversity Targets, the project directly supports Target 11 by increasing the area of sustainably managed forest ecosystems through participatory governance. It also contributes to Target 14, which aims to restore and safeguard ecosystems that provide essential services and benefits to communities, particularly the poor and vulnerable. The integration of women in PFMCs and the promotion of gender-inclusive governance further respond to Target 1 (awareness of biodiversity values) and Target 18 (respect and integration of traditional knowledge and practices).

More broadly, the project contributes to the goals of the Kunming-Montreal Global Biodiversity Framework, particularly Goal A (halting biodiversity loss) and Goal D (ensuring adequate means of implementation, including community engagement). The establishment of 23 VTEs, including those focused on non-timber forest products such as honey and frankincense, showcases sustainable, biodiversity-friendly value chains that support both conservation and poverty reduction, echoing the Framework's emphasis on nature-based solutions and equitable benefit-sharing.

These interventions, backed by evidence of operational PFMCs, inclusive governance, and enterprise development, illustrate how community-led conservation and sustainable livelihoods can serve as practical mechanisms for meeting Ethiopia's biodiversity and climate targets, while contributing to global goals.

Project support for multidimensional poverty reduction

The project is contributing to poverty reduction both directly and indirectly by supporting sustainable natural resource governance, increasing household income, and improving agricultural productivity. Through the establishment of eight legally recognised PFMCs, local communities have been empowered to manage forest resources responsibly. Each PFMC has developed and is implementing a forest management plan and internal by-laws, creating a clear structure for equitable and sustainable resource use. These frameworks have improved tenure security and enabled inclusive decision-making, contributing to local stability and resilience.

Women's participation in forest governance has also been strengthened, with growing support for their inclusion in PFMC leadership roles (15.9%)—an important step toward addressing gender inequalities in access to decision-making and economic opportunities. The project has promoted inclusive governance by integrating Gender Equality and Social Inclusion (GESI) principles, fostering long-term empowerment and community ownership.

In parallel, the project has supported 23 VTEs, surpassing its original target. These enterprises—focused on frankincense and beekeeping—have developed and are implementing business plans that are already generating income. Though the number of women is limited, which is only 9, it's a great start to encourage women to be part of these enterprises in such a remote and challenging environment. Despite challenges in monitoring all sites, data from three VTEs shows significant honey production and strong local market demand, indicating a positive trajectory toward income growth. Furthermore, the signing of four contracts between frankincense producers and buyers has created stable market access and reinforced economic viability.

Finally, by promoting climate-smart agriculture among 2,250 households, the project is enhancing food security and climate resilience. With 70% of farmers expected to adopt at least three CSA practices, the initiative supports sustainable land use while improving productivity. This combination of governance reform, income generation, and ecosystem service enhancement provides a robust, community-driven pathway out of poverty.

Gender Equality and Social Inclusion (GESI)

GESI Scale	Description	Put X where you think your project is on the scale
Not yet sensitive	The GESI context may have been considered but the project isn't quite meeting the requirements of a 'sensitive' approach	
Sensitive	The GESI context has been considered and project activities take this into account in their design and implementation. The project addresses basic needs and vulnerabilities of women and marginalised groups and the project will not contribute to or create further inequalities.	X
Empowering	The project has all the characteristics of a 'sensitive' approach whilst also increasing equal access to assets, resources and capabilities for women and marginalised groups	
Transformative	The project has all the characteristics of an 'empowering' approach whilst also addressing unequal power relationships and seeking institutional and societal change	

The project has integrated GESI considerations throughout its design and implementation, with a focus on addressing intersecting social identities that can affect participation in forest governance and livelihood opportunities. From the outset, the project was designed in a gender-sensitive manner, with deliberate strategies to promote women's involvement in decision-making structures and economic activities. This includes specific targets for women's participation in PFMCs, which have now reached 28% representation in membership and 16% in leadership roles—a remarkable achievement from a baseline of 18% in membership and 12% in leadership keeping in view the difficult security situation and the patriarchal nature of the society in the project locality.

To foster inclusion, the project supported awareness-raising and training activities, through the gender equality and social inclusion training events (FCDO funded), reaching 192 beneficiaries, including 114 women, to address cultural and structural barriers to women's leadership. Although no re-elections have yet occurred, PFMC members have shown a shift in attitudes, committing to promote women's participation during the next election cycle. This change reflects the success of GESI training delivered under a parallel initiative, highlighting how exposure to inclusive principles can shift norms within traditionally male-dominated governance systems. This training was informed by the need identified in a gender study commissioned in 2023. Main recommendations of the report included building confidence among women that they can play key role outside their household responsibilities, and specifically playing their role in the cooperatives; awareness raising among husbands and the wider male community about the importance of their wive's role in income generation; work for encouraging the systemic and structural changes in organisations and government sectors to encourage women seek and find jobs and seek to lead the organisations.

The PFMC by-laws — developed and adopted by all eight cooperatives — further institutionalise equitable resource access and shared decision-making, ensuring that diverse community voices, including those of women, youth, and marginalised ethnic groups, are heard. These charters are recognised by local authorities, reinforcing the legitimacy of inclusive governance models and protecting the rights of vulnerable groups.

Women's participation in alternative income enterprises—particularly in beekeeping (10%) and frankincense harvesting (0.4%) remains very low, but has been encouraged through targeted capacity-building and provision of equipment. This economic empowerment strategy should not only enhance women's financial independence but also increases their standing within the community.

While disaggregated data on other social identities such as disability and class is limited, the project approach remains grounded in a participatory model that aims to remove structural barriers to inclusion. Ongoing monitoring, including Voice, Choice, and Control surveys, is helping to assess how effectively the project is enabling meaningful engagement for all groups and identifying areas for further adaptation. Through these measures, the project is building a more inclusive and resilient forest governance system that reflects the diverse needs and aspirations of the communities it serves. The results from this survey will be included in the End of Project Report

Seeing that women were less involved in frankincense production (anecdotally due to social norms that collection and marketing are men's activities as women weren't to travel far to the forests), the project identified sorting and grading as one of the strategies to engage women in the frankincense value chain recommended this activity for a parallel FCDO financed Tree Aid project in the same area. 79 women were

trained with the aim of upskilling women and improving the quality of frankincense from PFMCs. Ever since women obtained the skills, there have been signs of improvement in the level of women's participation in the frankincense enterprise. The skills development training for women opened the opportunities for them to engage in frankincense enterprises which was dominated by men. Continuous follow ups and technical backstopping and financial supports are needed to ensure that women are engaging in frankincense production in their full capacities.

