PLAN VIVO
For nature, climate and communities

2023 Plan Vivo Annual Report

KHASI HILLS COMMUNITY REDD+ PROJECT

Submitted by

Ka Synjuk Ki Hima Arliang Wah Umiam
Mawphlang Welfare Society

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Title of Project: Khasi Hills Community REDD+ Project
Annual Report Year: 2023

Summary of Project:

Project overview	
Reporting period	1 January 2023 – 31 December 2023
Geographical areas	East Khasi Hills, India
Technical specifications in use	REDD+ and ANR

Project indicators	Historical (2012 - 2022)	Added / Issued this period (2023)	Total
No. of smallholder households with PES agreements	0	0	0
No. of community groups with PES agreements (where applicable)	86	0	86
Approximate number of households (or individuals) in these community groups[1]	7,615 households 39,937 individuals	147 households 1,097 individuals	7,762 households 41,034 individuals
Area under management (ha) where PES agreements are in place	15,442 ha REDD 1,651 ha ANR	50 ha ANR	15,442 ha REDD 1,701 ha ANR
Total PES payments made to participants (USD)[2]	$472,983.88	$250,763.23	$723,747.08
Investment in forest conservation and management	$298,816.56	$58,903.04	$357,719.60
Total community benefit	$771,800.44	$309,666.24	$1,081,466.68
Total sum held in trust for future PES payments (USD)	$290,994.22	$260,000.00	$550,994.22
Allocation to Plan Vivo buffer (tCO$_2$)	102,672	15,271	117,943
Saleable emissions reductions achieved (tCO$_2$)	410,783[3]	60,838	471,621
Unsold stock as of 31 Dec 2023 (PVCs)			16,058
Plan Vivo Certificates (PVCs) issued to date			**410,532**
Plan Vivo Certificates requested for issuance			**61,089[4]**
Plan Vivo Certificates available for future issuance			**0**
Total PVCs issued (including this report)			**471,621**

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[1] The total number of households and population was miscalculated in 2022, the corrected values have been inserted here. The number of households and increase in population from 2022 to 2023 is due only to population growth and families moving into the project area.

[2] See part I for detailed information on PES payments and benefits.

[3] This amount has been revised from previous annual reports during a data review with Plan Vivo in 2023.

[4] 60,838 PVCs of 2023 vintage + 251 PVCs issued from previous vintages (2012-2016).

PART A: PROJECT UPDATES

o The Project was successfully verified by SCS Global Services in May 2023.
o The team is developing a REDD+ project in Ri Bhoi District, Meghalaya with participants who have been involved in Synjuk activities previously and are excited to take part in the project upon seeing the results of the Khasi Hills Community REDD+ Project.
o The fuelwood reduction programme continued to reach Project families by distributing LPG (Liquified Petroleum Gas) cookstoves and cylinders (146 domestic and 35 commercial) and 82 rice cookers to households and commercial kitchens throughout 2023. Distributing LPG cookstoves to those who provide daily meals to children significantly reduced the amount of firewood that had been used previously.
o The Project is continuously providing training in various sectors which are found to be in demand within the communities. This year, the socio-economic team organized a training in floriculture as a way to introduce and boost a source of alternative income to beneficiaries who are already interested in horticulture.

A1: Key events and impacts

1) Mitigating Forest Fires: The Project continued its community-based effort to control forest fires. Awareness raising and rapid mobilization to halt outbreaks has been extremely effective in reducing forest fires. In 2022, the team took a different approach to measuring the impact of fire. The team segregated the area of forest which was affected by fire from the grassland and scrubland that was affected by fire within the Project area. Under this scenario, the forest fire area was minimal and can be credited to the construction and maintenance of the fire lines which are built by community members around forested area. The Project is confident that due to its fire mitigation measures the overall impact fires may have had on carbon stocks compared to the baseline has been minimized due to the work of the communities and prompt emergency measures to contain fires.

2) Community Benefits: The annual Community Development Funds (CDFs) are one of the major benefits provided by the Project to the participating communities and households. In 2023, 7,626 families benefited from funding to 86 villages. Each community determines how the funds will be spent to benefit the most families and have the greatest impact. In 2023, the communities used the funding to purchase equipment for community functions and to house important community documents. See Annex 1 for details. This fund was one of the many different support mechanisms that sit under the overall Payments for Ecosystem Services (PES) to communities. In addition to this, the Project distributed Small Livelihood Grants which cover in-kind benefits for alternative livelihood activities and Special Grants for ambulances to communities in need. See Tables 8 and 9 below for detailed disbursements to community beneficiaries and Annex 1 for a breakdown of how those funds were spent.

3) Eco-Tourism Infrastructure Programme: The state of Meghalaya and the Project area have seen a steady increase in tourism of both domestic and international travellers following the Covid-19 travel restrictions. The state government has provided many incentives and increased budget spending to improve tourism infrastructure in the state and has brought many festivals and programmes to Meghalaya. This year the Eco-tourism Development Team held its second annual festival based on a local delicacy (grass caterpillar). It provided a space to showcase the location and activities that can draw tourists who may be more interested in cultural awareness as well as trekking, eating local foods, and enjoying the natural environment. The Project communities have hosted over 240 tourists, involved 16 tour-guides, included 3 SHGs in hospitality sector, and have involved many community members and youth volunteers in training workshops. In 2023, the Project hosted interns from Green Hub to develop a long-term eco-tourism plan for a specific village that was selected due to its interest and potential. This was a benefit to the community and the Project in order to promote sustainable practices and to plan for future tourists. Project Participants and communities applied for grants in 2023 for eco-tourism-based programmes and infrastructure worth over $9,000 in order to continue to update initiatives by purchasing equipment for wellness tourism, trekking, and camping.

4) Reduced Fuelwood Programme: This programme, aimed at reducing the use of fuelwood, is a long-term strategy that has been modified throughout the years based on availability and beneficiary interest. However, the end goal remains to help transition families to more energy efficient methods of heating and cooking. The Project helps by working with local dealers to provide LPG cookstoves and cylinders or rice cookers to Project families and organizations such as the Integrated Child Development Service (ICDS) which provides midday meals for children. In some of the kitchens they have been able to completely stop using fuelwood, which previously amounted to 35 kg per day. The benefits include reduced pressure on local forests and forest habitat, improved air quality, and a 50% reduction in carbon emissions. The fuelwood alternatives also save families substantial time in the cutting and transport of firewood as well as reduced time spent preparing food. This incentive is especially popular among village families and has increased the recognition of the Federation's service to the communities.

5) Biodiversity Rehabilitation: The Project has updated its approach in biodiversity conservation to include camera traps in order to better understand which species are found in the Project area. Field staff and Youth Volunteers continue to record the location and provide photo documentation of rare and endangered flora and fauna throughout the Project area. The intervention encourages the inhabitants of the Project area to cease hunting and to protect the habitat in which they live. Field staff report increasing frequencies of sighting key species including leopard cats, civet cats, and several bird species. The Project, through the field staff, also creates awareness on the extraction of rare and endemic plant species. Increased biodiversity directly relates to the rehabilitation of forest

habitat as well as the linking of forest fragments to create larger wildlife corridors. Those animals which were found injured or in danger were rescued and handed over to the Meghalaya Wildlife Department for rehabilitation and release. See Annex 2 for more details.

6) Self-help Groups and Farmer's Clubs: The Project is distributing vermicompost units and materials, temperate fruit tree saplings, mushroom spawn, piglets, and chicks through subsidies from the Synjuk and convergence with Government departments of Meghalaya and the Central Government, while also providing training programmes on proper nutrition, common diseases, and treatment. The beneficiaries are also visited to ensure the shed and feeding systems for the animals are in good condition both prior to distribution and during follow-up monitoring visits. Similarly, monitoring of all distributions is conducted by the Community Facilitators, Youth Volunteers, and the staff. Thirteen new SHGs have joined with the Project in 2023 and for a total of 270 SHGs now being supported and provided advice on building their capital assets to finance micro-loans to their members allowing a proliferation of small income generating businesses.

