Khasi Hills Community REDD+ Project: Restoring and Conserving Meghalaya's Hill Forests through Community Action

Project Design Document

Submitted to Plan Vivo, UK by

Community Forestry International on behalf of

Ka Synjuk Ki Hima Arliang Wah Umiam,

Mawphlang Welfare Society

Mawphlang, Meghalaya, North Eastern India

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EXECUTIVE SUMMARY

The Khasi Hills REDD+ Project is situated in the East Khasi Hills District of Meghalaya, India. The project covers 27,139 hectares, comprised of approximately 9,270 hectares of dense forests and 5,947 hectares of open forests in 2010. The project engages ten indigenous Khasi governments (*hima*) with approximately 62 villages and small hamlets. Meghalaya has been chosen as a pilot project area due to the existence of long established Khasi traditions of forest conservation and legal rights for natural resource management, increased population and economic development pressures, climate change, as well as the unique flora and fauna existing in the region. In 2017, the project contracted its first five-year verification (2011-2016) to determine impacts and as a result, the technical specifications and Project Design Document were updated to reflect actual impacts on avoided deforestation (REDD+) and Assisted Natural Regeneration (ANR). Data on forest cover changes is presented in this revised Project Design Document and the revised Technical Specifications.

Rapid deforestation throughout the East Khasi Hills district threatens upland watersheds, household livelihoods, while releasing substantial quantities of carbon. Loss of forest cover in the Khasi Hills District has been dramatic, averaging 5.6% per year from 2000 to 2005. Over the next 30 years this REDD+ project is designed to slow, halt and reverse the loss of community forests by providing institutional support, new technologies for forest management, and financial incentives to conserve existing old growth community forests while regenerating degraded forests. The project also seeks to improve forest connectivity in order to establish wildlife corridors by regenerating and linking degraded open forestlands.

This REDD+ project offers substantial carbon emissions reductions plus additional environmental values in terms of improved watershed management and biodiversity conservation. Finally, the project represents a long-term strategy to address the extreme poverty facing rural families, through new income generating activities and training and capitalizing women to run microfinance institutions. This strategy represents a proof of concept for REDD+ initiatives in Northeast India and could be widely replicated throughout the region. The project is one of the first REDD+ projects in Asia to be managed and implemented by indigenous communities, with support from Community Forestry International, the Khasi Hills Autonomous District Council, Planet Action, the Waterloo Foundation, Caring Friends, Tamborine Trust, and WeForest.

Initiated by Community Forestry International (CFI) in 2010, the project is located in the Umiam River Watershed which boasts one of the highest recorded annual rainfalls in the world. In 1995, 2,493 mm (98") fell in a 48 hours period, while a world record annual rainfall reached 11,873 mm (467") in near Cherrapunje in the same year. Despite abundant rainfall, the communities in the project area are experiencing increasing dry season drought due to accelerating dense forest loss at an annual rate of 2.7% between 2006 and 2010. Deforestation combined with increased

temperature is undermining the hydrological function of this critical watershed, disrupting agricultural practices intensified cyclonic storms contributing to erosion and downstream flooding in the Bangladesh (Gangetic) and Assam (Brahmaputra) river basins. Climate change is an underlying force exacerbating key drivers of deforestation and forest degradation in Meghalaya by increasing the intensity and extent of dry season ground fires, reducing soil moisture and rainfall, and contributing to a historic pattern of aridization and biomass loss. The resulting loss of dense forest habitat has placed pressure on the region's water resources, farming systems, and biodiversity.

The REDD+ project seeks to demonstrate how communities and indigenous governance institutions, coordinated though their own Federation (Synjuk), can implement REDD+ activities that control drivers of deforestation. The initiative is designed to restore forest cover and improve watershed hydrology, while facilitating transitions to agricultural systems that are climate-resilient. The project has been approved by the Khasi Hills Autonomous District Council, with the encouragement of the Chief Secretary of the State of Meghalaya.

This project is designed to create capacity within the Federation or S*ynjuk* to plan and implement a thirty-year climate adaptation strategy for their upper watershed. CFI, an INGO working with indigenous communities in Northeast India since 2003, has provided technical and financial support to this new community institution during the project development phase 2010-2012, providing training in resource management including designing, certifying and marketing carbon credits on private voluntary markets. The project seeks to establish a long term income stream to support the Federation and participating communities. Based on initial projections and a revision of the technical specifications in 2017, 364,616 tCO_2 emissions will be reduced between 2010 and 2021 through community-based forest management, helping to finance the project.

Key variables to be monitored over the life of the project include changes in carbon stocks, forest condition, and forest growth rates as well as other environmental indicators including biodiversity and hydrology. Socio-economic performance indicators to be monitored by the participating communities include institutional capacity, community development grant performance, and household transitions to cleaner energy technologies including fuel-efficient stoves and LPG cooktops.

The project is significant as it is one of the first REDD+ initiatives in Asia to be developed by indigenous tribal governments on communal and clan land. If successful, the project has potential for broad-based replication among northeast India's 240 ethno-linguistic, tribal communities.

