



**2013 Plan Vivo Annual Report
KHASHI HILLS REDD+ PROJECT**

**Submitted by
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PROJECT SUMMARY

Reporting period	January-December 2013	
Technical specifications in use	REDD+ (Dense Forests)	ANR (Open Forests)
Area under management (ha) Vintage 2012	9,270 ha. REDD	5,947 ha. ANR
New areas put under management (ha) Vintage 2013	No increase	No increase
Community groups with Plan Vivos Vintage 2012	62	
New community groups with Plan Vivos Vintage 2013	No increase	
Vintage 2012 Plan Vivo Certificates issued to date	21,805	
Vintage 2012 Plan Vivo Certificates sold to date	5,695	
Vintage 2012 Plan Vivo Certificates unsold to date	16,110	
REDD sales for administration to date (\$)	\$23,269.15	
REDD sales for project implementation to date (\$)	\$2,680.32	
REDD sales total to community (\$)	\$25,949.47	
Vintage 2013 Request for Plan Vivo certificates to be issued	0 tCO ₂ .	

1. KEY EVENTS, DEVELOPMENTS AND CHALLENGES

1.1 Key Events

- 1.1.1** The RTSU office was moved to Mawphlang on 21st January, 2013. The new office is called “Khasi Hills REDD+ Project Office” and will be operating from the Synjuk’s office. The building allocated for the office will be also a multi-functional training centre. After this, the task of locating and finding a permanent plot of land for the Khasi Hills REDD+ Project has been initiated. Once the plot is finalized, the Synjuk will also seek funds from North-East Council (NEC) and other government departments for supporting the project.
- 1.1.2** The Synjuk received its first payment for REDD carbon sales and a special fund account was created in addition to the Synjuk operational account at the State Bank of India, Mawngap Branch.
- 1.1.3** The training and monitoring of micro-enterprise development for SHGs, Farmers’ Clubs (FCs), Local Working Committees (LWCs), youth volunteers, and forest dependent people was carried out January 4-5 and 24-25 as well as February 24-25th.

- 1.1.4** Signing of MoU with Plan Vivo, UK for carbon certification completed and registration to environment market was done in the first quarter 2013.
- 1.1.5** Calculation on the growth and increase in biomass from the 40 permanent plots was done in the first quarter of the year by the forestry technical consultant, Ms. Th. Sanggai Leima with the support of the Chief Community Facilitator (CF), Community Facilitators (CFs), and youth volunteers. Twenty new plots were identified and the trees tagged for inclusion in the ANR area.
- 1.1.6** Detailed land use/land cover maps of 62 villages were redrawn and completed by Ms.Th.Sanggai Leima, with field inputs from the CFs.
- 1.1.7** The compilation, drafting, and submission of the concept notes for convergence was completed and submitted to different departments such as Indian Council for Agricultural Research (ICAR), Integrated Basin Development and Livelihoods Programme (IBDLP), the Soil and Water Conservation Department, the Ministry of Forest and Environment, Government of India (GOI), etc. This task was accomplished under the leadership of the CCF with the support of Sanggai Leima and supplemented with the suggestions of CFI.
- 1.1.8** In the third quarter, efforts were made to seek assistance from GOI line departments to support the Synjuk in its programmes especially in promoting the new home-based tree nursery project implemented by the women-run Self-help Groups (SHGs). The Synjuk approached the CCF State Forestry as well as the Range Forest Officer (RFO) of Myllem Range and meetings were held with each of them to discuss the possibility of providing poly sheets, seedlings, and training to the CFs, SHGs and interested individuals.
- 1.1.9** A volunteer from the UK, Philip Randall assisted the Synjuk in the implementation of the project. In his visit, he inspected the project area and also gave training on home based nursery and the need and importance of traditional home based nursery in conservation environment. In line with purpose and intent of his visit he met the officer in charge of Entrepreneur Facilitation Centre (EFC) to discuss the possibility of providing assistance at least technically for popularising home based nursery which is currently decided to be carried out on a trial basis for 20 units by selected SHGs and interested individuals.
- 1.1.10** Mark Poffenberger, Executive Director of CFI, made a field visit to Mawphlang that initiated several important meetings held with various dignitaries or officers in charge of various line departments.
- On 13th September, 2013, meetings were held at the Pinewood Hotel, Shillong with John F. Kharshiing and Prof. B.K. Tiwari to find ways of involving various stakeholders for the successful implementation and development of the project.

- On 14th September, 2013, the general meeting of the Synjuk was held in the presence of Dr. Poffenberger so that all matters pertaining to the project could be discussed and resolved appropriately. In the meeting Dr. Poffenberger also informed that CFI is making its best effort in negotiating with various firms in Europe for the sales of carbon at the rate of USD\$ 4-6 per ton. In the end, he suggested that the Synjuk should involve more women through SHGs in working side by side with the community. The meeting ended with a trek from Mawphlang to Laitlyndop via Lad Mawphlang via the historic David Scott trail which is located at the heart of the project area.
- Dr. Poffenberger met with the director of ICAR to discuss water harvesting, agriculture, horticulture, and several other schemes of ICAR that could be integrated into the project. While in a meeting with Mr. Barkos Warjri, the Additional Chief Secretary, the PCCF and the CCF of Forest Department discussion was tabled for mutual cooperation between the Khasi Hills REDD Project which is implemented by the Synjuk and the State Forest Department. In addition to this Dr. Poffenberger made a presentation to the officials of IBDLP in the presence of the UN delegation for the purpose of acquiring its support in the project.

1.1.11 The vacant post of Project Manager was filled on the October 24, 2013 when an interview was held for the post at the Synjuk's office, thirteen candidates turned up for the interview and Mr. Raymond R. Lyngdoh was selected for the post.

1.1.12 Meetings were held to negotiate curtailing the stone quarrying and hill sand mining within the project area. Two CFs were given the assignment of initiating a dialogue with the stone quarry and hill sand mining owners as well as with their labourers in collaboration with the Sirdar (the village headman) and Myntri (the village council of the Hima (the indigenous government representing the member villages) to put an end to the issue that has greatly affected the rivers and tributaries that flows to the Wah Uiam watershed. One suggestion was for the Synjuk to provide training for alternative employment so that the labourers can find alternative work. The process is now progressing and hopefully this sensitive issue will be resolved. Furthering the cause, meetings were held with the official of IBDLP to discuss three important issues namely;

1. Establishing a community watershed training and research centre at Mawphlang
2. Negotiation for closure of stone quarries and hill sand mining
3. Restoration of the Uiam Watershed

1.2 Key Developments

1.2.1 Social and Economic Development

- Participatory Rural Appraisal (PRA) was completed in Laitmawpen village to further develop village management plans.
- A Mumbai-based organization, Caring for Friends, contacted the Synjuk out of interest in the Khasi Hills Community REDD project. Caring for Friends has agreed to donate a sum of Rs. 300,000 (USD\$4,800) to support the community facilitator and LWCs.
- An internal assessment of eight Self-Help Groups (SHGs) was completed out of which 7 are newly formed and 1 is an “adopted” SHG. Eight SHGs were graded and out of 8 only 2 SHGs have not started internal loaning among members. All the groups are democratically managed and are taking up income-generating activities such as tailoring, horticulture, agriculture, livestock rearing etc. It was determined that SHGs need more training in accounting and record maintenance, to enable them to receive grants and low-interest loans from the GOI., and micro-enterprise training for starting up new activities. The 2 SHGs that have not opened their bank account have been instructed to do soon.