7) Horticulture: The Project has been working to meet the needs of the interested participants for horticulture by procuring tree saplings from ICAR (Indian Council of Agricultural Research) and the Horticulture and Agriculture Departments of the Government of Meghalaya to carry out a plantation programme. The Project distributed 1630 fruit tree saplings to 75 interested beneficiaries in 2023. The types of fruit trees distributed this year included peach and plum, as well as kiwi vines. These trees can be planted in home gardens and in areas where agriculture had previously taken place.

8) Health and Wellness: The entire Project Team is involved in supporting both the Project Participants and the traditional Khasi herbal practitioners. In 2023 the Project supplied ambulances to several Hima and provided free health camps throughout the Project area for community members to avail free health check-ups. Several of the grant funds under the Eco-tourism Programme also went toward assisting herbal practitioners with supplies and equipment to sustain and expand their work.

A2: Successes and challenges

Successes:
- The Project was able to provide several trainings this past year from experienced resource people from government departments and scientific institutions, which helps to bolster the investments in the resources that are distributed to community members. It also allows beneficiaries to develop their skills and increase their knowledge in order to perform their roles effectively and improve their financial status.
- The Project team has seen continuation of activities (especially vermi-composting and mushroom production) from beneficiaries which is helping them to improve their financial status, meet the needs of the family, and reduce their impact on the forest. For example,

around 80% of beneficiaries have continued cultivating mushroom and are investing their income into purchasing inputs for increased production. Vermi-composting has also been a successful activity with low inputs and quick rewards. Besides selling the product, beneficiaries are also able to use the compost to increase production of their own crops.

- Project communities continue to be involved and take ownership of the Project. Through meetings and recommendations made by beneficiaries, pig breeding and floriculture have been added as alternative livelihood activities that can be adopted through the socio-economic programme.

- Similarly, the Project team has noticed an increase in active participation of community members in forestry programmes like tree planting, silviculture, and fireline management. The increased number of volunteers in these activities marks a significant impact of the Project.

- The participation of Self-help Groups in the Project is considered a major success, since they are historically made up of women from a lower social status. The SHGs help to build up their social standing as well as their economic status by providing benefits, access to training, market linkages, and the inherited bargaining power that comes with being part of a larger group.

Challenges:

- Climate change and inclement weather conditions are recurring issues that continue to threaten Project Participants' livelihoods and wellbeing along with increased pressure on the forest environment. With colder, drier winters and longer, more intense monsoon seasons, livestock and bees are negatively affected. Furthermore, when natural disasters occur, the ability to procure materials for livelihood activities becomes challenging. For example, due to hail and windstorms rice straw which is used in mushroom cultivation and vermicomposting was difficult to obtain. When these unavoidable circumstances occur, the Project works to procure materials from other sources and provides back up plans to help ease the strain of the participants. Updated technologies are continuously being sought that can be used in a changing environment. For example, the Project is testing out different types of bee hives to help shelter bees through colder weather.

- Diseases affecting livestock production have hampered the success of farmers raising pigs and poultry. Training is an ongoing process for best methods of preventing and minimizing the spread of diseases from one farm to another. The Project is continuously aiming to provide assistance to those participating in alternative livelihoods in order to produce successful outcomes. Challenges faced in livelihood activities are common due to natural calamities, despite proper training and monitoring. For example, a homogenous product (e.g. livestock) is hard to assess, but the Project is consistent by providing alternative supports through compensation and contribution so that those family will not suffer. Experts have been consulted and problems are resolved.

A3: Project developments

During 2022 the updated Technical Specification (TS) and the Project Design Document (PDD) for the Khasi Hills Community REDD+ Project were accepted by Plan Vivo. In 2023, the TS and PDD were revised to indicate a change in the calculation of forest-based carbon. See part C3 for more details.

The Project continues to work with The Landscapes and Livelihoods Group (TLLG), an Edinburgh-based company to develop the Project as it expands into other areas of Northeast India.

In 2023, the Project continued to increase its presence in the Eco-tourism sector. The team continues to develop tourism strategies which both showcase the natural beauty of the area while protecting the forests from deforestation by providing communities with alternative livelihoods such as guiding, homestays, marketing local foods, and increasing visibility and resources to traditional health practitioners.

The Project is interested in conducting more research on water quality and how reducing deforestation is affecting water sources for those in the Project area. They are looking forward to working with hydrologists in this effort. Based on the water monitoring results from 2022, the Project team has enforced a more stringent approach to the already protected micro-watershed areas. Moreover, silviculture activities and cleaning of the water collection sites are being implemented.

Similarly, the team is working on developing methods to assess the Project's effect on biodiversity in the Project area. This year, the Project team initiated a celebration for International Biodiversity Day. The aim of this programme was to promote awareness on conserving all aspects of life forms in the natural habitat. The programme involved all the CFs, youth volunteers, and school students and included competitions, games, and prizes.

A4: Future developments

The Project will continue to develop relationships with villages throughout Meghalaya in order to expand the Project area and to assist in implementing REDD+ activities there. The team is working on developing a project in Ri-Bhoi District, Meghalaya and is currently working on the PDD.

The socio-economic team is continuously implementing and monitoring income generating livelihood activities. They will continue to assess their future viability, adjust as needed, and provide training based on expert knowledge.

PART B: PROJECT ACTIVITIES

B1: Project activities generating Plan Vivo Certificates

Project activities to generate Plan Vivo certificates continued in 2023. An additional 50 hectares were taken up for advance closure bringing the total ANR to 1,701 hectares. Silviculture treatment was also conducted in 50 ha. The most recent ANR growth calculation has shown that these young regenerating forests were sequestrating carbon at an annual rate of 1.40 tC/ha for open forests and 2.43 tC/ha for dense forests per year (Tables G8b and G8c, KHCRP Technical Specification V4.1, updated in 2023). These rates show similarities with the range of rates seen in studies of similar open Chir pine forests in Nepal (Jina et al, 2008) (Shrestha, 2010). Annual ANR monitoring results can be found in Annex 3, Tables 3-4.

Avoided forest degradation and deforestation (REDD+) in dense forests is succeeding through community fire control, reduced fuelwood consumption, and raising community awareness through the preparation of village forest plans and maps. Fire control efforts by communities in 2023, including the maintenance of 93 km of fire lines, limiting the area of forested affected by fire to 15.9 hectares. For the past two years, the Project team has monitored both grassland and scrubland separately from the forested area while assessing fire damage. The fire lines are made to protect the forested area and they have been successful in that effort. The unforested area affected by fire in the Project area was measured at 35.2 hectares.

Table 1: Project activity summary

Name of technical specification	Area (Ha)	No. Smallholder Households	No. Community Groups
Advance Closure for ANR	1,701	4,333	48
REDD+	15,442	7,762	86

Tables 2a and 2b: Area protected for natural regeneration and enrichment planting in 2023 and the first two implementation phases in hectares.

Hima	ANR area added 2014	ANR area added 2015	ANR area added 2016	ANR area added 2017	ANR area added 2018	ANR area added 2019	ANR area added 2020	ANR area added 2021	ANR area added 2022	ANR area added 2023	Total ANR to date
Mawphlang	24	85.9	21.7	8.3	0	0	20	17.7	0		177.6
Laitkroh	6	40.9	29.9	0	100	0	11	0	0	21.7	209.5
Nonglwai	8	0	0	0	0	0	0	0	0		8.0
Lyngiong	9.6	278.5	68	0	20	0	30	10.7	0		416.8
Mylliem	32.1	12	20.2	0	20	0	40	28	10		162.3
Pamsanngut	7.3	21	115.4	0	0	0	15	0	0		158.7
Nongkhlaw	0	19	30.6	0	10	0	5	0	0	5.2	69.8
Nongspung	9	3.9	0	0	0	0	10	11.7	1.3	20.6	56.5
Sohra	19.7	18.6	200.9	0	20	19	20	0	0	2.5	300.7

Mawbeh	34.9	30.7	7.1	0	20	6	35	7.4	0		141.1
Total	**150.6**	**510.5**	**493.8**	**8.3**	**190**	**25**	**186**	**75.5**	**11.3**	**50**	**1701**

ANR TREATMENT TYPE	IMPLEMENTATION PHASE 1 2012-2016 (ha)	IMPLEMENTATION PHASE 2 2017-2021 (ha)	IMPLEMENTATION PHASE 3 2022-2026 (ha)	TOTAL 2012-2023 (ha)
ANR advance closure	1154.9	484.8	61.3	1701.0
Silviculture activity	500	484.8	77.6	1062.4

B2: Project activities in addition to those generating Plan Vivo Certificates

The Project's strategy in generating additional social and economic benefits depends on the involvement of members of the 86 participating villages. In order to engage nearly 40,000 people scattered over 270 square kilometres, the Project has hired and trained a staff of community organizers. Table 3 illustrates the steady growth in staff over the past eight years, with the number of female staff members increasing over the same period as well. The Project attributes this to the general increased participation of villages, and the increase in number and interest of beneficiaries of the project activities. Over 90 percent of the Project staff are members of the participating communities and include both men and women, young and old. The allocation of Project resources for socio-economic activities is guided by the input from the Project Participants themselves.