Monitoring and evaluation

Tree Aid continues to lead on the project M&E. A Tree Aid M&E officer has been recruited and is stationed full time at the local partner regional office in Metema.

The implementing partner, SUNARMA, has been pursuing adaptive management. For example, based on M&E results on efficiency of the beekeeping groups, there was a proposed restructure to support smaller groups, closer to the members' residences, and based on poor natural regeneration and unsuccessful planting of *Boswellia papyrifera* seedlings, the team tested different techniques such as direct planting of *Boswellia papyrifera* tree cuttings, with project data and meetings with other stakeholders, the team learned that the best planting season is in April as opposed to mid-May.

Through its monitoring system (using markings on the 600 trees- with 300 using the traditional tapping, and 300 using Indian tapping), the project should be able to demonstrate practically the benefits to the community from the Indian tapping- so that this can be scaled up for adoption. Three PFMCs (Das, Delello, and Gundo), are already reporting to use these alternative tapping methods.

Household data

The baseline RHoMIS was conducted in February 2022 with a sample size of 383 households. A repeat RHoMIS survey was conducted in March 2023 with 215 households. A further mini-RHoMIS was conducted in Jan-Mar 2024 with a sample size of 192 households. A final endline RHoMIS was conducted in April 2025 with 338 beneficiary households and 30 control households.
Endline RHoMIS data shows:

	All beneficiary households	Male-headed beneficiary households	Female-headed beneficiary households	Beneficiary households with at least one person living with disability (PLWD)
Total household income ($/yr)	$4388.44 / yr	$4600.01 / yr	$3061.48 / yr	$3335.16 / yr
NTFP income ($/yr)	$249.49 / yr	$244.56 / yr	$265.03 / yr	$188.09 / yr
Crop income ($/yr)	$2218.27 / yr	$2412.83 / yr	$1162.25 / yr	$1887.10 / yr
Livestock income ($/yr)	$1217.26 / yr	$1353.78 / yr	$588.84 / yr	$772.08 / yr
Off-farm income ($/yr)	$653.42 / yr	$588.91 / yr	$1045.36 / yr	$487.90 / yr
% of households below the poverty line (total value of activities)	39.0% (131/336)	35.7% (100/280)	58.8% (30/51)	44.4% (12/27)
% of households below the poverty line (cash income only)	51.5% (173/336)	48.2% (135/280)	70.6% (36/51)	66.6% (18/27)

Tree density

During the reporting period, data collection from 9 PMPs was completed. Data collected includes the height and DBH of trees, and the number/species of large and small trees. The data was collected by the project field team and the Tree Aid M&E Officer, who was also responsible for the analysis. Further tree density surveys should take place before the end of project to increase the sample size.

PFMC data

To assess the capacity of the eight PFMC groups, organisational capacity assessments were carried out by the Tree Aid M&E Officer using the OCAT (ODK) survey.
Data was collected by SUNARMA focusing on tree management practices, forest coverage, frankincense production, and members' participation. Data was collected from the Cooperative Union regarding capacity assessment in terms of marketing (quality, reaching out to the export market, bargaining, etc.) and leadership.

Tree Aid share M&E files and folders through Microsoft Sharepoint, and stores M&E survey templates and collected data on the ONA website. Tree Aid is in now using Akuko, a data visualisation platform to track Key Performance Indicators (KPIs) through interactive dashboards accessible by all in-country teams.

In the month of May 2025, Tree Aid will conduct a Causal Mapping data collection and analysis process. This will generate a contextual understanding of the changes in people's lives over the past 3 or 4 years. Report expected in July 2025.

Lessons learnt

During the reporting period, several important lessons emerged across technical, social, and operational areas of the project. These insights are helping to refine current implementation approaches and inform future programming.

1. Adoption of Sustainable Tapping Practices
A key achievement has been the shift among PFMCs toward sustainable frankincense harvesting through the adoption of alternate tapping techniques, particularly the Indian method. Supported by targeted training and follow-up, this has improved tree health and sustainability. PFMCs are now implementing resting schedules—such as tapping trees every other year and rotating tapping positions—which reflects growing local capacity for responsible forest governance. Field studies confirm that improper tapping without rest reduces yield and tree survival. The consistent inclusion and application of alternate tapping in forest management plans signals promising behavioural change and effective local stewardship.

2. Addressing Forest Degradation and Regeneration Challenges
The Metema dry forest ecosystem remains under pressure from land conversion, open grazing, and climate impacts. These threats contribute to the limited natural regeneration of Boswellia papyrifera. The project has introduced smart agriculture practices, including agroforestry and forage production, as alternative livelihood strategies to reduce forest pressure. While these interventions have shown promising early results (e.g., good vegetative growth of fruit trees and successful cowpea forage trials), the practices are still new to the project areas and small scale, so visible impact may take time. In addition, scaling the fruit and forage production to more households has been limited due to resource constraints. The vegetative growth of the fruit trees has been promising but not possible to see yields in the project period. Controlled grazing in the form of the cut-and-carry system could be explored. The intervention would have multiple benefits, such as reduced open grazing, reduced incidences, and expansion of bushfires, and engage in income-generating activities such as selling the grass for fodder.

3. Navigating Operational Challenges in Conflict-Affected Areas
Security-related disruptions have significantly impacted project implementation and research activities, particularly in collaboration with UK-based partners. While local teams successfully collected critical data during brief windows of stability, restricted mobility and UN security protocols prevented international partners from conducting on-site verification. The team adapted by conducting virtual training, implementing risk-based planning across project kebeles, and monitoring security conditions daily. These experiences underscore the importance of flexible implementation models in fragile contexts.
Some project activities were also subject to delays due to issues with internet connectivity across the country, particularly affecting the team working from the Metema region. This has meant that adaptations originally put in place to carry out activities online to mitigate against not being able to visit the field due to security (Activities 2.5, 2.6, 2.7, working with UK-based partners) have been made more difficult.
The ongoing security situation also made it difficult to carry out frankincense tapping and collection at the recommended intervals, as outlined in the new techniques introduced by the project.