- A new SGH at Laitsohpliah village was formed and named as Nalarympei SHG. It is comprised of 6 females members: the President is Mrs. Ribhalin Marwein and the Secretary is Miss. Binasi Mary Swer. The members formed are of the same



- economic background. On the formation day, the facilitator explained to them about the concept as well as the rules and regulations of SHGs. With regards to account maintenance, one of the SHG members of Baniaineh SHG, Laitsohpliah village is being instructed to assist the new SHG in record maintenance and book keeping.
- The awareness programme on the formation of Federation and Village Cooperative Societies was completed for all clusters in all Himas. The participants who attended the programme were mostly members of Women SHGs, FCs and members of LWC. During the programme, they were made aware of the necessity and benefit of

forming cluster federation and village cooperative society. The resource person, an expert in the formation of federation and societies gave a detailed explanation on the need of forming cluster federation, its membership, roles and responsibilities and training for Federation members.



1.2.2 Sustainable Agriculture:

- Keeping in mind the need for sustainable development of the farmers in agriculture, a concept note was prepared and submitted to various GOI line departments including ICAR, IBDLP, Soil and Water Conservation Department, Ministry of Forest and Environment, etc. ICAR proposed that the Synjuk present the list of farmers who wished to take up enterprising activities in agriculture. On their part, they offered to train and monitor the farmers in maize cultivation, backyard poultry, pig farming, dairy farming, briquette production (5 units), and fish hatcheries. In the course of time, the Synjuk has been facilitating the farmers and unemployed youth in collaboration with ICAR to build their capacity with scientific methods and technology in increasing sustainable agriculture in the project area of the Synjuk.

In the initial stage 49 youth were trained in learning the business of pig farming, supported by ICAR with 50% expenditure needed for implementing the activity. Another 531 farmers were also enrolled and trained in different types of agricultural activities. ICAR is very focused on ensuring food security and thus their goal and initiative met with that of the Synjuk in promoting sustainable agriculture.

- The Synjuk has been collaborating with NABARD the premier bank for agriculture and development in getting support as well as various schemes for the farmers. All the FCs registered with NABARD conducted Baseline Orientation and Training Programme (BLOTTC) and met with experts from the programme on a regular basis to enhance their farming skills.

- The SHGs, FCs, and other interested individuals were linked with the Entrepreneur Facilitating Centre (EFC) at the block level to provide training on self-employment through agricultural activities, livestock, etc. These groups were also linked with banking institutions and various training institutions. The convergence with various GOI line departments provide insight and encouragement through knowledge management, natural resources management, entrepreneurship promotion, good governance etc.
- The Synjuk reviewed the current status of SHGs and FCs as of December 2013:
 - a) SHGs: 60
 - b) FCs: 11

1.2.3 Technical Training Sessions

- Training sessions on accounting and cash book entry was given to the staff by the senior accountant Mr. Lamphar Majaw.
- Training sessions for SHGs & FCs, CFs, LWCs & youth volunteers were held throughout the year. (See Appendix 5 for details on monitoring in the socio-economic report).
- It was determined that a home-based tree nursery would be established using seeds collected in the local area. The Socio-economic Specialist attended the training conducted for all the staff at Laitlyndop village by Mr. Welcome Synrem. Additional training sessions were conducted for members of SHGs who will establish home-based nurseries in many of the villages. (See Appendix 6 for more details.)

1.2.4 Forest Restoration Planning

- In January 2013, a Durbar (village decision-making assembly of all household heads) was held in all member villages to vote on a resolution for the protection of ANR. It was unanimously resolved by each village to protect the ANR area for 10+10+10 years through social fencing and other funds that will be provided by the Synjuk. The area has been demarcated with natural and political boundaries. During the year, a potential area of approximately 500 ha. was selected by the villages under the project. In addition, all of the demarcated area has been mapped using GPS.

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- Initiative has been taken to encourage greater community participation for the smooth progress of the project and to revive the traditional way of preserving forest among the indigenous people of Khasi Hills.

1.3 Key Challenges

- Decrease the demand for charcoal as currently 90% of residents in nearby Shillong depend on charcoal for cooking and heating during the winter by increasing the use of fuel-efficient stoves and use of natural gas.
- Relocate stone and sand quarries to less critical and erosion-prone sites outside the project area. .
- Limit the number of coal mines in the project area by meeting a series of stakeholder dialogues with the state government to negotiate compensation for closing the mines and alternative livelihood opportunities for the miners.

1.4 Plans for Future Development

- Extending the REDD+ Project to the whole of Khasi Hills starting from Hima Myllem Syiemship, Laitlyngkot Sirdarship and Khyrim Syiemship.

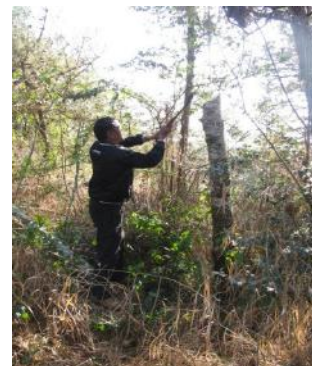
1.5 New Partnerships

- On 5th December, 2013 IBDLP declared the Synjuk as a partner in curtailing charcoal making as well as hill sand mining and stone quarrying in the project area in particular and in Khasi Hills District in general.

1.6 Additional New Activities

- **Training in Sustainable Alder Wood Lot Management for Firewood**

The demonstration on pollarding of existing *Alnus Nepalensis* (Alder) provided by people of Khonoma proved to be very effective and it can be replicated in the project area. This practice of the Angami tribe of Khonoma village in Nagaland has captured the attention of the Synjuk members and this process has been absorbed by them and the process of implementing the practices is in full progress.



- **Baseline survey and inspection of stone quarry and hill sand mining**

After the meeting with IBDLP, the Special Task CFs along with the Project Director/CCF started the process of further dialogue with the village elders, leaders of the Hima and the owners of stone and sand quarrying, along with their labourers to discuss the various viable options to curtail quarry work and hill sand mining that has destroyed the environment. Inspection of the quarry sites to analyse the issues and the impact that these have made on the environment has also been done. The Special Task CFs and the CCF had also taken photographs for documentation to strengthen and highlight the seriousness of the issue.



- The Synjuk undertook a review of its SHGs and completed two case studies In December 2013. The data collected and the case studies are in Appendix 7.

1.7 Additional Project Changes

1.7.1 Project Design Document (PDD)

In the PDD approved by Plan Vivo there was a change made to the project organizational structure (D1):

CFI will be assisted by the Bethany Society, which will provide support for technical capacity building and third party monitoring. Bethany Society will take over full responsibility for technical support depending on project requirements and funding after the design and early implementation phase.

Bethany Society is no longer providing technical capacity building or third party monitoring. CFI has taken over responsibility for these functions. Bethany Society will no longer take over responsibility for technical support and is not involved with the project anymore.

1.7.2 Technical Specifications

In the Technical Specifications approved by Plan Vivo upon registration of the project, there was a change made to the number of ANR monitoring plots (10.2):

To monitor regeneration in ANR areas, a biomass survey will be carried out annually. At least one plot will be measured and photographed in each ANR area. It is estimated that at least

60 ANR 20x20m plots will be established for monitoring purposes over the first three years of the project. Every five years, ANR areas will be monitored using satellite image analysis. To detect forest regeneration or a lack of change in ANR areas, the perimeters of ANR areas will be marked on maps and satellite images using GPS data.