As per the PDD, this input is facilitated through the socio-economic team meeting with Project Participants (often through Self-help Group meetings), where interested participants are provided options of activities that the Project is already undertaking. Project Participants can either sign up for those programs or recommend other livelihood activities that they would be interested in. Before start-up materials are distributed (e.g. chicks, mushroom spawn, worms for vermi-compost, etc.) the team ensures that those beneficiaries are set up with the appropriate training and have adequate facilities to carry out the activities. The number of interested Project Participants helps to determine the budget for the socio-economic program and the number of team members/resource persons who will be needed to assist in carrying out those activities.

The governance of the Federation or Synjuk that oversees the Project is comprised of the leaders of the ten participating Indigenous governments (*Hima*), representatives from the SHGs and FCs, and members of the staff including Youth Volunteers. This approach to bottom-up planning and local management allows the Project to be grounded in and owned by the participating communities providing it with greater sustainability. The Project's efforts to engage school students in conservation activities directly links these young Khasi youth to their traditional environmental values as well as motivates them to engage in ongoing and future forest and land stewardship projects.

Table 3: Project Staff Engaged in Community Development and Resource Management

Year	Office Staff	Male Community Facilitators	Special Task Community Facilitators	Assistant Community Facilitators	Female Community Facilitators	Male Local Youth Volunteer	Female Local Youth Volunteer	Total
2016	9	5	1	0	0	62	0	77
2017	12	6	1	3	4	62	62	150
2018	8	5	1	4	6	62	62	148
2019	14	9	0	6	10	62	62	163
2020	15	9	0	6	10	62	62	164
2021	19	9	0	8	10	85	85	216
2022	19	9	0	8	10	86	86	218
2023	23	9	0	8	10	86	86	222

Training Programmes: An important component of the Project strategy is capacity building. The team conducted a series of vocational training sessions on food processing, tour guiding, adventure tourism, seed collection and nursery production, floriculture, and surveying to both refresh knowledge of those who were already involved in the Project and to orient those who are new to the Project activities. Orientation sessions were also conducted for CFs and Youth Volunteers as well as SHGs. Furthermore, the team took part in presenting a number of sessions with student groups, organisations, and government departments on carbon projects, eco-tourism, and social-economic livelihoods. Training is always conducted with beneficiaries prior to participation in Project programs and activities.

Photo 1. Training of Value-added Products

Photo 2. Training on Floriculture

PART C: PLAN VIVO CERTIFICATE ISSUANCE SUBMISSION

C1: Contractual statement

The Federation (Synjuk) has signed PES (Payment for Ecological Services) agreements with 86 participating villages in the Project area.

Table 4: Statement of tCO2 reductions available for issuance as Plan Vivo Certificates based on activity for reporting period 1/23 – 12/23

Total area (ha)	Tech. Spec	Total ER's (tCO$_2$) achieved this period (2023)	% Buffer	No. of PVCs allocated to buffer from ER's (2023)	Saleable ERs available (2023)	Issuance request (PVCs) Vintage	ER's (tCO$_2$) available for future issuances
15,442	REDD+	71,000	20	14,262[5]	56,800	57,051[6]	0
1,651	ANR	5,047	20	1,009	4,038	4,038	0
Total		**76,047**	**20**	**15,271**	**60,838**	**61,089[7]**	**0**

C2: Allocation of issuance request

[5] 14,200 REDD+ from 2023 vintage + 62 from previous vintage (2012-2016) available for issuance

[6] 56,800 REDD+ from 2023 vintage + 251 from previous vintage (2012-2016) available for issuance

[7] 60,838 from 2023 vintage + 251 from previous vintage (2012-2016) available for issuance

Table 5: Allocation of issuance request

Buyer name/ Unsold Stock	No. PVCs transacted	Registry ID (if available) or Project ID if destined for Unsold Stock	Tech spec(s) associated with issuance
Khasi Hills Community REDD+ Project	61,089[8]	10300000000432	REDD+/ANR
TOTAL	**61,089**		

C3: Data to support issuance request

See monitoring results Annex 3. During 2023, plots were monitored, and carbon was calculated as per the Technical Specifications in the Project Design Document V4.1:

A biomass expansion factor (BEF) was applied to convert stem biomass estimates to estimates of whole tree biomass was applied. Biomass expansion factors recommended by Brown (1997) were applied:
- When inventoried biomass was >190 t/ha a BEF of 1.74 was applied;
- When inventories biomass as <190t/ha a BEF = EXP(3.213-0.506*LN(BV)), was applied where BV=inventoried volume;
- For plots dominated by pines a BEF of 1.3 was applied.

In the past this procedure had not been consistent, and a more conservative approach was being used where a BEF of 1.3 was applied for all open forest plots. Due to this discrepancy, the Project has recalculated the previous years' data using this consistent method in order to compare figures.

PART D: SALES OF PLAN VIVO CERTIFICATES
Table 6: Sales for the reporting period 01/23 – 12/23

Vintage	Sale Date (M/D/Y)	Buyer	No of PVCs	*PRICE DATA REDACTED FROM PUBLIC REPORT*	% Sale received by participants
2022	12/04/23	Zero Mission AB –	40,000		80
2022	12/20/23	COTAP	2,964		60
2021	12/18/23	COTAP	1		100
2019	12/18/23	COTAP	638		100
2021	12/18/23	COTAP	288		100
2020	12/18/23	COTAP	888		100
Total for 2023			44,779		

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[8] 60,838 from 2023 vintage + 251 from previous vintage (2012-2016) available for issuance

See Annex 5 for the historical sales data.

PART E: MONITORING RESULTS

The Project monitors the impact of activities, which directly benefit forest ecology. The key indicators fall into two categories: 1) forest conservation linked to REDD+, and 2) forest growth linked to ANR. Forest fire control is critical to both strategies as fires destroy older growth and dense forests, while restricting regeneration in developing forests. These targets are from the revised monitoring framework found in the Technical Specification (V4.1) Table K1a which were revised during in 2021 and reviewed throughout the Project monitoring period based on realistic assumptions and reflective of the past monitoring results.

The monitoring targets for socio-economic activity is divided into two sections, 1) benefit sharing and participation and 2) institutional capacity. The baseline and monitoring targets for socio-economic monitoring from Table K2 in the Technical Specifications (V4.1) were revised in 2021.