4. Promoting Gender Inclusion
Despite cultural barriers and logistical challenges, progress was made toward enhancing women's participation in project activities, particularly in beekeeping and collecting, sorting and grading of frankincense. A gender survey guided the integration of gender awareness training into PFMC capacity-building efforts. One positive outcome was that women members began receiving their fair share of dividends, a practice not observed previously. Furthermore, restructuring beekeeping groups into smaller, decentralized units with homestead-based apiaries increased access and participation. This approach was particularly effective and will inform future enterprise support activities.

5. Interventions to improve Frankincense Quality Yield Economic Benefits
Provision of standard tapping tools and improved storage materials contributed to a notable increase in frankincense product quality, with corresponding improvements in income from sales. This reinforces the value of quality-focused interventions in enhancing livelihoods.
However, one key challenge is the lack of well-defined protocols governing the roles, rights, and responsibilities between the frankincense-collecting cooperatives and their Union, which oversees buyer engagement and manages the bidding process. A parallel project funded by FCDO has now, consequently, planned to provide training on building good working relationships and developing an understanding of the different roles and responsibilities between the PFMCs and the Union.

There is still a pressing need to enhance awareness on how to consistently produce high-quality frankincense and maintain standards over time. However, the absence of a standardized grading system to clearly distinguish between high- and low-quality resin remains a significant gap. Addressing this will likely require additional time, resources, and further initiatives once the situation in the area stabilizes

6. Importance of Adaptive Project Management and Realistic Target Setting
Given ongoing constraints, the project had an RFC and no-cost extension to July 2025 approved. This allows additional time to achieve outcomes while adapting to the evolving context. A critical reflection on indicators revealed that some original targets—such as output indicator 2.3 “50% increase of 1st (1A) and 2nd (1B) grade frankincense products produced and sold by each PFMC” — was challenging to measure and compare as forests undergo resting periods at different times and there have been significant security concerns preventing access to tapping. This has highlighted the need for realistic, context-informed target setting during project design and the project should have made this reflection and submitted an RFC to Darwin earlier.

Actions taken in response to previous reviews (if applicable)

Based on feedback that the Indicator 2.3 was not quantifiable enough (lacking figures for frankincense production, sales against established baselines and the % increase achieved to date), this report includes the number of quintals produced from the PFMCs and the sale price for this (see page 10). It is worth noting that as a research-driven project, the team is still navigating and learning about the complex dynamics of frankincense production, grading, and marketing. The primary aim is to raise awareness among local communities about the international significance of frankincense, while also building their capacity to engage more actively and equitably in a market that is currently led and driven by external buyers.

.There were concerns from the report reviewer about Outcome Indicator 0.3, *“Tree density in enclosure areas increases in each of the PFMC sites established, by an average of 25% by end of the project as measured from project baseline (disaggregated by species).”*

The reviewer was concerned that with a figure of 10% tree density increase in PFMC enclosures (oct-dec 2023 data), the project was behind target and without any reported adaptive management measures to address this. In particular, concerns were about there being unsustainable harvesting from enclosures since NTFP production had increased and about the feasibility to reach the 25% target before the end of project.

This project is being implemented in the arid drylands of Metema, Ethiopia. While the project interventions tried to control several key factors hindering tree regeneration, such as human activity, livestock grazing, and wildfires, the extreme dryness of the land remains a significant barrier to natural regeneration.

To address this, Tree Aid adopted a targeted approach by focusing on high-regeneration zones, areas where there are more favourable conditions. The data collected from these high regeneration zones confirmed this progress, with an average of 1,006 trees per ha in year 3, representing a 68% increase from the baseline. Unfortunately, this year we were not able to gather data from these high regeneration zones, as they did not form part of the 9 PMPs which the project was able to access due to security restrictions.

The project aims to collect more density data from PMPs before the end of the project if security allows. It is difficult to comment on the feasibility to reach the target without sufficient data.

Risk Management
Continuous devaluation of the local currency has still remained a risk that has been identified during the reporting the last year’s reporting period. Also, some existing risks have impacted on project delivery. An updated risk register is attached as an Annex 7.

Inflation
Inflation coupled with the devaluation of the local currency was among the risks faced but with no significant negative impact on project implementation. This is mainly because the necessary timely actions were taken, especially being flexible in revising the project budget plan considering the increasing cost of living and prices of goods and services in the country.

Security
The security situation remained one of the risks faced this year. There was little improvement on the previous years. Although the project team took maximum care and safety measures were in place such as regular security updates before field trips, it was not possible to visit some of the project sites such as Meshaha. Instead review and planning meetings were held in the nearby city. To prioritise project sites for project activities and field visits, the project sites are classified as risk-free, medium-risk, and high-risk. The project team undertakes regular security updates internally to decide on any field level project implementation plans. The TAE team and SUNARMA are in contact regularly and a security document is

updated by SUNARMA each fortnight. The risk registers (programme and organisational) are updated accordingly. Risks are managed by in-country and Head Office management teams.

Scalability and durability

The project has taken a multifaceted, participatory approach to engaging stakeholders and laying the foundations for long-term scalability and durability. A key aspect has been the empowerment of local communities through the establishment and capacity strengthening of PFMCs. These committees have developed and are implementing forest management plans and legally recognised by-laws regulating forest resource access and use. These governance structures are functioning effectively and fostering a sense of ownership and sustainability among community members. Their inclusive development — involving men, women, youth, and elders in mapping and planning — has helped shift community attitudes and increase awareness of biodiversity, climate resilience, and sustainable forest use.

Targeted training and enterprise development have further deepened engagement. For example, skills development in sorting and grading frankincense has enabled women to improve product quality and explore new income opportunities. The introduction of alternative tapping techniques for Boswellia papyrifera has been well received but remains limited to PFMCs with direct technical support, signalling the need for further scale-up.

At the enterprise level, the project has exceeded targets by supporting 23 VTEs comprising frankincense and beekeeping groups, all implementing business plans aligned with sustainable resource management. These groups are improving household incomes and attracting market engagement, as shown by four signed contracts between the regional Union and buyers. Refresher trainings and the provision of modern equipment have responded to community demand, reinforcing long-term commitment and capability.