It is now estimated that 30 ANR 10 x 10 plots will be established for monitoring purposes over the first three years. This year, 10 monitoring plots were established for ANR and an additional 10 will be established each year for ten years for a total of 100 ANR monitoring plots. This will provide sufficient coverage and represent the many restoration areas in the project.

1.7.3 Annual Report 2012

In the previous annual report approved by Plan Vivo last year, there was a change made to increasing the number of forest monitoring plots:

The plots could be located using GPS, but finding the exact trees have been a challenge. So to facilitate future monitoring the trees which were enumerated have been numbered by aluminum sheets and the breast height been marked with red paints. In addition, the number of Open Forest and Dense Forest monitoring plots will be increased to 40 in each classification. This will allow for a more intensive sampling of the project forests. The additional sites will be inventoried in the fall of 2013, along with the old inventory plots.

This year, it was not possible for the existing project staff and the lack of funding to increase the number of plots. For 2013, the number of forest monitoring plots remained the same. It is hoped that an increase will take place in the coming year, but it is still deemed a sufficient number for monitoring purposes.

2. ACTIVITIES, TOTAL PROJECT SIZE, AND PARTICIPATION

2.1 Activities

2.1.1 Awareness-raising

This is a key activity of the Federation and its network of Community Facilitators and Youth Volunteers. As a result of their work in the 18 micro-watersheds, there is a growing awareness regarding the need for forest protection. Each of the 18 micro-watersheds designated areas for forest restoration totaling 505 ha in 2013. Social fencing (community protection) of these areas has been quite effective reflecting the growing awareness among the 62 participating communities.

2.1.2 Natural Resource Mapping

Thirty-two villages were updated with additional information included regarding the natural resource base under the leadership of Rocky Tebam and Mr. Geoffrey Lyngdoh.

2.1.3 Dry Season Fire Control

During the 2013 dry season (January through April) the incidence of ground fire and canopy fires was reduced significantly as a result of fireline construction (*sanding*), firewatchers, and prompt community action to control. The reduction in burns has also resulted from a growing awareness of new rules prohibiting smoking and fire building in protected forest areas. The Federation also began developing a new forest monitoring system to monitor changes in forest fire incidence.

2.2 Total number of producers and community groups with registered PES agreements

There was no change in the number of community groups with PES agreements during 2013. The project continued with 62 participating communities. There is some discussion with neighboring communities regarding joining the project. However, this will depend on funding availability in 2014.

2.3 Total area covered by the project in hectares (ha), with a breakdown of land-use systems

2.3.1 Dense Forest 9,270 ha.

2.3.2 Open Forest 5,947 ha

2.3.3 ANR 500.45 ha.

Open Forest Treatment Plan for ANR (2013-2017)

Year	Area proposed for ANR (ha)	Estimated Cost
2013	500.45	Rs. 500,000
2014	500	Rs. 600,000
2015	500	Rs. 650,000
2016	500	Rs. 700,000
2017	500	Rs. 750,000
	2,500.45	Rs.3,200,000

3. SALES OF PLAN VIVO CERTIFICATES VINTAGE 2012

Vintage	Buyer	Amount of Certificates	Price per ton	Total Amount (\$)
2012	ZeroMission	2,463		
2012	CLevel	200		
2012	BioClimate	1,306		
2012	CeramicaSant'Agostino	1,225		
2012	ZeroMission	501		
		5,695		

Certificates	Sale Amount (\$)	PV Fees (\$)*	Transferred to Project (\$)

*Note: Total PV Fees are for all of Vintage 2012 whether sold or unsold. Unsold certificates for Vintage 2012 were prepaid out of sales.

4. PES UPDATE

As of December 31, 2013, the only payments to producers (i.e. the 'project') were from Plan Vivo carbon certificate sales. Sales for forest carbon totaled 5,695t with 16,110t remaining unsold. Total sales were \$34,671 minus \$8,722 for fees paid to Plan Vivo. The remaining balance of \$25,949.47 was transferred to the Federation (\$23,269.15 administrative costs and \$2,680.32 implementation costs).

5. SUBMISSION FOR PLAN VIVO CERTIFICATE ISSUANCE

Submitting for 'unsold stock' of Plan Vivo Certificates Vintage 2013

The project is not requesting issuance of certificates relating to the ex-post emissions reductions delivered in this period (26,479 tCO₂), but rather will do so at a later date, in accordance with future sales requests.

6. MONITORING RESULTS

6.1 Monitoring Results for Continuing Plan Vivos

Results from forest plot monitoring indicate steady forest growth within both dense and open forest areas consistent with the projections provided in the project's approved Technical Specifications. The biomass data and tCO₂ calculations indicate that the permanent plot areas have not been degraded beyond the levels projected for the whole project area, which will be measured by remote sensing at year 5. Photo monitoring for all plots is archived in the project office. (See Appendix 1)

6.2 Reasons for unsuccessful monitoring results: NA

6.3 Significant changes or improvements made to the project during the reporting period

The forest inventories conducted in November 2012 and November 2013 benefited from guidance provided by Dr. Sanggai, who is completing her Ph.D in silvicultural research at the national Forestry Research Institute in Dehra Dun. The quality and consistency of the data has improved as community extension workers and members are gaining experience with forest plot inventory techniques. The project is also increasing the number of forest plots to capture forest regrowth in the Assisted Natural Regeneration (ANR) areas within the open forests. Twenty new plots have been included in the previously identified potential ANR area.

6.4 Challenges or difficulties encountered during monitoring

- a) Tags that were removed were retagged during monitoring. Tree numbers were also written on the trunk of the trees as back-up identification in these plots.
- b) The paint on the measuring points on the trees have been repainted as the paint was worn out due to increase in girth of tree, so also the tags were checked and re-tagged with new ones.

7. COMMUNITY PARTICIPATION

Despite budgetary constraints, all available funds were allocated to supporting a network of 61 youth volunteers, 18 community facilitators, and an active schedule of environmental awareness raising and SHG development. Project staff also worked concertedly to bring GOI development activities into the project area. New development institutions including 18 LWCs to organize community environmental activities, 60 SHGs, and 11 FCs were established.

8. OPERATIONAL COSTS

The project operational costs for 2013 are provided in the table below. See following table.

	OBJECT CLASS CATEGORY	TOTAL (Rs.)	TOTAL (USD\$)
A	Personnel		
1	Project Manager	40,000.00	640.00
2	Chief Community Facilitator (CCF)	72,000.00	1,152.00
3	Special Community Facilitator (SCF)	21,000.00	336.00
4	Special Task Community Facilitator (STCF)	13,500.00	216.00
5	Special Task Community Facilitator (STCF)	13,500.00	216.00
6	9 Community Facilitator (CFs)	402,000.00	6,432.00
7	Technical Consultant	106,200.00	1,699.20
8	NRM Specialist	30,000.00	480.00
9	Book Keeper Cum Office Assistant	48,000.00	768.00
10	Accountant/Office Asst.	120,000.00	1,920.00
11	Socio Economic Specialist	21,600.00	345.60
	Sub-total	887,800.00	14,204.80
B	Travel		
1	CCF Travel	51,000.00	816.00
2	SCF Travel	4,500.00	72.00
3	STCF Travel	3,000.00	48.00
4	CFs Travel	54,000.00	864.00
5	NRM Travel	24,000.00	384.00
6	Local Travel for Other Personnel	6,000.00	96.00
7	Local Travel	47,010.00	752.16
8	Local Travel for Synjuk member	0	0
	Sub-total	189,510.00	3,032.16