Table 7: Monitoring targets

Activity	Activity Indicator (measured annually)	Means of Assessment	Annual Targets			
			Full Target	Full Target Achievement	Partial Target Achievement	Missed Target
Forestry Indicators						
Fire control	Length of fire lines constructed by *Hima*	The project team keeps records of km of fireline reported annually by the CF of each *Hima* and is included in the annual report.	> 60 km	93 km		
Forest restoration	Number of hectares with ANR Advance Closure Treatment	CFs collect data from village members and Youth Volunteers who record data from the field using GPS units. The results are published in the annual report.	50 ha	50 ha		
	Number of hectares with ANR Silvicultural Treatment	CFs collect data from village members and Youth Volunteers who record data from the field using GPS units. The results are published in the annual report.	50 ha	50 ha		

Fuelwood saving devices	Number of fuelwoods saving units installed (LPG, rice cookers, etc.)	Data is collected by the CFs and the project team throughout the year and analyzed at year's end for inclusion in the annual report.	>150 units	263 units		
Charcoal making	Number of households who have been involved in charcoal making who are now involved in alternative activities	Data is collected by the CFs and the project team throughout the year and analyzed at year's end for inclusion in the annual report.	>5%		2.5 %	
Socio-economic Indicators						
Benefit sharing and participation	Number of villages with Community Development Funds (CDFs)	The data is collected by the CFs from the village leaders and members to gain their input and is analyzed by the project team to identify any problems and implications for the coming year's grant programme. The findings are included in the annual report.	>70 villages	86 villages		
	Number of families accessing CDFs	The data is collected by the CFs from the village leaders and members to gain their input and is analyzed by the project team to identify any problems and implications for the coming year's grant programme. The findings are included in the annual report.	>2000 HH	7762 households		
Institutional capacity	Number of trainings programmes	This data is collected by the project team throughout the year and is analyzed at year's end by the team to determine if capacity is improving. The quantitative data is supplemented by case studies and in-depth interviews. The data is reported in the annual report to Plan Vivo and	10 trainings	10 trainings		

		other stakeholder institutions.				
	Percentage of participants who take up an activity after receiving training (within 1 year)	This data is collected by the CFs and project team throughout the year and is analyzed at the year's end by the team to determine if the training is beneficial. The data is reported in the annual report to Plan Vivo.	>50%	75%		
	Number of families participating in Income Generating Activities	Data is collected by CFs from village leaders and members and is analyzed by the project team. The findings are included in the annual report.	>200 families	394 families		
Environmental and Biodiversity Indicators						
Biodiversity	Number of biodiversity surveys conducted by CFs and Youth Volunteers	The CFs and Youth Volunteers record any observations on biodiversity record sheets. Information recorded includes the name of the species observed, time and place, GPS location, evidence of its presence (scat, fur, animal or bird, call, etc.), and the condition of the location. The record is presented and reviewed by the project team at the end of the year.	>2 surveys	4		
Quarrying	Number of reports and lobby advocacy meetings/reports held	The data is collected by the CF and reported to the project team which analyses the data and includes it in the annual report and shares it with the *Hima* leadership and village councils.	2 reports or meetings			1

Although the targets for forest restoration were not met this year for the number of hectares that were added to ANR and part of silvicultural activities, the Project continues to work with communities to increase the amount of land that is set aside for regeneration and will commit to including more land for ANR to meet the five-year target of 250 hectares which is included in the PDD. The success

of ANR within the Project continues to be monitored carefully and the team is looking forward to analysing which activities are making the most impact in the communities.

New monitoring targets were set within the updated PDD for the monitoring period 2022-2026 for charcoal production. The team has monitored charcoal production in the past; however, the new annual target was only partially met. It is difficult to monitor realistic changes in households involved in charcoal making as there are a number of factors involved including location, number of people in the household depending on the income, the number of months a household might be involved in the activity, and the type of forest that is used for such purposes. The team is actively working with communities to introduce alternative livelihoods which would decrease the need to use the forest for charcoal making.

During 2023, the CFs and team members held took surveys and interviewed those families involved in quarrying, however there was only one formal meeting with Project Director in order to mitigate actions and therefore has resulted in a partial target achievement. The information collected during the surveys will better help the Project team understand how they can provide alternatives to these families and plan to decrease the activity in the long term. In 2024, the Project will continue to work with community leaders to raise increased awareness on the issue and reduce the use of heavy equipment in order to lessen the toll on the environment.

PART F: IMPACTS

F1: Evidence of outcomes

The Project has demonstrated a variety of impacts that are directly or indirectly linked to Project activities. Information and other evidence that document these outcomes are included in the Annex. Forest cover and conditions are improving throughout the 23,500-hectare Project within the Umiam Watershed as community awareness has heightened village forest protection activities. This, in turn, has resulted in improving hydrological function with increased stream and spring flow through the dry season. Biodiversity of flora and fauna appears to be strong (as represented by the number of sightings of rare species), though the team is unable to provide conclusive evidence of any increase in biodiversity at this point given the data. Now that data is being collected through camera traps, the team can use the information as a baseline for continued monitoring at precise locations. See Annex 2 for more information.

The area of forest impacted by fire was heavily reduced in 2023 as forests were protected by community driven action of fire lines, pre-controlled burning, and the use of fire watchers who quickly notify the community to keep existing fires from spreading. The Project has also assisted in household and commercial kitchens transition from fuelwood to alternative energy sources by distributing LPG

cooktops/cylinders and rice cookers to a total of 2,800 beneficiaries throughout the Project years. This includes the distribution of 181 LPG units and 82 rice cookers in 2023.

Co-benefits reflecting the Sustainable Development Goals can also be seen as household incomes increase due to Project supported entrepreneurial and innovative farming systems, including organic agriculture and production of value-added goods. Distribution of LPG cookstoves and rice cookers has saved villagers (mostly women and children) time that previously been used to gather fuel wood and keep a fire going in the home. Health benefits have also increased in terms of air quality from reduced fuelwood burning and through the distribution of ambulances and availability of health camps. The use of the grant programmes by participating villages to improve village forests and community life in 86 communities in 2023 demonstrates that the Project is having an impact on improving environmental and social conditions. Access to the mature forest for livelihood and ecosystem benefits, including drinking water, has assisted more than 7,762 households.

An important impact from the Project is the increasing participation rates and interest of the approximately 41,000 people in the watershed. From the outset, the Khasi Hills Community REDD+ Project was ambitious in taking on 62 communities with a population of 25,000. The continued success of the Project is reflected in its steady growth of villages and as neighbouring communities request to be included in the forest conservation and restoration activities. The Project has been contacted by other tribal communities, governments, and NGOs in India in the past few years, further demonstrating its impact as a model for a successful approach to village resource management.

An additional Project impact has been the adoption of Project innovations by the World Bank funded Meghalaya Community Watershed Project that draws on the Khasi Hills experience. The Project is thereby shaping national and state-level policy regarding how communities can be empowered to address climate change through REDD+ and afforestation and reforestation projects.

PART G: PAYMENTS FOR ECOSYSTEM SERVICES

G1: Summary of Community Development Funds by year

Payments for Ecosystem Services (PES) include all socio-economic activities, restoration, and environmental services. The breakdown for these funds can be found in Part I, Table 9. The primary mode of PES distribution is through the annual grant programmes. In 2023, communities had requested help with better access to health care. Through a special grant the Project was able to provide new ambulances to several Hima with clear MOUs on responsibilities. The Community Development Funds (CDF) were distributed to all 86 communities, assisting a total of 7,762 households. The Small Livelihoods Grants were distributed as in-kind benefits to those taking up alternative livelihood activities. Details of both of these distributions can be found in Annex 1 Tables 1 and 2. Distributions through these three mechanisms are summarized in Table 8 below:

Table 8: Summary of payments made and held in trust

Reporting year		Total previous payments (previous reporting periods) $	Total ongoing payments (in this reporting period) $	Total payments made (2+3) $	Total payments held in trust $	Total payments withheld $
01/2023-12/2023	Community Development Funds	187,129.86	32,271.30	219,401.16	0	0
	Small Livelihood Grants	56,734.07	22,807.36	79,541.43	0	0
	Special Grant (Ambulance)	0	53,947.43	53,947.43	0	0
01/2022-12/2022	Community Development Funds	146,052.72	41,077.14	187,129.86	0	0
	Small Livelihood Grants	18,842.07	37,892.00	56,734.07	0	0
01/2021-12/2021	Community Development Funds	128,909.86	17,142.86	146,052.72	857.14	0
	Small Livelihood Grants	11,373.97	7,468.10	18,842.07	0	0
01/2020-12/2020	Community Development Funds	100,219.61	28,690.25	128,909.86	2,357.00	0
	Small Livelihood Grants	10,152.33	1,221.64	11,373.97	0	0
01/2019-12/2019	Community Development Funds	83,108.21	17,111.40	100,219.61	14,307.69	692.31
	Small Livelihood Grants	9,344.33	808.00	10,152.33	1,769.00	0
01/2018-12/2018	Community Development Funds	68,584.41	14,523.80	83,108.21	0	952.38
	Small Livelihood Grants	8,559.33	785.00	9,344.33	0	0
01/2017-12/2017	Community Development Funds	48,822.41	19,762.00	68,584.41	1,563.00	1,563.00
	Small Livelihood Grants	6,541.33	2,018.00	8,559.33	0	0

01/2016-12/2016	Community Development Funds	30,720.41	18,102.00	48,822.41	19,200.00	0
	Small Livelihood Grants	3,782.33	2,759.00	6,541.33	0	0
01/2015-12/2015	Community Development Funds	12,750.00	17,970.41	30,720.41	0	0
	Small Livelihood Grants	1,658.33	2,124.00	3,782.33	0	0
01/2014-12/2014	Community Development Funds	0	12,750.00	12,750.00	0	0
	Small Livelihood Grants	0	1,658.33	1,658.33	0	0
TOTAL			352,890.02			

Please note that the table above is only comparing a portion of the Community Development Funds and Small Livelihood Grants throughout the years. The total Community Benefit extends to other services which are summarised in Table 9.