Incentives for stakeholders have been aligned through formal recognition of by-laws by local authorities and the integration of gender and biodiversity awareness in community outreach. The project has contributed to shifting social norms and strengthening local capacity, particularly in women's leadership, laying the groundwork for lasting institutional and community support. While further work is needed to embed practices across all communities, the project has made significant strides in establishing structures and partnerships that support its sustainability beyond the current funding cycle.

Darwin Initiative identity

The project has actively promoted and communicated the role of the Darwin Initiative and UK Government funding through a range of channels, both online and in person, ensuring clear visibility and recognition of their support both in the UK and Ethiopia.

Since 1st November 2022, there has been a dedicated project page on the Tree Aid website highlighting the Darwin Initiative as the main funder, complete with the appropriate logo, providing accessible information about the project's goals and progress in Ethiopia's Metema region: https://www.treeaid.org/projects/ethiopia/developing-rural- resilience-and-restoring-land/. This webpage has received a total of 513 visits since its publication, of which 200 were in the reporting year (2024-2025).

This online presence helps distinguish the project as a distinct intervention, even though it is closely aligned with a complementary initiative focused on frankincense enterprise development in the same area, funded by FCDO.

Within Tree Aid's broader programme of work, the Darwin-funded project is consistently recognised as a standalone effort. It is clearly referenced in Tree Aid's annual report, which is shared publicly with stakeholders and donors, further strengthening awareness of the UK Government's contribution. This distinction is important for ensuring that the identity and impact of Darwin Initiative funding are visible and appropriately credited.

Safeguarding

[redacted]

[redacted]

Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2024 – 31 March 2025)

Project spend (indicative since last Annual Report	2024/25 Grant (£)	2024/25 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)	[redacted]			
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Others (see below)				
TOTAL	**£75,967.50**	**£75,967.50**		

Table 2: Project mobilised or matched funding during the reporting period (1 April 2024 – 31 March 2025)

	Secured to date	Expected by end of project	Sources
Matched funding leveraged by the partners to deliver the project (£)	[redacted]	[redacted]	Treework Environmental; Nelsons; Allan & Nesta Ferguson Charitable Trust; Souter Charitable Trust; Leonard Laity Stoate Charitable Trust; Patrick & Helena Frost Foundation
Total additional finance mobilised for new activities occurring outside of the project, building on evidence, best practices and the project (£)	n/a	n/a	n/a

Other comments on progress not covered elsewhere

OPTIONAL: Outstanding achievements or progress of your project so far (300-400 words maximum). This section may be used for publicity purposes.

I agree for the Biodiversity Challenge Funds to edit and use the following for various promotional purposes (please leave this line in to indicate your agreement to use any material you provide here).

File Type (Image / Video / Graphic)	File Name or File Location	Caption including description, country and credit	Social media accounts and websites to be tagged (leave blank if none)	Consent of subjects received (delete as necessary)
				Yes / No
				Yes / No

Annex 1: Report of progress and achievements against logframe for Financial Year 2024-2025

Project summary	SMART Indicators	Progress and Achievements April 2024 - March 2025	Actions required/planned for next period
Impact: Forest ecosystems and biodiversity restoration are improved, and livelihoods for vulnerable people in Ethiopia are improved			
Outcome Increased incomes for 2,250 vulnerable households through improved management of 25,388ha of CombretumTerminalia woodland ecosystem in six kebeles (Das Gundo, Gubai Jejebit, Meshiha, Delello, Lemlem Terara, Agamwuha) in North Gondar.	1. Household income increase by 25% by end of the project as measured from project baseline *(Baseline: Total Income: $5,027.48 NTFP Income: $97.69 (Proportion of income: 2%)Off Farm Income: $1,007.05 (Proportion of income: 20%)Crop Income: $2,822.98 (Proportion of income: 56%)Livestock Income: $1,099.75 (Proportion of income: 22%)Farm Income: $3,922.73 (Proportion of income: 78%)*	0.1 Total HH Income: $4388 (-12.7%) NTFP Income: $249 (+157%) Crop Income: $2218 (-21.4%) Livestock Income: $1217 (+10.7%) Off-farm Income: $653 (-35.1%)	0.1 N/A
	2. 5% increase in vegetation cover and production potential of 25,388ha of woodland area under forest management plans in the project area by the end of the project from project baseline *(Baseline: Baseline Survey (EBI report) 31 woody species; 26 genera and 15 families. Swansea University Ground Area: 67% Canopy Area: 33%(39 Sites; 34,002 Ha; June 2021))*	0.2 No new vegetation data yet. The area of woodland under community forest management (regulated by local community governance and protected from encroachment) has increased by 42% since the project began, from 25,388 ha to 35,941 ha due to 2 new PFMCs included in the project. (please see details in the outcome section in the narrative).	0.2 Progress against this outcome will be reported again at project endline.
	3. Tree density in enclosure areas increases in each of the PFM sites established, by an average of 25% by end of the project as measured from project baseline (disaggregated by species) *(Baseline: Density: 598 Trees/Ha (based on 27 PMPs data) (Collected by TA Team in Jul-Sep 2022)*	0.3 Data was collected from 9 PMP sites but it can't be compared with the baseline due to very limited data. (please see details in the outcome section in the narrative).	0.3 This will be reported in the end of the project report after July 2025.

Output 1. Equitable governance and environmental stewardship of Combretum Terminalia woodland in six kebeles is promoted through eight PFMCs	1.1 Eight legally recognised Participatory Forest Management Cooperatives (PFMCs) active by end of year 1 1.2 Women account for 30% of membership and leadership positions in PFM Cooperatives (year 2: 10%; year 3: 30%) Baseline: 0 1.3 Eight local land and forest tenure charters (by-laws) developed and adopted for the inclusive management of the woodland by the end of year 2 1.4 Eight forest management plans, reviewed/developed and adopted for the area under the responsibility of PFM Cooperatives by the end of year 2	1.1 – achieved in year 1 (8 PFMCs are established/registered and are active.) 1.2 Members of 4/8 PFMC (Lay Lemlem Terara, Tach Lemlem Terara, Agamwuha, Das) Men: 518/721 (71.8%) Women: 203/721 (28.2%) (Source: OCAT Dec2024) Leadership of 4/8 PFMC (Lay Lemlem Terara, Tach Lemlem Terara, Agamwuha, Das) Men: 32/28 (84.2%) Women: 6/38 (15.8%) (Source: OCAT Dec2024) 1.3 - All 8 PFMCs have developed their bylaws and adopted for their respective woodland. (completed and reported in the previous year.). 1.4 – 8 forest management plans are now in place and being implemented (completed and reported in the previous year.	
1.1 Sensitisation on biodiversity conversation and environmental management for 2,250 farmers		Completed in year 2	N/A
1.2 Undertake forest boundary demarcation and area mapping		Completed in year 2	N/A
1.3 Training on cooperative management for PFMC leaders		Completed in year 2	N/A
1.4 Conduct participatory forest management plan		Completed in year 3 4/6 remaining forest management plans of PFMCs were reviewed	
1.5 Participatory identification of enclosure areas for hotspots of Boswellia degradation for regeneration (1 per PFMC)		Completed in year 3	N/A
1.7 Training on enclosure area management		Completed in year 2	N/A
1.8 Facilitate development of bylaws		Completed, bylaws for all the 8 PFMCs developed successfully.	N/A
1.9 Develop methodology that can map, support and measure the gendered impacts of the interventions at community and household level		To assess the existing situation related to gender awareness and the roles of women in decision making at household and community level, a gender survey	N/A