C	Office supplies		
1	Office rent	12,000.00	192.00
2	Office expenses	140,197.00	2,243.15
3	Office supplies-RTSU	16,541.00	264.66
	Sub-total	168,738.00	2,699.81
D	Project Implementation		
1	Office Meetings	4,000.00	64.00
2	CFs Meetings	12,800.00	204.80
3	LWC Meetings	2,500.00	40.00
4	Youth Volunteer Meeting		-
5	Federation Meetings	14,050.00	224.80
6	Federation General Meeting		-
7	Plot monitorings, Awareness Programmes & Training Sessions	41,800.00	668.80
8	Home Base Nursery	13,520.00	216.32
9	Creation of fire lines		-
10	Opening of Bank Account to 18 LWCs	7,000.00	112.00
11	Opening of Bank Account to 4 Special Package		-
12	Payment to local Youth for monitoring at the village level	35,850.00	573.60
13	Bookkeeping Audit and Support	36,000.00	576.00
	Sub-total	167,520.00	2,680.32
	PROJECT SUB-TOTAL	1,413,568.00	22,617.09
E			
1	Contingency Federation	154,891.00	2,860.06
2	Contingency RTSU	29,520.00	472.32
	Sub-total	184,411.00	3,332.39
	PROJECT TOTAL	1,597,979.00	25,949.47

APPENDIX 1: Monitoring Results for Continuing Plan Vivos

Carbon Stock Assessment

The present analysis was based on enumeration of permanent plots in dense and open forest using methods according to Chave *et.al.* (2005) and Shrestha *et. al.*(2010) respectively. Enumeration was carried out on 20 dense and 20 open permanent plots. An increase in carbon stock at the rate of 8.16 tC/ha in dense forest and 0.082 tC/ha in open forest was observed which may be attributed to the increase in the volume of individual trees (see Appendix 4). This represents an increase of 2.4% in the carbon stock in open forest plots and 7.2 % in dense forest plots. Enumeration was also carried out in 10 newly identified ANR plots in open forest area and the carbon stock was estimated to be 10.21tC/ha. The details of carbon stock and the average for different categories are mentioned below.

Table 1: Comparison of previous to current carbon stock

Land use	Initial tC/ha (2012)	Present tC/ha (2013)	Initial tCO ₂ /ha (2012)	Present tCO ₂ /ha (2013)
Dense forest	112.9	121.1	414	444
Open forest	3.39	3.47	12.43	12.72
ANR	-	10.21	-	37.44

Socio-Economic Assessment

An important indicator of the socio-economic impact of the project is the rate of capital accumulation by community participants through their institutions. This project is monitoring the bank balances of local groups, conducting annual reviews of SHGs, FCs, and LWCs that coordinate micro-watershed management activities in each village. By the end of 2013, 18 LWC, 11 FCs, and 60 SHGs had been established in the project areas (see Appendix 5). Forty-one of the SHGs had established bank accounts with a total balance of Rs 865,833 or \$13,965, or approximately \$340 per SHG. As the project is still in the process of providing capacity building to these new institutions, a number had just begun to build their capital assets. The project will continue to monitor SHG and other participating institution account balances to track changes in participant assets. The project is developing a strategy to contract with SHGs, FCs, and LWCs to implement ANR restoration activities including management fees and performance incentives that will accelerate the building of community bank accounts. Since these funds are used to invest in farm and off-farm enterprises they should increase the productive and economy of the participating households.

APPENDIX 2: Area Identified for Assisted Natural Regeneration

REVISED ANR AREA			
HIMA	Village	Name of ANR Location	ANR Area(ha)
Mawphlang	Umtyrniut&Mawmyrsiang	Pratniuhlieh	17.30
	Laitmawpen	Laitmawpen	6.73
Lyngiong	Mawponghong	Mawponghong	1.93
	Phanniewlahneng	Phanniewlahneng	9.56
Nonglwai	Nonglwai	Kyngdong-wah-um-ar-kum	8.07
Mylliem	MawlumTyrsad	Khylllem & Phodlawkhla	89.50
	MawlumTyrsad	Phudumblang	5.18
Nongspung	Mawrohroh	Mawpalong	3.17
	Mawrohroh	Lumlaitmawkhar	5.92
Pamsangngut	Pamsangngut	Phodsohsat	2.22
	Pamsangngut	RanabMawblei	5.12
	Nongwah CF	Nongwah CF	111.00
Laitkroh	Mawmyrsiang	Lumdiengsai	6.80
Mawbeh	Mawkalang	Lumhati	51.32
	Laitthemlangsah	Laitthemlangsah	6.73
	Steplakrai	Lummawshieng	41.50
Sohra	Mawstep	Kseh u Kien	7.70
	Dympep	Syllai u Bir	11.50
	Laitlyndop	PhudUmjaud	7.90
	Laitlyndop	Liewlong	2.90
	Jathang	KharaiLumPyllun	11.90
	Laitsohpliah	RngiLummawlieh	20.50
	Mawkma	Mawkma	66.00
Total No. of Hectares			500.45

N.B: the allocation of another 500 ha. of potential ANR area are in progress and the demarcation of land with GPS is on the way.

APPENDIX 3: List of Youth Volunteers in Himas, Clusters, and Villages

Sl.No	Hima	Clusters	Villages	Name of Youth Volunteers
1	Mawphlang	Mawphlang (SPC)	Mawkohmon	Shri Pynshai Wankhar
			Mission	Shri Pynkhrav Blah
			Ladumrisain	Shri Anderson Jyrwa
		Nongrum	Nongrum	Shri. Cardinal Rani
			Dongiewrim	Shri. Fairbornwell Lyngdoh
			Lyngkien Sunei	Shri. Stoning Kharpuli
		Wahlyngkien-Ramklang	Umtyrnuit	Shri. Lanstar Sun.
			Mawmyrsiang	Shri. Diborman Syiemiong
			Wahlyngkien Ramklang	Shri. Wellshestar Lyngdoh
			Kyiem	Shri. Chester Warjri
2	Hima Lyngiong	MawpongHong	MawpongHong	Shri .Pynshai Khongsit
			Lawshlem	Shri. Swen Kharryngki
			Nongthymmai Neng	Shri. Smington Shangpliang
			Nongthymmai Rum	Shri. Lingstar Nongbsap
		Phanniewlah	Kyndong Laitmawbah	Shri. Respingwell Swer
			Phanniewlah Neng	Shri. Krel Swer
			Phanniewlah Rum	Shri .Shain Swer
			Umkaber	Shri. Goodstar Kharshiing
			Lait Mawpen	Shri. Twansing Kharshiing
			Laitmawhing	Shri. Philing Kharryngi
		Lyngdoh Phanblang	Lyngdoh Phanblang	Shri. Srim Nongbet
			Perkse	Shri. Jemnud Lyngdoh
			Laitsohphlang	Shri. Hum Masar
			Umsawmat	Shri. Jrel Kharchandi
		Thainthynroh Spl pckg	Thainthynroh	shri. Tramsing Wahlang
3	Nonglwai	Mawser	Kukon	Shri. Jesley Khongwar
			Nonglwai	Shri. Ignatius Jyrwa
4	Myllem	Mawlum	MawlumKhongsit	Shri. Kierlang Nongbet
			Kyrphei	Shri. Korjen Nongbet