PART H: ON-GOING PARTICIPATION

H1: Project Potential

The Project leaders are continuously meeting with village leaders in neighbouring Ri-Bhoi District, adjacent villages to the Project area, and in Manipur to assess potential interest in expanding the Project into their areas. The Project team has developed the initial Project Identification Note and submitted initial documents to Plan Vivo for registering the Ri-Bhoi Community REDD+ Project. The corresponding PDD is nearing completion as well.

H2: Community Participation

The Project strategy is based on the intensive participation of the communities. One of the successes of 2023, was the increased involvement of community members and volunteers in Project related activities. Additionally, the Project employed 222 individuals drawn from the participating villages, an increase from 77 staff in 2016. The Project strategy relies on local people to both manage and implement the Project to strengthen the sense of ownership, utilize local knowledge regarding development priorities and environmental problems, and to reduce overhead costs. The Project has emphasized the involvement of women and youth in order to create an age and gender balance that reflects the larger community, while drawing on the experience and authority of traditional leaders.

PART I: PROJECT OPERATING COSTS

Table 9: Allocation of costs 2023

COMMUNITY BENEFITS	INR	USD	%
Conservation & Reforestation			
Conservation & Reforestation: LPG Distribution, plantation, training, silviculture, site selection, capacity building	4,712,243.00	58,903.04	15.5%
PES Payments			
Socio-economic enhancement: Temperate fruit trees, livestock, vermi-composting, mushroom cultivation, SHGs, LWCs, FCs, training, Community Development Fund, Special Village Grant, health camps, income generating activities	11,265,244.00	140,815.55	36.22%
Assist community with restoration: CFs, Training, Tree Adoption Programme, Fireline	4,868,446.00	60,855.58	15.65%
Improving Environmental Services: Eco-tourism grants, Biodiversity monitoring, Advocacy and Networking	3,927,368.00	49,092.10	12.63%
Total	**24,773,301.00**	**309666.26**	**79.65%**
ADMINISTRATIVE OVERHEADS	**INR**	**USD**	**%**
Administrative	6,308,686.54	78,858.58	20.28%
Contingency	20,000.00	250.00	0.06%
Total	**6,328,686.54**	**79,108.58**	**20.34%**
TOTAL COSTS	**31,101,987.54**	***388,744.84**	**100%**

*Total costs for 2023 were greater than the total amount generated from sales of PVCs in 2023 as funds were remaining from previous years.

Allocation of Costs 2023

- Conservation & Reforestation
- Socio-economic enhancement
- Assist community with restoration
- Improving Environmental Services
- Administrative

0% | 5%
20%
13%
36%
16%
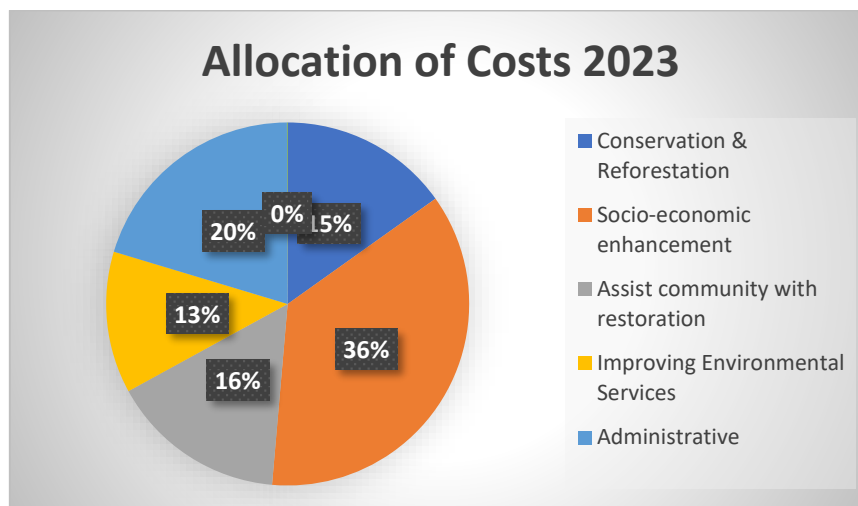
See Annex 1, Table 3 for a complete list of community benefits provided by the Project.

ANNEX

Annex 1: Community impacts

Table 1: Community Development Funds provided to 86 participating villages in 2023.

	Community Development Funds for the year 2023				
Sl. No	**Village**	**Activity**	**Number of Households**	**Population**	**Benefitted Households**
1	Mawkohmon	Almirah & Buffet set	223	1158	All
2	Mission	Almirah & Buffet set	85	370	All
3	Ladumrisain	Almirah & Buffet set	139	705	All
4	Nongrum	Almirah & Buffet set	159	816	All
5	Dongiewrim	Almirah & Buffet set	173	846	All
6	Lyngkien Sunei	Almirah & Buffet set	90	447	All
7	Umtyrniut	Almirah & Buffet set	105	560	All
8	Mawmyrsiang	Almirah & Buffet set	78	384	All
9	Lyngkien Ramklang	Almirah & Buffet set	108	650	All
10	Kyiem	Almirah & Buffet set	144	788	All
11	Wahrahaw	Almirah & Buffet set	86	497	All
12	Ur ur	Almirah & Buffet set	114	801	All
13	Wahumlawbah	Almirah & Buffet set	101	521	All
14	Laitmawpen	Almirah & Buffet set	62	349	All
15	Lawshlem	Almirah & Buffet set	50	307	All
16	Kyndonglaitmawbah	Almirah & Buffet set	54	295	All
17	Phaniewlah Neng	Almirah & Buffet set	78	605	All
18	Phaniewlah Rum	Almirah & Buffet set	111	638	All
19	Umkaber	Almirah & Buffet set	85	474	All
20	Nongthymmai Rum	Almirah & Buffet set	53	300	All
21	Lyngdoh Phanblang	Almirah & Buffet set	115	600	All
22	Perkseh	Almirah & Buffet set	86	466	All
23	Laitsohphlang	Almirah & Buffet set	36	209	All
24	Umsawmat	Almirah & Buffet set	130	815	All
25	Laitmawhing	Almirah & Buffet set	67	366	All
26	Thainthynroh	Almirah & Buffet set	228	1310	All
27	Nongthymmai Neng	Almirah & Buffet set	104	563	All
28	Mawponghong	Almirah & Buffet set	106	672	All
29	Nonglwai	Almirah & Buffet set	193	1133	All
30	Laitsohum	Almirah & Buffet set	52	247	All
31	Kukon	Almirah & Buffet set	22	114	All
32	Mawlum Tyrsad	Almirah & Buffet set	104	590	All
33	Kyrphei	Almirah & Buffet set	178	854	All
34	Umlangmar M	Almirah & Buffet set	88	417	All