		was commissioned to Zufil, a research consultancy. Based on the recommendation of the gender study conducted in year 3, different training events were conducted in the project with 7 PFMCs. 192 beneficiaries participated, including 114 women.	
Output 2. Sustainable harvesting and regeneration techniques of frankincense begin to be used in Combretum Terminalia woodlands to promote responsible exploitation and reverse resource degradation	2.1 One in-situ biodiversity conservation enclosure site established and managed under the responsibility of PFMCs by the end of year 2 2.2 80% (192/240) of producers (VTE members; 12 groups) trained are using new tapping techniques by the end of year 2 (year 1: 96 (40%); year 2: 192 (80%)) 2.3 50% increase of 1st (1A) and 2nd (1B) grade frankincense products produced and sold by each (of the eight) PFM Cooperative as measured from project baseline by the end of the project *(Baseline: High grade contains (1st grade special (1A), 1st grade (1B), 2nd grade, 3rd grade) Medium grade (4th grade special and 4th grade normal)Lower grade (5th grade) White: 545.73 Quintals (87.7%) - High grade, Black: 76.45 Quintals (12.3%) - medium grade (Based on x4 PFMC: Das; Gundo; Delello; Agamwuha))* 2.4 70% survival rate (naturally regenerated seedlings) as measured from project baseline by the end of the project (Disaggregated by species) *(Baseline: 16% survival of regenerated seedlings)*	2.1 – In-situ biodiversity conservation enclosure site established in year 2 of the project) No progress on monitoring happened due to security challenges, especially the government officials. 2.2 – This training was provided in two parts. 131 achieved the training in year 2. Another 120 persons were trained in the second round in May 2024. The tappers are currently applying these techniques in the demonstration sites for research purposes to identify the differences and the benefits. If successful and beneficial, this will increase the confidence in the new techniques among the tappers to use them during their normal tapping work. 2.3 (details on these calculations, see the narrative in output 2) This year it was only one PFMC, Lay Lemlem Terera, that produced frankincense. Forests of the three of the PFMCs (Das, Gundo, Delello) were at rest. The remaining four PFMCs were unable to collect and sell frankincense due to security concerns. Lay Lemlem Terera produced a total of 86 quilts. Including 80 quintals of white frankincense, which is 93%. 2.4 This will be reported in the end of the project.	
2.1 Forest inventory, in-situ site establishment, and socioeconomic study		Completed in year 2	N/A
2.2. Site identification for comparative analysis of traditional vs Indian tapping method		5 sites are selected. Each site contains 60 identified trees (30 for the traditional tapping and 30 for the Indian tapping). Samples of frankincense have been	Field data was collected in June/July 2024.

		collected for lab research and shared with Swansea University.	
2.3 Training on Indian tapping method		Completed: 132 people received training in year 2. Second round was conducted in May 2024.	No further activity planned.
2.4 Distribution of improved tapping tool		250 tools distributed in year 2 and later in May 2024	
2.5 Field and spectral data collection for inventory and condition assessment		Orientation on the use of poly pen was done. And the actual data was collected in May 2024	
2.6 Development of cartographic products using remote sensing to support the development of forest management plans		Not completed due to security challenges.	
2.7 Training government and project staff on GIS and remote sensing		Not completed due to security challenges.	This training is now planned to conducted remotely in July 2025.
2.8 Determination of Frankincense quality variables		A preliminary analysis was done. Please review section 2.8 above in the report.	A more detailed analysis will be completed before the end of the project. But this activity is associated with the other two activities (2.5 and 2.6) if they continue, this will also continue to be completed
Output 3. Improved farmland productivity through the adoption of climate smart agriculture (CSA) practices for 2,250 household	3.1 20% increase in crop yields (per Ha), as measured from project baseline, by the end of the project *(Baseline: Beneficiaries (Median Averages) Cotton: 900Kg Sorgum: 500kg Teff: 400 Kg Other Vegetables: 67kg Sesame: 53kg Maize: 42kg Soya Beans: 40kg)* 3.2 70% (1,575) of farmers practicing at least 3 climate smart agricultural techniques on their farms by the end of the project	3.1 Cotton = 1533kg/ha (sample size of 1) - 70% increase Sorgum = 800kg/ha - 60% increase Sesame = 400kg/ha - 654% increase Teff = 325kg/ha - 19% decrease Soya Beans = 667kg/ha - 1568% increase 3.2 (climate smart agriculture techniques = Biological and Soil and water conservation) Any NRM technique: 57% (109/192) Biological techniques: 54% (103/192) Soil & water conservation: 8% (15/192) Gully control: 10% (19/192) Climate smart agricultural practices (either biological or soil and water conservation): 56% (107/192)	