			Umlangmar (M)	Shri. Dling Nongbet
			Mawspung	Shri .Phlandar Rynjah
5	Pomsangut	Pomsanngut	Nongmadan	Shri. Oining Nongbet
			Nongwah	Shri. Rosestarsing Khasain
			Pomsanngut	Shri. Mestindra Nongbet
		Tyrsad Umkseh Specl pack	Tyrsad Umkseh	Shri. Soonda Khasain
6	Nongspung	Umlangmar (N)	Mawliehpoh	Shri .Tonil Nongbet
			Mawrohroh	Shri. Wanshynshar Rani
			Umlangmar (N)	Shri. Lamjingshai Myrthong
7	Laitkroh	Mawmyrsiang	Mawmyrsiang	Shri. Lumberoil Synrem
		Laitkynsew	Laitkynsew	Shri.Karnel Sohtun
		Nongthymmai	Nongthymmai	Shri. Disil Nongbet
		Mawjriong Specl pack	Mawjriong	Shri. Kynsai Lyngdoh
8	Mawbeh	Mawbeh	Mawbeh	Shri.Patsha Myrthong
			Mawkalang	Shri. Ambrus Lyngdoh
			Laitsohma	Shri. Albard Kharnaier
			Steplakrai	Shri. Shaibok Kharbhoi
		Wahstew	Synrangsohnoh	Shri. Ribadstar Shabong
			Wahstew	Shri. Shaibok Khongwar
			Laitumiong	Shri. Bores Marwein
			Laitthemlangсах	Shri. Wosston Khongngain
9	Sohra	Jathang-Mawstep	Jathang	Shri. Darling Nongrum
			Mawstep	Shri. Ribor Diengdoh
			Rngidiengsai	Shri. Mortesing Lyngdoh
			Pyrda	Shri. Manbhalang Kharnaier
		Dympep - Umdiangpoh	Dympep	Shri. Stevenson Dohling
			Laitsohpiah	Shri. Jiedkynsai Diengdoh
			Umdiangpoh	Shri. Bes Nongrum.
		Ladmawphlang-Mawmihthied	Ladmawphlang	Shri. Macdonald Kharnaier
			Mawmihthied	Shri .Teiborlang Jyrwa
10	Nongkhlaw	Mawkma-Laitlyndop	Sohrarim	Shri. Namphrang Lyngdoh

			Mawkma	Shri. Anthony Nongrum
			Laitlyndop	Shri. Benis Synrem
			Ryngimawsaw	
			Mawbri	

APPENDIX 4: Forest Plot Inventory Findings

Open forest	tC/ha	tC/ha	Dense forest	tC/ha	tC/ha	ANR	tC/ha
Plot No.	2012	2013	Plot No.	2012	2013	Plot No	2013
3	3.158	3.415	1	112	120	41	14.83
6	2.828	2.847	2	77	117	42	2.99
7	3.008	3.025	4	128	130	43	7.26
8	2.827	2.828	5	178	208	44	0.51
12	3.556	3.611	9	153	160	45	13.08
13	2.985	2.993	10	48	49	46	19.69
15	3.585	3.746	11	60	63	47	1.85
16	6.068	6.630	14	142	145	48	13.88
17	5.075	5.103	21	92	96	49	10.32
18	3.119	3.147	22	120	128	50	12.53
19	3.237	3.340	24	110	129	51	26.67
20	2.866	2.874	25	24	25	52	4.10
23	2.896	2.908	28	98	99	53	5.02
26	3.45	3.453	29	63	68		
27	3.348	3.512	30	203	207		
31	3.029	3.037	33	93	101		
32	3.046	3.109	34	101	107		
36	3.221	3.279	35	75	81		
39	3.584	3.634	37	267	272		
40	2.9	2.926	38	114	116		
Total	67.786	69.417	Total	2258	2421	Total	132.74
Average	3.389	3.471	Average	113	121	Average	10.21
SD	0.8	0.9	SD	56.3	58.1	SD	7.63

*Biomass in open forest was estimated following Shrestha R. (2010)

Biomass = $[0.011 \cdot (BA)^2 + 2.812]$ Where BA=basal area.

+ Biomass in dense Forest was estimated following Chave *et. al.* (2005)

Biomass= $\rho \cdot \exp[-1.499 \cdot 2.148 \cdot \ln(DBH) + 0.207 \cdot \ln(DBH)^2 - 0.281 \cdot \ln(DBH)^3]$ Where ρ =specific gravity of the wood and DBH=Diameter at Breast Height (1.37m)

APPENDIX 5: Socio Economic Monitoring– FC Formation and SHG Bank Account Balances

SL. NO	Hima	Village	FCs formed	SHG Formed (no. active)	SHG Account Number	SHG Bank Balance (Rs)
1	Mawphlang	Mawkohmon				
		Mission				
		Ladumrisain				
		Nongrum	Yes			
		Dongiewrim		Latylli SHG	32945548456	1,860
		Lyngkien Sunei				
		Umtyrniut	Yes	Synroplang SHG	32394055282	3,134
		Mawmyrsiang				
		Wah Lyngkien Ramklang				
		Kyiem		Nangkiewirat SHG	15044012710	5,868
2	Hima Lyngiong	Lawshlem				
		Nongthymmai Neng				
		Nongthymmai Rum				
		Kyndong Laitmawbah				
		Phanniewlah Neng	Yes			
		Phanniewlah Rum	Yes			
		Umkaber				
		Lait Mawpen				
		Laitmawhing				
		Lyngdoh Phanblang	Yes	Latreilang SHG I	87000481120	4,481
				Baniarap Markylliang SHG II	8700109439	2,016
		Umsawmat				
		Laitsohphlang				
		Perkseh	Yes	Banmyntoi Women SHG	C& I67	
		Thainthynroh				
3	Nonglwai	Kukon				
		Nonglwai		Nangsan SHG		
4	Myllem	Mawlum Khongsit		Iakyrshanlang W SHG-2	15026009403	11,235
				Pynroilang W SHG	15026009888	64,204
		Kyrphei	Yes	Lasnohktlang SHG I	87000585118	4,423

				Bankiewshaphrang SHG	87000473753	6,929
				Bankynshew SHG	8700061702-8	6,019
		Umlangmar (M)		Nalarympei SHG I	15026009469	25,872
		Mawspung		Hunlang SHG II		2,643
				Hunlang SHG I		7,879
5	Pamsangut	Nongmadan	Yes	Kiewshaphrang SHG	15026019412	
				Iatreilang SHG	15026010260	72,020
		Nongwah	Yes	Treilang SHG I	87000460733	11,268
				Myntoilang SHG	87000019334	11,283
				Lummausiang SHG	15026009980	45,689
		Pamsangut				
		Tyrsad Umkseh		Lurstep SHG	15026009902	
				Tyrsad Umkseh SHG 3	15026009243	
				Sehsaw SHG	15026017039	10,200
				Raplang SHG		
6	Nongspung	Mawliehpoh		Mawliehpoh SHG Laitsimkhla	8700094685-7	3,853
				Persara SHG	8700093965-0	4,438
		Mawrohroh				
		Umlangmar (N)				
7	Laitkroh	Mawmyrsiang	Yes	Lamjingshai SHG I	15029017525	1,246
				Nangkiewshaphrang SHG I Tiewlieh	87000390956	8,842
		Laitkynsew		Maitshaphrang SHG II	3043	2,056
				Iainehskhem SHG I	2996	12,664
		Nongthymmai		Iatreilang SHG	15029013723	6,904
				Shiningstar SHG		325
				Nongthymmai SHG		9,925
				Tyllilang SHG		2,100
				Synjuk Jingshai SHG I	15029026551	
				Pynbianglang SHG		1,526
				Maitshaphrang SHG		42,432
		Kyrdemkhla		Nangiaikyrsoi SHG		18,857
		Mawjrung				