35	Mawspong	Almirah & Buffet set	28	156	All
36	Nongmadan	Almirah & Buffet set	137	724	All
37	Pamsanngut	Almirah & Buffet set	55	321	All
38	Mawsawrit	Almirah & Buffet set	69	339	All
39	Nongwah	Almirah & Buffet set	144	810	All
40	Remdong	Almirah & Buffet set	34	191	All
41	Tyrsad umkseh	Almirah & Buffet set	232	1120	All
42	Mawliehpoh	Almirah & Buffet set	71	345	All
43	Mawrohroh	Almirah & Buffet set	71	371	All
44	Umlangmar(N)	Almirah & Buffet set	34	190	All
45	Lawkhla Mawlong	Almirah & Buffet set	46	295	All
46	Lawkhla	Almirah & Buffet set	79	387	All
47	Laitniangtlong	Almirah & Buffet set	52	304	All
48	Wahrisain	Almirah & Buffet set	30	176	All
49	Mawsadang	Almirah & Buffet set	129	749	All
50	Niamsang	Almirah & Buffet set	44	328	All
51	Pyndenumbri	Almirah & Buffet set	40	203	All
52	Mawbeh	Almirah & Buffet set	140	802	All
53	Laitsohma	Almirah & Buffet set	33	204	All
54	Steplakrai	Almirah & Buffet set	42	227	All
55	Mawkalang	Almirah & Buffet set	21	116	All
56	Wahstew	Almirah & Buffet set	53	269	All
57	Laitthemlangsah	Almirah & Buffet set	21	108	All
58	Laitumiong	Almirah & Buffet set	15	83	All
59	Synrangsohnoh	Almirah & Buffet set	38	179	All
60	Jathang	Almirah & Buffet set	51	226	All
61	Mawstep	Almirah & Buffet set	53	302	All
62	Rngidiengsai	Almirah & Buffet set	16	87	All
63	Pyrda	Almirah & Buffet set	58	366	All
64	Dympep	Almirah & Buffet set	75	392	All
65	Laitsohpliah	Almirah & Buffet set	88	349	All
66	Umdiengpoh	Almirah & Buffet set	78	398	All
67	Mawkma	Almirah & Buffet set	269	1367	All
68	Laitlyndop	Almirah & Buffet set	136	663	All
69	Lad-Mawphlang	Almirah & Buffet set	110	538	All
70	Mawmihthied	Almirah & Buffet set	143	628	All
71	Mawbri	Almirah & Buffet set	24	153	All
72	Sohrarim	Almirah & Buffet set	142	610	All
73	Lumkyntung	Almirah & Buffet set	69	293	All
74	Umtyngngar	Almirah & Buffet set	69	396	All
75	Shankhla	Almirah & Buffet set	21	108	All
76	Lyngkienshieh	Almirah & Buffet set	62	263	All
77	Kynton Syrwa	Almirah & Buffet set	57	287	All

78	Mynsain	Almirah & Buffet set	80	370	All
79	Nongthymmai Pdeng	Almirah & Buffet set	21	90	All
80	Lummawkong	Almirah & Buffet set	77	404	All
81	Kyrdemkhla	Almirah & Buffet set	104	471	All
82	Diengkynthong	Almirah & Buffet set	94	433	All
83	Mawjrong	Almirah & Buffet set	136	630	All
84	Mawmyrsiang	Almirah & Buffet set	129	629	All
85	Tiewlieh	Almirah & Buffet set	133	704	All
86	Laitkynsew	Almirah & Buffet set	202	1013	All
			7762	**41034**	**7762**

Table 2: 2023 Small Livelihood Grants

Programme	INR	USD
Livestock	148,000.00	1,850.00
Micro Enterprise	149,500.00	1,868.75
Revolving Fund	413,700.00	5,171.25
Shade Net	27,783.00	347.29
Temperate Fruit	58,130.00	726.63
Mushroom Cultivation	35,430.00	442.88
Polyhouse	515,840.00	6,448.00
Vermicompost	412,050.00	5,150.63
Fish Distribution	14,000.00	175.00
Food Processing	37,556.00	469.45
Herbal Healer Grant	12,600.00	157.50
Total	**1,824,589.00**	**22,807.36**

Table 3: Structure of Community Benefits

Community Benefits		
Conservation & Reforestation		LPG Distribution
		Plantation
		Training
		Silviculture
		Site selection
		Capacity building
PES	Socio-economic Enhancement	Vermi-composting
		Temperate fruit trees
		Shade nets
		Livestock
		Mushroom cultivation
		SHGs/Farmers Clubs

		Income Generating Activities
		Training
		LWC
		Community Development Funds
		Special Village Grants
		Rain harvesting
		Solar streetlights
	Assist Communities with Restoration	Fireline
		Tree adoption programme
		Community Facilitators
		Youth Volunteers
		Training
		Forest Conservation Extension Programme
	Improve Environmental Services	Eco-tourism Grants
		Advocacy and networking
		Biodiversity documentation

Annex 2: Conservation monitoring results

The biodiversity survey provides a record of sightings of flora and fauna in the Project area. The survey is kept by the Community Facilitators (CFs) to the best of their capability through the inputs of the Youth Volunteers and resident villagers. All sightings are documented with photos and GPS coordinates.

This year, through convergence with the Meghalaya Department of Wildlife, the Project added camera traps to get a better sense of which fauna are present without disturbing their habitats. Four camera traps were purchased by the Project and nine were provided by the Wildlife Department. Each camera trap remains in place for approximately one month before the data is collected and it is moved to another location. The Project gathered camera trap data from 13 locations in 2023.

Sightings by Community	Village	Action Taken
Moon shine owl	Pamsanngut	Rehabilitated
Turtle	Mawsadang	Rehabilitated
Stalk	Nongwah	Wildlife Dept. contacted, but animal died before treatment
Stalk	Nongwah	Wildlife Dept. contacted, but animal died before treatment
Stalk	Nongwah	Wildlife Dept. contacted, but animal died before treatment
Night Heron	Kyrphei	Wildlife Dept. rehabilitated
Leopard cat	Remdong	Wildlife Dept. contacted, but animal died before treatment
Leopard cat	Remdong	Wildlife Dept. contacted, but animal died before treatment
Grey Headed Lapwing	Nongmadan	Wildlife Dept. rehabilitated
Sightings by Camera Trap		**Number of Sightings**
Civet cat		2
Monkey		3
Bird		11
Yellow-throated marten		4
Ferret Badger		1
Wolf		3
Porcupine		1
Leopard cat		2

Annex 3: REDD+ and ANR carbon monitoring results for issuance request

Tables 1 and 2 show the carbon stock in the open and dense REDD+ forest inventory plots that are monitored annually. The 2023 sample includes 51 randomly selected open forest plots and 61 dense forest plots. Tables 3 and 4 show the average growth in the randomly selected ANR plots.

Table 1: REDD+ Open Forest plot carbon stock for 2018-2023 in tC per hectare

Plot No.	2018 Open (tC/ha)	2019 Open (tC/ha)	2020 Open (tC/ha)	2021 Open (tC/ha)	2022 Open (tC/ha)	2023 Open (tC/ha)
1	10.431	11.082	14.675	15.184	-	
2						ANR
3	10.376	10.811	11.792		-	
4						ANR
5	51.528	52.937	55.434	64.639	48.886	59.834
6	58.284	60.640	63.844	69.406	61.517	68.047
7	50.376	51.470	53.659	54.161	55.401	65.342
8	41.056	41.630	42.699	43.576	67.925	65.627
9	57.157	58.538	60.427	62.039	66.797	70.671
10	12.256	12.380	13.009	13.316	13.749	15.892
11	57.625	58.400	61.445	66.477	66.625	68.720
12	46.443	47.536	49.244	50.132	78.087	-
13	60.522	61.356	62.180		-	
14						ANR
15	52.907	54.669	59.321	62.714	62.474	64.573
16	50.806	51.683	51.187	54.775	-	
17	42.298	43.363	44.400		-	
18	11.067	11.946	13.494		-	
19	45.693	46.640	49.229	50.496	53.916	56.214
20	56.120	57.240	57.296	58.162	58.846	60.533
21	54.080	54.961	57.316	59.522	62.426	64.983
22	6.328	6.697	6.824	7.816	8.752	10.110
23	49.801	50.933	52.545	54.968	61.119	65.470
24	39.901	40.852	43.310	46.559	54.446	59.162
25	14.190	15.392	17.218		22.369	25.471
26	7.080	7.117	7.506	8.934	9.974	12.375
27					-	
28						ANR
29	44.095	45.209	47.676	48.964	43.684	45.646
30	2.697	2.818	3.126		-	
31	11.409	11.761	12.755		-	
32	4.930	5.208	5.903		-	
33	9.402	9.799	10.606		-	