		(Figures taken from EC0 Project Logframe - this refers to 1+ techniques not 3+ techniques)	
3.1 Training on locally appropriate climate smart agriculture practices and technologies for project staff and local government experts		Completed in year 2	N/A
3.2 Training on locally appropriate climate smart agriculture practices and technologies for smallholder farmers		1142 (828 men and 314 women) smallholder farmers from 8 PFMCs were trained. Unfortunately, due to the ongoing high inflation, the budget allocated for this activity was not sufficient to reach the intended target.	N/A
3.3 Distribution of agroforestry trees for individual beneficiaries 1,000 fruit seedling/year		Completed in previous year.	
3.4 Distribution of forage seeds, cutting, and seedlings for selected 540 households 50 per household		Completed in previous year	
Output 4. Household income of 360 men and women households improved through establishment of Village Tree Enterprises (VTE)	4.1 18 VTEs established and develop appropriate Enterprise Development Plans (EDPs) by the end of year 2 (currently funded through UKAM) 4.2 Average turnover for active VTEs established and increase to 150,000 Birr/enterprise/year ($3,800) by the end of the project (year 2: 75,000 Birr; $1,800) 4.3 Three contracts relating to frankincense signed with buyers by the end of the project	4.1: 23 VTE groups established and they have developed their Enterprise development plans. 12 of these groups are frankincense VTEs. The honey beekeeping groups were restructured from initially 6 groups into 11 now. 4.2: Average Turnover: only 206 Kg reported. As this is a seasonal activity and the report is based only on the monitoring visit to particular beekeeping enterprises that have happened. Due to security challenges, monitoring of all the VTE groups was not possible. The price of one kg of honey this year was reported to be 550 ETB. The total turnover for the three sites monitored is therefore 113,300 ETB. 4.3: Three contracts were signed during previous reporting periods, and one additional contract was signed in the current reporting period.	
4.1 Establishment of 18 VTEs (12 frankincense, 6 beekeeping)		Completed in year 1	N/A
4.2 Training on drying, storing and grading of frankincense for 240 tappers		Trained 130 male and 79 female	N/A
4.3 Material support for drying and storage of frankincense groups		procured 500 storage sacks – distributed in April 2025	Distribution done in April 2025
4.4 Provide beekeeping training to members of 6 beekeeping enterprise members		Completed in year 2.	N/A.
4.5 Provide beehives and accessories to 6 beekeeping enterprise groups		Completed in year 2	N/A

Annex 2: Project's full current logframe as presented in the application form (unless changes have been agreed)

Project summary	SMART Indicators	Means of verification	Important Assumptions
Impact: Forest ecosystems and biodiversity restoration are improved, and livelihoods for vulnerable people in Ethiopia are improved			
Outcome: Increased incomes for 2,250 vulnerable households through improved management of 25,388ha of CombretumTerminalia woodland ecosystem in six kebeles (Das Gundo, Gubai Jejebit, Meshiha, Delello, Lemlem Terara, Agamwuha) in North Gondar.	3. Household income increase by 25% by end of the project as measured from project baseline *(Baseline: Total Income: $5,027.48 NTFP Income: $97.69 (Proportion of income: 2%)Off Farm Income: $1,007.05 (Proportion of income: 20%)Crop Income: $2,822.98 (Proportion of income: 56%)Livestock Income: $1,099.75 (Proportion of income: 22%)Farm Income: $3,922.73 (Proportion of income: 78%)* 1. 5% increase in vegetation cover and production potential of 25,388ha of woodland area under forest management plans in the project area by the end of the project from project baseline *(Baseline: Baseline Survey (EBI report) 31 woody species; 26 genera and 15 families. Swansea University Ground Area: 67% Canopy Area: 33%(39 Sites; 34,002 Ha; June 2021))* 0.3 Tree density in enclosure areas increases in each of the PFM sites established, by an average of 25% by end of the project as measured from project baseline (disaggregated by species) *(Baseline: Density: 598 Trees/Ha (based on 27 PMFs data)(Collected by TA Team in Jul-Sep2022)*	0.1 RHoMIS (Rural Household Multiple Indicator Survey); 0.2 Forest resource mapping of project intervention sites (GPS); Forest ecological/ inventory; Permanent Monitoring Plots (PMPs) 0.3 Forest resource mapping of project intervention sites (GPS); Forest ecological/ inventory; Permanent Monitoring Plots (PMPs)	Climate conditions do not disrupt activities *Mitigations: Farmers will be trained in climate-smart approaches, and the NRM promoted through this project will increase resilience to climate extremes.* COVID-19 pandemic does not disrupt implementation. *Mitigations: Project staff will closely follow national guidance and implement activities in a manner deemed safe for staff and beneficiaries. Budget reallocations may be needed to modify plan for delivery of activities e.g. pay for equipment to deliver training remotely (mobile phones/tablets), and purchase PPE, soap and sanitiser gel. New approaches for delivering activities in smaller groups and remotely have been tried by Tree Aid during the first set of restrictions in 2020. These can be used should further restrictions come into place* Communities and key stakeholders in the intervention area are willing to participate in the project. *Mitigations: Tree Aid conducted a needs assessment in the area (Feb 2020) which showed a strong demand for the project and support from local communities. Our local partner SUNARMA has been working in the area since 2018, during which time have during which time we have developed strong links to key stakeholders including local authorities and government departments.* Ethnic tensions are heightened, impacting cohesiveness of groups. *Mitigations: The project will encourage open and integrative groups. The PFMs will receive conflict resolution training (through FCDO*

			funded project). Legislation of natural resource management remains favourable to PFMCs *Mitigations: The project approach is to strengthen the system already in place by targeting PFMCs as legitimate users of the forest. Tree Aid has been working with government departments and will engage with them throughout the project to try and maintain this current situation.* Political situation remains stable enough for project activities to take place. *Mitigations: Tree Aid, with the partner, will continue to monitor reports from the field and other agencies to ensure that project staff are safe. If security requires it, activities will be delivered remotely and an alternative workplan devised (as has been done throughout 2020).* No significant changes to international markets for frankincense and no major price fluctuations. *Mitigations: Where possible contracts will be signed with buyers in order to reduce the impact of fluctuations in prices. Grading structures will be introduced to empower sellers to have a better understanding of the quality of their product.* No outbreak of major diseases in the trees. *Mitigations: Improved tapping methods are being encouraged, which will help reduce risk of disease. Tree Aid is partnering with other research institutions that can support in disease management.*
Output 1 Equitable governance and environmental stewardship of Combretum Terminalia woodland in six kebeles is promoted through eight PFMCs	1.1 Eight legally recognised Participatory Forest Management Cooperatives (PFMCs) active by end of year 1	1.1 Project records; Legal records, capacity development trainings received	Tree Aid and partners are able to effectively engage PFMCs in forest governance. *Mitigations: The project team will sensitise PFMCs to the long-term benefits of effective*