8	Mawbeh	Mawbeh	Yes	Synroplang SHG		
				Kyntiew Jingshai SHG	15029013734	18,400
		Mawkalang				
		Laitsohma		laityllilang SHG		
		Steplakrai				
		Synrangsohnoh		Lamjingshai SHG I	8700158668-7	1,160
				Lamshaphrang SHG		
		Wahstew		Roilang SHG	15029012276	
		Laitumiong				
		Laitthemlangсах		Treiminot SHG	15029013869	40,100
				labeitlang SHG	15029038646	30,000
9	Sohra	Jathang		laiphyrnai SHG	31916372639	48,000
		Mawstep		Tyngshainlang SHG	11820789793	2,700
				latreilang SHG	31971034490	14,514
		Rngidiengsai		Kiewshaphrang SHG		
		Pyrda				
		Dympep				
		Laitsohpliah		Kiewirat	32348311968	12,864
				Baiamonlang SHG	87000093012	12,421
				lairyntih	31021359646	34,243
				Roilang SHG	15029012276	25,478
				Thomshaphrang	15029016383	60,261
				latreilang SHG	15029013723	17,469
				Senglongkmie	15029041127	11,615
				Sanngut Women SHG	15029012550	207,906
				Baniaineh	15029045348	120,240
				Nalarympei SHG		
		Umdiengpoh				
		Ladmawphlang				
		Mawmihthied				
10	Nongkhlaw	Sohrarim				
		Mawkma				
		Laitlyndop				
		Ryngimawsaw				
		Mawbri				
					TOTAL	741,416

APPENDIX 6: Tree Seedling Nursery for SHGs

Introduction

A home-based nursery is a way for saplings to be grown for 'assisted natural regeneration' (ANR) and enrichment planting from local seed, through funds generated by the sale of Plan Vivo certificates through the Khasi Hills Community REDD+ Project, a community-run project uniting 10 indigenous Khasi communities into a federation or Synjuk. The nursery project will eventually be implemented by 52 women-run Self-help Groups (SHGs) who are part of the participating villages in the project. An important goal of the Synjuk is to restore 5,000 ha. of degraded, open forest land over the next ten years.

Initial training will be done for the participating villages by Mr. Welcome Synrem from Laitlyndop Village who was selected by the Synjuk as the lead trainer. Welcome learned nurserying from his uncle, Phrang Synrem, and grandfather who have guided him in tree seed collection, cutting from the forest, air layering, and methods to culture them in a small nursery by his home. Community Facilitator's (CFs) and volunteers will be trained first by Welcome and then they will train the women from the various SHGs.

All nursery practices are done in traditional ways without the use of chemical fertilizers or pesticides. According to Welcome, 90% of his saplings survive as he enlists community members to protect newly planted areas. Saplings are propagated from both seeds as well as cuttings. Welcome emphasizes that the timing of the culturing and planting is very important. Seeds are typically collected during the fall with planting done just before the onset of the rainy season in April and May. Seeds will be collected from trees close to the village. This seed will be sown in poly-pots and the saplings will grow from this and be cared for by the women. The cost of the poly-pots will be covered by the Synjuk (approximately 400 rupees per nursery of 300 saplings).

When the saplings are one year old they will be taken out of the poly-pots and planted for 1 year in a raised cultivated bed on land close to the nursery. The saplings will grow in the beds for between one and two more years. The SHGs will take care of them during this time.

When the saplings are between two and three years old, they will be transplanted from the beds and planted in the sites chosen for enrichment planting. The saplings will be cared for after they are planted to make sure that they grow to be healthy, strong trees with a good

shape. Weeding and management of the ANR area will have to be done if the saplings are to survive and grow well.

Training

CFs will discuss with villages in their clusters about which families want to have a home-based nursery and distribution of livelihood profits that will go to the specific women who are managing the nursery. The women-run SHGs that are chosen to have a home-based nursery should have a bank account and must:

- Have sufficient land on which to have a nursery for poly-pots for 1 year and a larger cultivated area for transplanting saplings to for up to 2 more years.
- Be interested in growing saplings in a home-based nursery.
- Have good leadership and have proven book-keeping skills.

CFs and volunteers will be trained in establishing a nursery and collecting seeds first then they will pass this training on to the SHGs. CFs will monitor home-based nurseries and report on progress and any problems to the Synjuk head. Monitoring of nurseries must be done weekly so that problems can be rectified as soon as they arise. Reporting to the Synjuk must include photographs of the nurseries.

Training Timetable

When	Who	What	Why	Comments
September October November	CFs and women in SHGs	Decide which women will have a nursery in the SHG		Guidelines above,
October November	CFs and Women in SHGs	Training in setting out a nursery, Training in collecting tree seeds, Training in lifting wild-grown saplings and moving them to nurseries, Training in how to plant seeds,		Seeds should take 3 weeks to germinate, Only self-seeded saplings that are in a poor or crowded position that are unlikely to grow/survive will be lifted and moved to nurseries. Only those below 6 inches height and of the desired species should be moved.
November December and for 1 year after	CFs and women in SHGs	Training in how to care for saplings in nurseries	To teach the importance of weeding, watering	

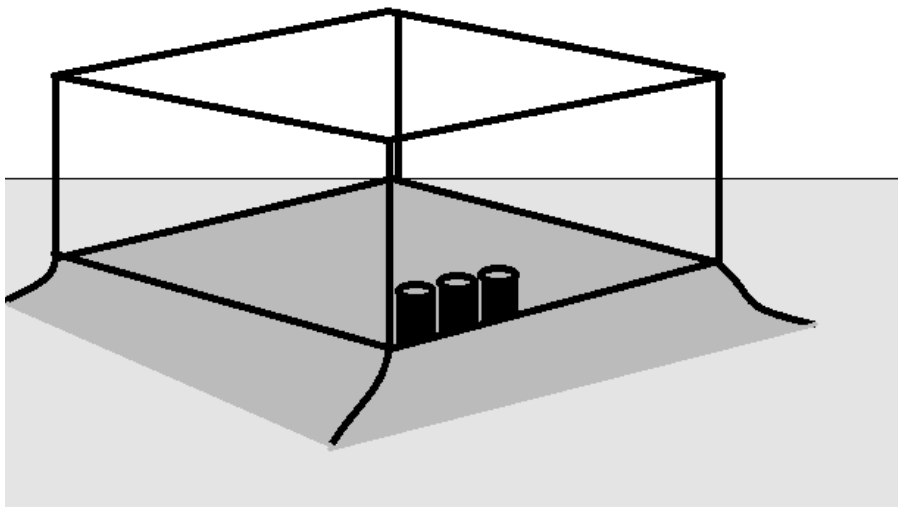
planting			protecting saplings from climate.	
April May	CFs and women in SHGs,	Training in how to take fruit tree cuttings and plant these in pots,		With rooting- hormone these should take 3 weeks to begin to grow.
From April, May onwards	CFs and women in SHGs,	Training in weeding and caring for the cuttings as they begin to grow,		

Instructions for Nursery Layout

- For a home-based nursery women will need a piece of land approximately three metres long and one and a half metres wide.
- The ground should be raised so that the pots do not sit in water. Rainwater must be allowed to drain away. The diagram below shows this layout.
- The area surrounding the nursery must be clear of tall grasses, weeds of anything else that will obstruct light and air reaching the saplings.
- The saplings must be protected from grazing livestock or wildlife, or damage from dogs or children. This would be done best with a frame made of bamboo or wood with netting/chicken wire on the sides, as in the diagram below.
- The top of the frame should be open to allow for weeding and caring for the saplings, but there should also be a roof that can be placed over the top of the frame to protect the saplings from bad weather such as heavy rain or snow. This can be taken off to allow light and air to reach the saplings when the weather is good and replaced when the weather is bad. It has been decided in the CF meeting on 23rd August 2013 that the roof will be thatched and will be sloping to protect the saplings from heavy rain and snow. This will also insulate the saplings from cold weather in the winter months.
- The saplings should be arranged next to each other as in the diagram below. They should be arranged ten pots across by thirty pots in lengthways. This will mean that each nursery will grow 300 saplings.