34	13.262	13.790	15.316			-
35	12.045	12.513	17.372	21.521	22.043	24.388
36	39.674	40.733	50.405	55.954	55.787	62.987
37	28.555	29.915	42.439	46.206	47.811	50.682
38	61.114	61.772	65.298	67.131	67.513	63.552
39	5.146	5.416	7.062	6.658	7.891	10.719
40						ANR
41	9.798	10.380	10.862			-
42				54.336	54.336	-
43				4.271	3.786	4.110
44				28.479	28.919	30.848
45				4.340	5.448	7.044
46				40.112	41.676	45.043
47				57.803	59.800	56.329
48				7.455	9.597	11.689
49				19.083	19.238	21.227
50				51.003	48.253	52.780
51				12.328	12.901	14.435
52				46.066	32.443	37.781
53				14.656	25.812	30.062
54				30.659	29.699	30.710
55				57.250	58.791	55.317
56				82.718	85.869	88.355
57				74.811	83.016	82.464
58				39.027	37.150	39.984
59				105.839	107.062	109.113
60				36.056	35.458	38.465
61				26.392	27.746	28.352
62				115.137	109.040	111.135
63				27.248	27.844	21.986
64				17.611	19.409	22.328
65				15.835	15.543	18.462
66					85.848	88.973
67					32.599	35.728
68					10.698	11.946
69					13.878	15.755
70					11.440	12.818
71					24.971	27.471
Mean (tC/ha)	32.242	33.070	35.339	42.871	42.835	43.955
Std Dev	21.18	21.52	22.10	25.851	26.746	26.644

Table 2: REDD+ Dense Forest plot carbon stock for 2018-2023 in tC per hectare

Plot No.	2018 Dense tC/ha	2019 Dense tC/ha	2020 Dense tC/ha	2021 Dense tC/ha	2022 Dense tC/ha	2023 Dense tC/ha
101	80.325	80.985	83.182		93.034	95.955
102	31.213	31.459	32.681		-	
103	76.865	77.484	80.270	84.752	87.600	90.270
104	124.088	125.809	127.939		-	
105	126.880	127.612	134.450		-	
106	107.716	108.900	116.454	118.657	115.926	116.568
107	-	-	-	-	-	
108	59.287	60.275	64.065		-	
109	64.394	65.880	68.613	69.787	74.225	78.155
110	69.885	70.559	72.530		-	
111	134.670	135.783	136.040	140.674	139.048	150.315
112	66.460	67.997	70.189	73.113	64.121	70.261
113	69.431	71.135	74.565	73.853	79.494	90.200
114	108.484	109.505	109.794		-	
115	126.821	128.046	125.905	149.640	149.084	142.662
116	24.291	25.536	27.949		-	
117	65.045	66.852	70.752	71.426	69.753	77.758
118	31.032	31.891	38.161	38.801	46.005	47.204
119	46.033	46.888	49.071		-	
120	15.000	15.948	23.819	19.845	35.921	42.655
121	21.905	22.490	26.971	27.873	33.410	33.904
122	112.210	113.317	120.472	126.460	116.606	120.046
123	154.102	154.570	157.695	151.452	-	
124	34.115	34.730	50.545		-	
125	102.083	103.825	109.872	116.311	108.673	113.285
126	172.541	173.502	179.370	175.197	168.932	171.718
127						ANR
128	92.193	93.786	94.979	97.589	91.499	100.982
129	148.434	150.010	153.051	158.217	145.875	147.668
130	91.101	93.090	102.234	105.235	106.255	109.236
131	88.367	91.141	95.420	99.271	96.955	100.648
132	121.011	123.165	127.935	131.288	136.632	132.326
133	117.292	119.090	123.191	123.597	124.434	124.835
134						ANR
135	170.654	172.473	176.031	188.412	195.793	194.904
136						ANR
137	145.216	146.128	150.960	156.040	150.085	151.937
138	124.594	125.461	137.148	133.250	134.961	139.679
139	156.411	157.098	166.716	173.031	158.987	158.987
140	103.224	104.827	108.055		-	
141	135.743	138.119	143.498	144.879	149.056	149.114

142	109.681	111.129	114.709	116.883	111.990	131.485
143	54.220	56.521				-
144	56.369	57.846	67.427	69.500	71.519	-
145	93.365	94.583	97.214	101.978	98.885	106.152
146	65.209	66.850	70.546	71.907	-	
147	23.793	24.510	26.871	28.090	28.780	30.910
148	79.937	81.157	86.251	87.735	89.568	89.932
149	72.047	72.944	67.464	68.532	-	
150	31.002	32.266			-	
151						ANR
152						ANR
153						ANR
154	49.982	51.915	56.161	56.769	54.824	57.137
155						ANR
156	83.728	84.970	92.687	94.670	88.529	96.117
157	79.755	80.668	81.962	87.266	85.650	89.370
158	16.108	16.443	17.636		-	
159						ANR
160	29.877	30.824	40.263	42.922	45.884	52.046
161	15.228	15.407	17.884	19.512	19.765	19.034
162	75.201	76.691	76.893	79.963	81.086	79.113
163	95.980	98.265	101.835		-	
164	84.412	86.612	90.981	89.470	84.567	85.960
165	132.488	134.253	137.800	145.306	138.613	113.048
166				36.555	37.414	40.372
167				105.999	102.864	108.789
168				63.516	62.540	75.007
169				20.963	-	
170				114.042	119.362	122.932
171				16.46	20.410	22.789
172				23.924	26.209	29.013
173				139.490	140.707	144.445
174				117.508	116.021	121.406
175				115.400	115.916	107.282
176				103.994	103.424	104.515
177				123.609	123.104	125.691
178				107.059	112.753	112.054
179				114.525	113.957	117.545
180				24.427	23.191	26.118
181				120.227	122.797	127.682
182				56.450	52.164	52.291
183				144.502	145.684	149.824
184				112.881	115.526	120.590
185				72.505	73.962	76.280

	186				49.549	47.884	46.227
187				140.529	152.574	154.871
188					25.802	28.124
189					49.385	53.877
Mean (tC/ha)	**85.134**	**86.415**	**92.133**	**95.7666**	**94.769**	**97.857**
Std Dev.	**42.63**	**42.80**	**42.88**	**44.185**	**42.711**	**42.051**

Table 3: ANR open forest plot carbon stock for 2016-2023 in tC per hectare

Plot No.	ANR Site	Biomass (tc/ha)								
		2016	2017	2018	2019	2020	2021	2022	2023	Beta
4	Law Shlem	0.0	0.0	13.9	14.4	17.9	21.3	16.6	19.4	3.1
28	Phodumdewsaw, Hima Pamsanngut	0.0	0.0	5.5	6.0	8.4	10.2	10.1	12.2	2.2
27	Lawsubah, Pamsanngut	0.0	0.0	61.9	63.1	69.5	0.0	0.0	0.0	4.4
2	Lum U Mong, Laitkroh	0.0	0.0	2.0	2.2	2.6	3.8	4.1	6.4	1.9
14	Sohrarim, Lumnonglum	0.0	0.0	55.4	56.2	58.4	56.7	58.9	61.3	2.5
S	Lawsubah	0.0	18.9	0.0	20.6	0.0	22.8	0.0	0.0	1.0
S	Kyiem	0.0	11.4	0.0	13.7	0.0	15.6	0.0	0.0	1.1
S	Lummawtong	0.0	37.8	0.0	43.3	0.0	48.5	0.0	0.0	2.7
S	Lumphari	0.0	16.0	0.0	20.6	0.0	35.3	0.0	0.0	5.3
S	Lumpomlum	0.0	1.8	0.0	2.0	0.0	2.2	0.0	0.0	0.1
O_ANR	Jathang Lum Riatsawlia = Law Khliehriat Sawlia, Community Forest, Sohra Syiemship	20.6	0.0	0.0	0.0	0.0	48.8	50.4	0.0	5.2
O_ANR	Phudlawkhla	2.0	0.0	0.0	0.0	0.0	17.2	19.6	0.0	3.0
40	Lumdiengsai, Laitkroh	3.4	0.0	7.4	7.7	9.1	10.1	10.0	0.0	1.2
O_ANR	Laitmawhing	16.2	0.0	0.0	0.0	0.0	69.8	66.2	0.0	9.5
O_ANR	Lummawmarok	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
0	Themlumkhwai Laitsohpliah,Sohra Syiemship	0.0	0.0	0.0	0.0	0.0	71.8	70.2	0.0	-1.6
0	Lum Pyllun community Forest, Jathang, Sohra Syiemship	0.0	0.0	0.0	0.0	0.0	38.1	35.9	0.0	-2.2