	1.2 Women account for 30% of membership and leadership positions in PFM Cooperatives (year 2: 10%; year 3: 30%) Baseline: 0 1.3 Eight local land and forest tenure charters (by-laws) developed and adopted for the inclusive management of the woodland by the end of year 2 1.4 Eight forest management plans, reviewed/developed and adopted for the area under the responsibility of PFM Cooperatives by the end of year 2	1.2 Participatory Forest Management (PFM) Cooperatives: Organisational capacity assessments (ODK form) 1.3. Project records; Administrative records; 1.4 Project records; Record of cartographic products using remote sensing (GPS) to support the development of forest management plans as well as records of field and spectral data collection for inventory and condition assessment of Boswellia populations	*forest governance can bring for their own socio-economic situations.* Households and communities allow women to engage in PFMCs, and to take on leadership positions. *Mitigations: Gender equality sensitisation will be mainstreamed into project activities. Tree Aid will apply its experience working in Ethiopia and with women. We will engage the men in the community to discuss the benefit they and their household will have if they let their wife participate in the project. We will use male role models.* No reappearance of civil unrest. *Mitigations: Project kebeles have been selected due to the relatively low amount of civil unrest. Conflict management work is being done through the programme of work proposed. Prospective participants confirmed that they are open to working together with people from different ethnic groups.*
Output 2 Sustainable harvesting and regeneration techniques of frankincense begin to be used in Combretum Terminalia woodlands to promote responsible exploitation and reverse resource degradation	2.1 One in-situ biodiversity conservation enclosure site established and managed under the responsibility of Participatory Forest Management Cooperatives by the end of year 2 2.2 80% (192/240) of producers (VTE members; 12 groups) trained are using new tapping techniques by the end of year 2 (year 1: 96 (40%); year 2: 192 (80%)) 2.3 50% increase of 1st (1A) and 2nd (1B) grade frankincense products produced and sold by each (of the eight) PFM Cooperative as measured from project baseline by the end of the project *(Baseline: High grade contains (1st grade special (1A), 1st grade (1B), 2nd grade, 3rd grade) Medium grade (4th grade special and 4th grade normal)Lower grade (5th grade)*	2.1 Land Use Survey (ODK form); Site to be GPS mapped 2.2 Training & Post-Training assessments; Focus Group Discussions (FGDs) 2.3 Participatory Forest Management Cooperatives: Organisational capacity assessments (ODK form) 2.4 Annual survival count on planted seedling and naturally regenerated new seedlings; Permanent Monitoring Plots (PMPs)	Tappers willing to adopt new tapping techniques. *Mitigations: Tree Aids needs assessment in the area (Feb 2020), showed strong demand for the project by communities. Additional informal discussions between Tree Aid staff and tappers (Jan 2021) showed enthusiasm for the new techniques and willingness to adopt.* No major bushfires, droughts or floods which will negatively affect tree survival *Mitigations: The NRM promoted through this project will increase resilience to of the land to manage climate extremes. Bushfire control measures will be established (through FCDO funded project).* No change in the legislation that allows only Participatory Forest Management (PFM) Cooperative members to collect frankincense in the forest. *Mitigations:The project approach is to*

	White: 545.73 Quintals (87.7%) - High grade, Black: 76.45 Quintals (12.3%) - medium grade (Based on x4 PFMC: Das; Gundo; Delello; Agamwuha)) 2.4 70% survival rate (naturally regenerated seedlings) as measured from project baseline by the end of the project (Disaggregated by species) *(Baseline: 16% survival of regenerated seedlings)*		*strengthen the system already in place by targeting PFMCs as legitimate users of the forest. Tree Aid has been working with government departments and will engage with them throughout the project to try and maintain this current situation*
Output 3 Improved farmland productivity through the adoption of climate smart agriculture (CSA) practices for 2,250 households	3.1 20% increase in crop yields (per Ha), as measured from project baseline, by the end of the project *(Baseline: Beneficiaries (Median Averages) Cotton: 900Kg Sorgum: 500kg Teff: 400 Kg Other Vegetables: 67kg Sesame: 53kg Maize: 42kg Soya Beans: 40kg)* 3.2 70% (1,575) of farmers practicing at least 3 climate smart agricultural techniques on their farms by the end of the project	3.1 RHoMIS (Rural Household Multiple Indicator Survey); Focus Group Discussions (FGD);Training & Post Training Assessments; 3.2 RHoMIS (Rural Household Multiple Indicator Survey); Focus Group Discussions (FGD); Training & Post Training Assessments;	Training is effective in building the natural resource management capacity and knowledge of biodiversity of participating communities *Mitigations: Tree Aid has significant experience delivering NRM capacity building for local communities tailored to the local context. In addition, the project staff will follow up with the trainees after the training to ensure their good adoption of the techniques.* Climatic conditions are not too unfavourable *Mitigations: Farmers will be trained in climate-smart approaches, and the NRM promoted through this project will increase resilience to climate extremes.*
Output 4 Income of 18 Village Tree Enterprises (VTEs) (360 members, 90 (25% women) based on sustainably sourced Non-Timber Forest Products (NTFPs) (12 frankincense and 6 honey beekeeping) established and increasing	4.1 18 VTEs established and develop appropriate Enterprise Development Plans (EDPs) by the end of year 2 (currently funded through UKAM) 4.2 Average turnover for active VTEs established and increase to 150,000 Birr/enterprise/year ($3,800) by the end of the project (year 2: 75,000 Birr; $1,800) 4.3 Three contracts relating to frankincense signed with buyers by the end of the project	4.1 Records; Enterprise group Organisational Capacity Assessments (ODK) form 4.2 Project Records;Enterprise Development Plan Assessments (ODK forms) 4.3 Sales records; Number of trade agreements made with buyers	Climatic conditions favour products selected by VTEs *Mitigations: The MA&D process requires regular appraisal of VTEs and their enterprise development plans in order to ensure that the products are viable, but the approaches used are applicable to any product.* Financial institutions are willing to engage with VTEs *Mitigations: Activities targeting financial institutions to engage them in supporting enterprises have been planned. Investment in more professional equipment to improve quality and the development of EDPs should give confidence to potential investors.*