Diagram of Home-based Nursery

The diagram below is to demonstrate how the bed is raised to allow water to drain away from the saplings. The saplings may die if they are left to sit in water for a long time and it is important that they are allowed to drain in this way.



Payment to SHGs

The following was decided and approved in a CF meeting on 23/08/13.

There will be 52 nurseries established in the project area; one nursery per SHG. Each CF will explain the concept of home-based nurseries to their respective SHGs. CFs will be responsible for monitoring and reporting on the progress of the nurseries. The cost of poly-pots will be covered by the Synjuk. This is estimated to be 400/- per nursery of 300 seedlings.

The materials required for each nursery will include wooden or bamboo poles to construct the frame. This will be 3 metres in length by 1 metre wide. Chicken-wire will be used on the sides and this will be 1 metre tall and 8 metres wide will be needed per nursery. Another option would be to use a traditional method of fencing and roofing by using natural resource such as bamboos and thatch roofing system. The roof will be made of thatch by the SHGs with a sloping design for rainwater runoff. The total cost of this is estimated to be 1100/- and this will be covered by the Synjuk. The payment will be given to each SHG to source the materials themselves. CFs will monitor the construction of these and report on progress with photos and other documentation.

Payment to the SHGs will be spread over the 2-year period. This will begin with 150/- to the SHG for establishing the raised bed. Each SHG will be given a maximum of 1000/- at the end of the first year (before Christmas). This will be a 1000/- maximum and will be based on the number of seedlings that have been properly cared for and have survived this first year. A percentage will be deducted corresponding to the number of lost seedlings.

At the end of the first year, the seedling will be taken out of poly-pots and moved to cultivated beds, and each SHG will be paid 200/- for doing this. In the second year, the SHGs will be paid Rs.150/- for weeding and the sum of Rs. 1000/- (maximum) will be paid before transplantation to a common plot and a percentage will be deducted corresponding to the number of saplings that have survived.

The table below lists these expected payments and total amount:

Activity	Who	When	Where	Why	Payment
Raised nurseries are constructed	Women in SHGs	Late September	20 SHGs (villages still to be chosen)	Nurseries for firewood tree saplings	150/- per SHG - 20 SHGs in total (still to be confirmed), 3000/- total
Poly-pots are provided to each SHG by Synjuk	Synjuk	Late September	20 SHGs	Synjuk will bear the cost of the poly-pots	400/- per SHG nursery - 20 nurseries total, 8000/- total
Nursery materials	SHGs	Late September	20 SHGs	The cost of materials for constructing each nursery will be given to SHGs by Synjuk	Chicken-wire, bamboo/wooden poles - 20 nurseries total, 1100/- per nursery, 22,000/- total (Paid before Christmas)
Payment for managing nurseries	SHGs	After 12 months of saplings growing in nurseries	20 SHGs	Payment to each SHG for managing nurseries for 12 months	1000/- per SHG, 20 SHGs - 20,000 total
Payment for preparing bed for saplings to be transferred from pots	SHGs	After 12 months	20 SHGs	Payment for preparing beds for saplings to be transferred from poly-pots	200/- per SHG, 20 SHGs - 4000/- total
Weeding and nurturing of saplings	SHGs	As required	20 SHGs	Payment for weeding and nurturing of saplings	150/- per SHG, 20 SHGs – 3000/- total
Payment for managing saplings in beds for 12 months	SHGs	After 12 months in beds (saplings are 2 years old)	20 SHGs	SHGs are paid for managing saplings for 12 more months in raised beds	1000/- to each SHG, 20 SHGs - 20,000 total (Paid before Christmas)
					<u>Total - 80,000/-</u>

Tree Species

After the home-based nursery training held at Pomsanngut village and Mawjriong village in December 15/11/2013 and 14/11/2013 respectively, the following species of trees was selected on a trial basis. The project will be implemented by project SHGs, FCs and interested individuals.

The Khasi people are by tradition closely linked with nature. They are lovers of nature and the mother earth. Some of the species, especially those that are fruit bearing, are forbidden to cut while others are restricted to cut except for some noble purpose or for construction of houses and community needs. These species of trees are acclimatized to the climate of the region and they grow better even without much care and attention.

It was also decided at the meetings that after two years when these saplings will be taken to the forest area under ANR for nourishment planting, and also to some allotted area for the community to test-proof the fruit trees like the Cherry. The plantation will involve all the members from the village on a particular day where the villagers will dig specific holes and bring along with them manure to put in the hole on a voluntary basis and plant the trees in the presence of the Synjuk representatives including the CFs. The aim is to make them feel and have more sense of ownership on what they have planted. In the coming year if the nursery is successful, the SHGs will be able to do it by themselves and can sell saplings to the government and various agencies where demand exceeds supply.

1. Dieng Sning / Dieng Sohot (*Castanopsis indica*)

- By Khasi tradition these species are highly valued and it is restricted to cut without a good reason. This species is used for rituals and traditional ceremony.
- It is one of the fast growing species with a high moisture content.
- It is used as timber for house construction
- It also provides plenty of seeds which can be easily multiplied.
- Its nuts are edible and it is commercially sold in the market

2. Dieng Ngan (*Schiima khasiana*)

- This species is best used for furniture and as timber for house building.
- It is the best quality of wood after the Sal tree.
- Its leaves and bark have medicinal value.

- In the case of the people of Mawphlang, they do not use this tree for fuel wood because it once saved the life of two children during the night, when they lost their parents.

3. Dieng Doh (*Ex-bucklandia pupulnea*)

- Regarding this species, traditionally it was planted, nurtured and multiplied by the ancestors of Mawphlang. For this reason, rampant felling is restricted and it is cut only for special purposes or ceremonial use.
- Good timber for house construction.
- High retention of moisture.

4. Dieng Liengiong (*Alnus nepaulensis*)

- It is a fast-growing species that can be pruned at least every 7 years. The branches can be used for charcoal and fuel wood. This tree species was introduced to Meghalaya some thirty years ago. It is good for planting in the Bun cultivation area.
- The people of Khonoma Village in Nagaland provided this information.

5. Dieng Sai (*Quercus Fenestrata*)

- This is one of the fastest growing species, best used for firewood.
- This tree is exceptionally resilient for surviving a forest fire. After one year they will regenerate.
- The nuts are the preferred fruits of rodents.

6. Dieng Sohphie (*Myrica esculenta*)

- This is a fruit tree which has good commercial value in the region.
- The fruit is bought and sold in the market during its season and it can be used for making pickles and juices as well.
- Traditionally, it is forbidden to cut or destroy fruit trees without a good reason and it is highly valued by the people.
- This specie is rarely found in other regions of India other than in Khasi Hills.