0	Law Phudumblang Kyrphei, Mylliem Syiemship	0.0	0.0	0.0	0.0	0.0	37.0	37.4	0.0	0.4
0	Lumhati, Mawkalang, Mawbeh Sirdarship	0.0	0.0	0.0	0.0	0.0	5.1	7.7	0.0	2.6
								AVERAGE GROWTH		2.4
								LOWER 90% CI		1.3

Table 4: ANR Dense Forest plot carbon stock for 2016-2023 in tC per hectare

Plot No.	ANR Site	Biomass (tc/ha)								
		2016	2017	2018	2019	2020	2021	2022	2023	Beta
151	Kseh Mylliem, Nonglwai	0.0	0.0	90.9	92.3	97.4	100.1	102.2	95.6	3.2
134	Lumphudumsim, Nonglwai	0.0	0.0	101.1	103.0	112.4	110.5	113.9	110.6	4.2
155	Lumwaharkum, Hima Nonglwai	0.0	0.0	27.3	28.2	27.2	29.9	38.3	37.5	5.9
159	Wah Mawlong, Laitumiong, Mawbeh	0.0	0.0	67.1	68.3	71.8	79.1	120.8	127.1	0.0
127	Khlaw Rani, Pamsanngut	0.0	0.0	136.5	137.8	143.4	149.5	141.9	149.4	7.3
S	Mawlangrain	0.0	56.1	0.0	58.6	0.0	62.6	0.0	0.0	1.6
S	Umkaber	0.0	53.9	0.0	55.3	0.0	57.2	0.0	0.0	0.8
S	Lumlaitlynding	0.0	94.8	0.0	98.0	0.0	101.7	0.0	0.0	1.7
S	Laitthemlangsah	0.0	109.2	0.0	118.1	0.0	123.6	0.0	0.0	3.7
O_ANR	Phanniewlahneng = Umlangnei, Lyngiong	89.3	0.0	0.0	0.0	0.0	93.7	94.8	0.0	0.9
152	Lumkyndong Kmie Brial, Mawphlang	0.0	0.0	31.9	33.4	36.3	39.9	42.7	46.5	6.2
136	Wahthymmei Esdiwot, Nongspung	0.0	0.0	121.3	123.4	126.8	132.6	132.9	138.2	7.0
153	Imsotti, Nongspung	0.0	0.0	124.1	125.5	128.0	140.8	140.8	144.8	9.1
							AVERAGE GROWTH			4.3
							LOWER 90% CI			2.3

Annex 4: Fuelwood surveys

In 2023, fuel usage surveys were conducted with 172 families in the Project where fuelwood was the only fuel source. This was done in order to create reference data for LPG and rice cooker use. From this survey it was found that in a household with an average of 4.6 members, 5.7 kg of fuelwood was consumed daily. The contribution of LPG cookstoves and rice cookers has made a marked difference from the baseline usage of 8.7 kg of fuelwood per day. The target for 2026 is to reduce the baseline by 50% and the project is on its way toward achieving those goals.

From the data of LPG usage surveys, we find that about 10% of the households receiving LPG have completely stopped using fuelwood for cooking purposes.

However, more information is needed to provide conclusive evidence for the amount fuelwood reduction based on LPG distribution and the Project team will be working on this over the next few years as fuelwood consumption is a five-year impact indicator.

Annex 5: Historic sales data

Vintage	Sale Date (M/D/Y)	Buyer	No of PVCs	PRICE DATA REDACTED FROM PUBLIC REPORT	% sale received by participants
2012	06/15/2013	Zeromission	2,463		70
2012	07/31/2013	C-Level	200		60
2012	08/09/2013	Bioclimate	1,306		60
2012	09/02/2013	CeramicaSantogost	1,225		60
2012	09/25/2013	Zeromission	501		60
2012	04/30/2014	Zeromission	4,474		70
2012	06/10/2014	COTAP	283		60
2012	07/15/2014	CeramicaSantogost	360		60
2012	05/15/2014	C-Level	200		60
2012	03/16/2015	COTAP	674		60
2012	06/12/2015	CeramicaSantogost	340		60
2012	06/15/2015	C-Level	500		60
2012	07/03/2015	Zeromission	251		60
2012	07/11/2016	ShaikaRakshi	1		(this was a test)
2014	11/04/2015	COTAP	269		60
2014	10/15/2015	Zeromission	15,000		70
2014	12/10/2015	WeForest	2,132		70
2014	03/02/2016	Zeromission	6,500		70
2014	06/09/2016	CeramicaSantogost	350		60
2014	09/14/2016	COTAP	660		60
2015	07/08/2016	WeForest	2,102		70

2015	11/24/2016	WeForest	2,075		70
2015	11/10/2016	Anima Impreza	20		60
2015	12/06/2016	Zeromission	8,099		70
2015	05/05/2017	Zeromission	9,727		70
2015	06/02/2017	C-Level	850		60
2016	09/13/2017	COTAP	1,467		70
2016	10/25/2017	Zeromission	250		60
2016	12/27/2017	Zeromission	9,718		70
2016	03/09/2018	WeForest	1,876		70
2016	05/14/2018	Zero Mission	300		60
2016	07/21/2018	Zero mission	10,530		70
2016	09/01/2018	COTAP	1,912		70
2016	11/28/2018	Zero Mission	5,700		70
2016	12/31/2018	Zero Mission	403		60
2016	03/31/2019	Zero Mission	600		60
2016	04/30/2019	Zero Mission	1,500		60
2012	05/13/2019	COTAP	1,644		70
2014	05/12/2019	COTAP	573		60
2016	06/14/2019	Weforest	2,565		70
2016	08/16/2019	Zero Mission	5,500		70
2016	09/03/2019	Zero Mission	5,146		70
2016	09/30/2019	Zero Mission	530		60
2018	10/31/2019	Zero Mission	10,000		70
2016	01/13/2020	COTAP	5,299		70
2016	03/31/2020	Zero Mission	5,000		70
2016	05/26/2020	Climate Seed	1,000		60
2019	07/02/2020	Zero Mission	7,001		70
2012-	06/02/2020	Lund Fund	24,000		70
2012-	06/02/2020	Lund Fund	22,000		30**
2012-	06/02/2020	Lund Fund	22,000		70
2017	06/18/2020	C-Level	2,000		70
2019	06/18/2020	C-Level	***1,000		60
2017	07/08/2020	We Forest	2,475		70
2018	07/30/2020	Zero Mission	5,313		70
2017	08/28/2020	Zero Mission	5,738		70
2018	09/22/2020	Zero Mission	2,565		70
2019	12/08/2020	Zero Mission	20,000		70
2017	01/06/2021	Climate Seed	537		60
2019	03/24/2021	Climate Seed	1,000		60
2017	04/29/2021	Climate Seed	318		60
2020	07/14/2021	Climate Seed	8,000		70
2020	08/26/2021	Zero Mission	20,000		70
2019	08/27/2021	COTAP	30		60
2017	08/27/2021	COTAP	2,699		70
2019	08/27/2021	COTAP	1,000		70
2020	10/10/2021	Carbon Partnership	3,000		70
2017	11/01/2021	Zero Mission	20,282		80
2018	11/01/2021	Zero Mission	19,718		60
2020	11/19/2021	C-Level	2,000		0****
2021	04/25/2022	Zero Mission	25,000		80*****
2022	12/04/2023	Zero Mission AB –	40,000		80

2022	12/20/2023	COTAP	2,964		80
2021	12/18/2023	COTAP	1		100
2019	12/18/2023	COTAP	638		100
2021	12/18/2023	COTAP	288		100
2020	12/18/2023	COTAP	888		100
Total Sales 2012-2023			**394,530**		

**70% of this sale was used for Issuance, Verification, and to pay for technical consultation at TLLG

***This amount was corrected from previous annual reports from 2,000 to 1,000

****100% of this sale was used for technical consultation at TLLG

***** The funds were received for this sale in 2023.