			Households and communities allow women to engage in VTEs. *Mitigations: The project will conduct broader training on the importance of gender-sensitive policies and access rights.* Buyers are willing to engage with local community groups *Mitigations: Activities aimed at facilitating linkages with buyers have been planned. Investment in more professional equipment to improve quality will enable groups to attract buyers at market workshops.*

Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)
Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1.1 Sensitisation on biodiversity conversation and environmental management for 2,250 farmers
1.2 Undertake forest boundary demarcation and area mapping
1.3 Training on cooperative management for PFMC leaders
1.4 Conduct participatory forest management plan
1.5 Participatory identification of enclosure areas for hotspots of Boswellia degradation for regeneration (1 per PFMC)
1.6 Farmers forest day celebrations, and model farmer award events
1.7 Training on enclosure area management
1.8 Facilitate development of bylaws
1.9 Develop methodology that can map, support and measure the gendered impacts of the interventions at community and household level
1.10 Awareness on legal environment for PFMC members

2.1 Forest inventory, in-situ site establishment, and socioeconomic study
2.2. Site identification for comparative analysis of traditional vs Indian tapping method
2.3 Training on Indian tapping method
2.4 Distribution of improved tapping tool
2.5 Field and spectral data collection for inventory and condition assessment
2.6 Development of cartographic products using remote sensing to support the development of forest management plans
2.7 Training government and project staff on GIS and remote sensing
2.8 Determination of Frankincense quality variables

3.1 Training on locally appropriate climate smart agriculture practices and technologies for project staff and local government experts
3.2 Training on locally appropriate climate smart agriculture practices and technologies for smallholder farmers
3.3 Distribution of agroforestry trees for individual beneficiaries 1,000 fruit seedling/year
3.4 Distribution of forage seeds, cutting, and seedlings for selected 540 households 50 per household

4.1 Establishment of 18 VTEs (12 frankincense, 6 beekeeping)

4.2 Training on drying, storing and grading of frankincense for 240 tappers
4.3 Material support for drying and storage of frankincense groups
4.4 Provide beekeeping training to members of 6 beekeeping enterprise members
4.5 Provide beehives and accessories to 6 beekeeping enterprise groups
4.6 Market access and linkage facilitation for PFMCs engaged in frankincense production

M&E 1 Undertake project familiarisation workshop
M&E 2 Establish Permanent Monitoring Plots (2 in each PFM)
M&E 3 Data collection from monitoring plots
M&E 4 Conduct Baseline survey (RHoMIS)
M&E 5 Beneficiary identification and follow up (once at the beginning and reviewed every year)
M&E 6 Group capacity assessment(once at the beginning and every year thereafter)
M&E 7 Monthly beneficiary families and groups visit by project staff
M&E 8 Information, education and communication materials/IEC productions
M&E 9 Field monitoring and follow up of research sites by EFD staff
M&E 10 Field monitoring and follow up of in-situ conservation site by EBI staff
M&E 11 Field monitoring, follow-up & support visits by HO
M&E 12 Tree Aid Ethiopia, joint project monitoring visits by Tree Aid
M&E 13 Undertake mid-term evaluation by government
M&E 14 Learning publications
M&E 15 Project terminal evaluations by external consultant
M&E 16 Project end survey (RHoMIS)
M&E 17 Audit

Annex 3: Standard Indicators

Table 1 Project Standard Indicators

Please see the Standard Indicator guidance for more information on how to report in this section, including appropriate disaggregation.

DI Indicator number	Name of indicator	Units	Disaggregation	Year 1 Total	Year 2 Total	Year 3 Total	Year 4 Total	Total to date	Total planned during the project
DI-A01	Training for tappers on Indian tapping techniques	People	Men	0	132	0	130	262	240
DI-A01	Training for tappers on Indian tapping techniques	People	women	0	0	0	0	0	n/a
DI-A01	Training on cooperative management for PFMC leaders	People	Men	0	58	0	0	58	n/a
DI-A01	Training on cooperative management for PFMC leaders	People	Women	0	5	0	0	5	n/a
DI-A01	Training on enclosure area management to PFMC members	People	Men	0	891	0	0	891	n/a
DI-A01	Training on enclosure area management to PFMC members	People	Women	0	320	0	0	320	n/a
DI-A01	Sensitisation sessions on biodiversity conservation and environmental management.	People	Men	0	1022	0	0	1022	n/a
DI-A01	Sensitisation sessions on biodiversity conservation and environmental management.	People	Women	0	347	0	0	347	n/a
DI-A01	Honey Bee-keeping training and material support.	People	Men	0	71	0	56	127	n/a
DI-A01	Training on locally appropriate climate-smart agr-practices	People	Men	0	0	828	0	828	n/a
DI-A01	Training on locally appropriate climate-smart agr-practices	People	Women	0	0	314	0	314	n/a
DI-A01	Training on drying, storing, and grading of Frankincense	People	Men	0	0	0	:130	130	n/a
DI-A01	Training on drying, storing, and grading of Frankincense	People	Women	0	0	0	79	79	n/a
DI-A03	Number of local/national organisations with improved capability and capacity as a result of project. (By-Laws of the 8 PFMCs)	Number	PFMCs	0	0	8	0	8	8
DI-B01	(PFMCs Forest Management plans)	Number	New	0	0	2	0	2	2
DI-B01	(PFMCs Forest Management Plans)	Number	Improved	0	0	6	0	6	6

Checklist for submission

	Check
Different reporting templates have different questions, and it is important you use the correct one. Have you checked you have used the **correct template** (checking fund, scheme, type of report (i.e. Annual or Final), and year) and **deleted the blue guidance text** before submission?	Yes
Is the report less than 10MB? If so, please email to BCF-Reports@niras.com putting the project number in the Subject line.	Yes
Is your report more than 10MB? If so, please consider the best way to submit. One zipped file, or a download option, is recommended. We can work with most online options and will be in touch if we have a problem accessing material. If unsure, please discuss with BCF-Reports@niras.com about the best way to deliver the report, putting the project number in the Subject line.	No
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	Yes
Have you provided an updated risk register? If you have an existing risk register you should provide an updated version alongside your report. If your project was funded prior to this being a requirement, you are encouraged to develop a risk register.	Yes
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see Section 16)?	N/A
Have you involved your partners in preparation of the report and named the main contributors	Yes
Have you completed the Project Expenditure table fully?	Yes
Do not include claim forms or other communications with this report.	