7. Dieng Sohiong (*Prunus nepaulensis*)

- This species is famous for its cherries which are highly valued by the people.
- The cherry is commercially sold in the market and it is also used for making pickles, juices etc.

- The Mawphlang Distillery (1840-1940) was famous for the processing of Sohiong cherry.

Conclusion

Planting tree plantations of different species benefits the environment and the community in many ways. Trees can be grown to assist natural regeneration (ANR), thus increasing the amount of forested land. Because the project area is measured to quantify the carbon it sequesters for the purposes of carbon sequestration, increasing forested land will increase the amount of trees as well as the stored carbon which generates Plan Vivo certificates, thus generating livelihood opportunities, forest products, and enhancing ecological services.

Reforestation of the watershed will slow surface runoff during heavy rainfall, recharge the aquifers, extending the duration and enhancing stream-flow volumes. The community tree nursery program is a direct result of the capacity of the Synjuk (Federation) of indigenous Khasi to generate funds from their conservation activities.



Mr. Welcome Synrem from Laitlyndop Village with 600 tree seedlings he is raising for transplanting along local streams and meadows.



Tree saplings growing in poly pots.

APPENDIX 7: Two SHG Case Studies & Review Table

Case Study 1: Nangkiew-Shaphrang SGH 1

Village: Mawmyrsiang (Tiewlieh)

Hima: Laitkroh Hima

Block: Khatarshnong-Laitkroh C&RD Block

Date of formation: 29th August 2011

No. of members: 09

Type of SHG: Female SHG

Bank: MRB Mawkdok

Description: Nangkiew-Shaphrang SHG-I was formed in the year 2011. Initially it has 10 women members but one of them passed away recently. They are now left with 9 members of age group between 24 - 56 years old. All the members are married and their children are studying either in the village school itself or in the neighbouring villages. Economically, they are of the same background and this has contributed towards building a good rapport among the members. The group is very regular in their meetings and all records are maintained accordingly. The individual members' main occupation is agriculture with potato as the main crop. But, of late, the rate of potato yields have decreased and, as result, the SHG is facing huge losses. The SHG also supplements their income with quarry work, as daily labourers in agricultural fields, and rearing livestock such as pigs and poultry for commercial purposes.

Training: To date, the group has been provided with capacity building and training on SHG administration and accounts maintenance from Bethany Society. They have also received training on group formation and maintenance of minutes register from Block Development Office in the year 2012.

Internal Lending: The group is currently providing loans to its members for two purposes.

- Purchasing of livestock: piglets and pig-feed.
- Education of their children.

The group members shared that being in a group has been of great help to them in times of emergency. Being in a group has helped them to overcome their financial insecurity and shyness to be leaders. The group grants loans to its members at the interest rate of 2% per

Rs.100. To date, the group has granted loans of Rs. 11,000 to 4 members and increased its saving up to Rs. 13,300.

Investment: The members wanted to invest in income generation activities through livestock rearing such as pig and goat farming/rearing and a small business.

Group Activity: The group has not been able to start any group activity due to insufficient funds but very soon they have planned to initiate micro income generation group activity i.e. rearing of local chickens wherein the facilitator will help them in designing the plan. But the group does not have any land which is owned by them and so the problem persists. The facilitator has been trying to make them understand that it is necessary to have a mutual understanding among the members so that they can start the activity in any of the member's land. In this context the facilitator has also been giving them lots of new inputs on Income generation activities which will benefit the group as a whole. Other new activities that they could undertake would be potato chips making. The group had been motivated to approach the line departments such as BDO, Agriculture, Horticulture, Veterinary, DIC, etc for assistance. One of the members shared that she has a plan for packed drinking water/bottled water.

SHG Members: All the members are very candid in their approach especially Kong Thursila Nongkynrih, the President and Kong T. Kurkalang, the Secretary of the group. On the whole the group can be assessed as hard working and dedicated to their work.

Case Study 2: Treilang SHG 1

Village: Nongwah

Hima: Pamsanngut Hima

Block: Mawsynram C&RD Block

Date of formation: 3rd November 2011

No. of members: 14

Type of SHG: Female SHG

Bank: MRB Tyrsad

Description: Treilang SHG-I is a group comprised of female members that was formed under the project in the year 2011. This group has 14 members who are of the same economic background. The group is regular with their meetings and all records are maintained accordingly. Their main occupation is Agriculture and Livestock rearing. The main agricultural products grown in this area are French beans and Potato. The group had also received assistance from Bethany Society in terms of Potato seeds of 200 Kgs and each member got 8 to 10 kgs of potato seeds. After harvesting, the potato yielded to about 500 kgs.

Training: The group had received Capacity building training on SHGs administration and Accounts maintenance from Bethany Society.

Internal Lending: The group provides loan to its members mainly in two areas:

- Agricultural: purchasing of vegetables seeds and rent land for cultivation purposes.
- Livestock: for purchasing of piglets, poultry, goats, and livestock feed.

The group leader shared that due to insufficient funds the members cannot think of initiating big business, however, they are trying with small business. The group grant loans to its members at the rate of 2% for Rs. 100/-. To date, the group has circulated loans to 8 members out of their group savings which are above Rs. 20,000. The group leader shared that the group income has been on the increase mainly due to the fine imposed on the members, interest from loan, sale of potatoes and group activities (agriculture work).

Investment: The members wanted to invest and expand their agricultural activities for more production of French bean and potatoes and also in livestock rearing such as pigs and poultry (*Kuroiler*).

Group Activity: As part of their group activities for generating income they are now beginning to work in others agricultural land and the income received is added to the fund of the group. Currently, they are also planning to start a new group activity in rearing 50 *Kuroiler* chickens. The facilitator will assist them in making a perspective plan for this activity.

SHG Members: Presently all the SHG members are active in their performance. Kong Shita Mary Rani, the President is a very responsible person and a hard working woman. All the members are also contributing to the growth of the group through their dedicated work.

Annual Review of SHGs 2013

Sl. No	SHG Name	Village	Date of formation	No. of Members				New/ Adopted	Account No	Branch & Address	Remarks
				Male	Female	Mix	Total				
1	Lamjingshai SHG I	Synrang Sohnoh	3/3/2012	0	12	0	12	New	8700158668-7	MRB-Mawkdok	Internal loaning not done
2	Synroplang SHG	Mawbeh	4/12/2011	0	0	10	10	New	Ac not yet open		Internal loaning not done
3	Nangkiew Shaphrang SHG I	Tiewlieh (Mawmyrsiang)	29/8/2011	0	9	0	9	New	87000390956	MRB-Mawkdok	Internal loaning done
4	Persara SHG	Mawliehpoh	14/3/2012	0	11	0	11	New	Ac not yet open		Internal loaning done
5	Mawliehpoh SHG	Laitsimkhla	13/3/2012	0	10	0	10	New	8700094685-7	MRB- Tyrsad	Internal loaning done
6	Myntoilang SHG	Nongwah	1/10/2010	0	0	11	11	Adopted	87000019334	MRB- Tyrsad	Internal loaning done
7	Treilang SHG I	Nongwah	3/11/2011	0	13	0	13	New	87000460733	MRB- Tyrsad	Internal loaning done
8	Bankiewshaphrang SHG	Kyrphei	10/10/2011	0	14	0	14	New	87000473753	MRB- Tyrsad	Internal loaning done