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Part A: Aims and objectives

A1. Project Aims

The project has five major aims and objectives:

1) To build community capacity to implement resource planning systems and mitigation activities in order to reverse deforestation and degradation trends impacting 9,270 ha of dense forests (under REDD+).
2) To assist communities to implement a variety of forest monitoring, protection, and restoration activities that facilitate the regeneration of 5,947 ha of degraded forests lands (under ANR).
3) To implement soil and water conservation measures to check soil erosion and to improve the hydrological function of the Umiam River sub-watershed through PES or carbon sales.
4) To enhance the economic conditions of participating households targeting the lowest-income forest dependent families. Support sustainable enterprise development among local communities through micro finance and sustainable farming and forestry systems through PES or carbon sales.
5) To improve environmental services including the protection of endangered flora and fauna species found in the area through PES or carbon sales.

Part B: Site Information

B1. Project location and boundaries

The project is located in the Sub-Watershed of Umiam River within the East Khasi Hills District of Meghalaya, India. The area of the project is approximately 27,139 hectares comprised of 9,270 hectares of dense forests and 5,947 hectares of open forests (in 2010). The project has can be categorized as a Single Boundary Project for Forest Restoration and Conservation. The project boundary is defined by the traditional territories of the ten Khasi governments (*hima*) that are participating in the project (see Figure 1). The area is largely consistent with the hydrological boundaries of the Umiam River sub-watershed and is located in the East Khasi Hills District (see Figure 2).

Project mitigation activities focus on dense forests and degraded open forests that are owned by the community or under clan or private management. Some of the community forests exist in large, contiguous areas of up to several thousand hectares, while other forest fragments are only several hectares in size. Where possible, the project seeks to link forest fragments to enhance hydrological and biodiversity services by created an unbroken wildlife corridor, especially on major and minor riparian arteries of the Umiam River.

Figure 1: Khasi Hills REDD+ Project Boundaries

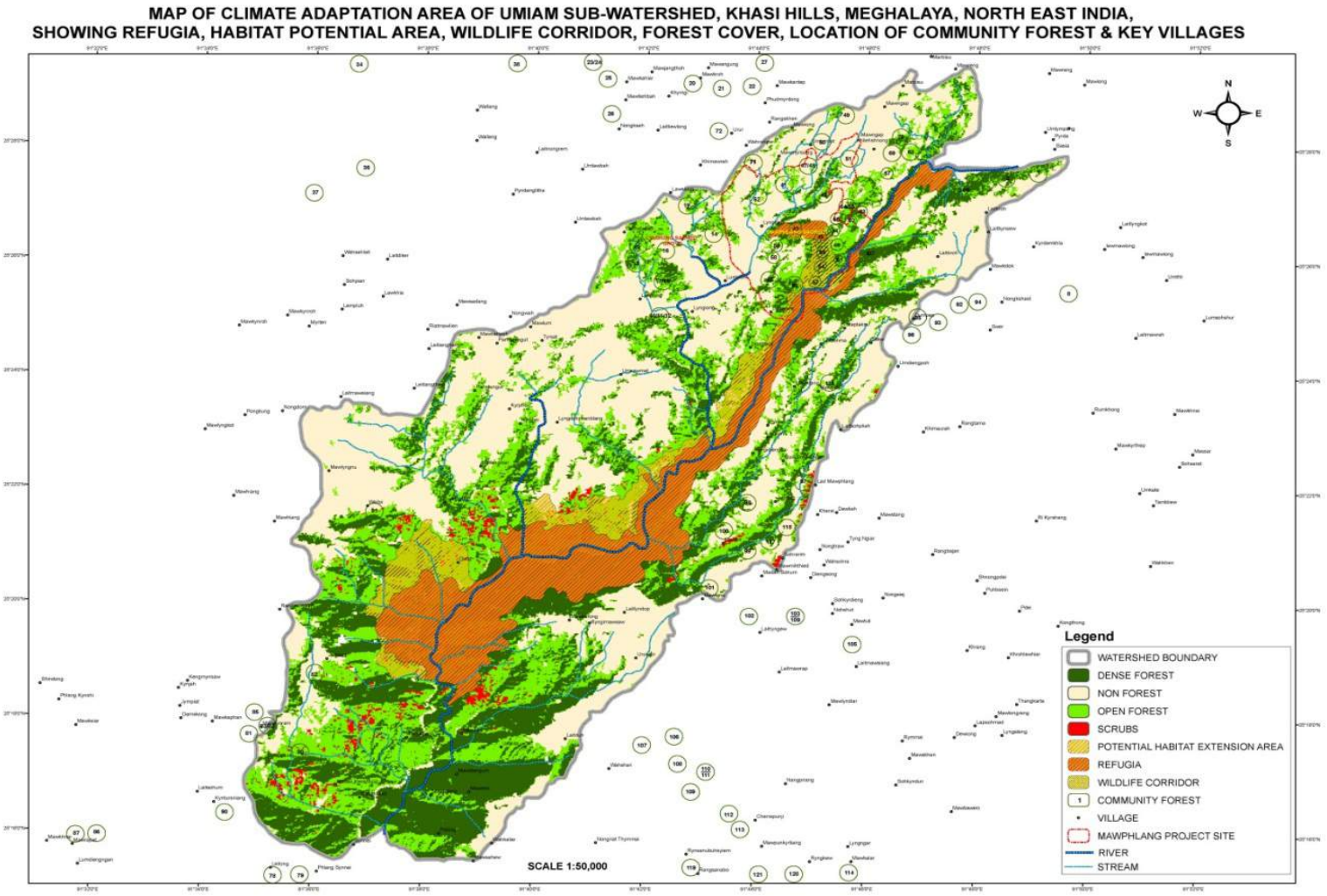
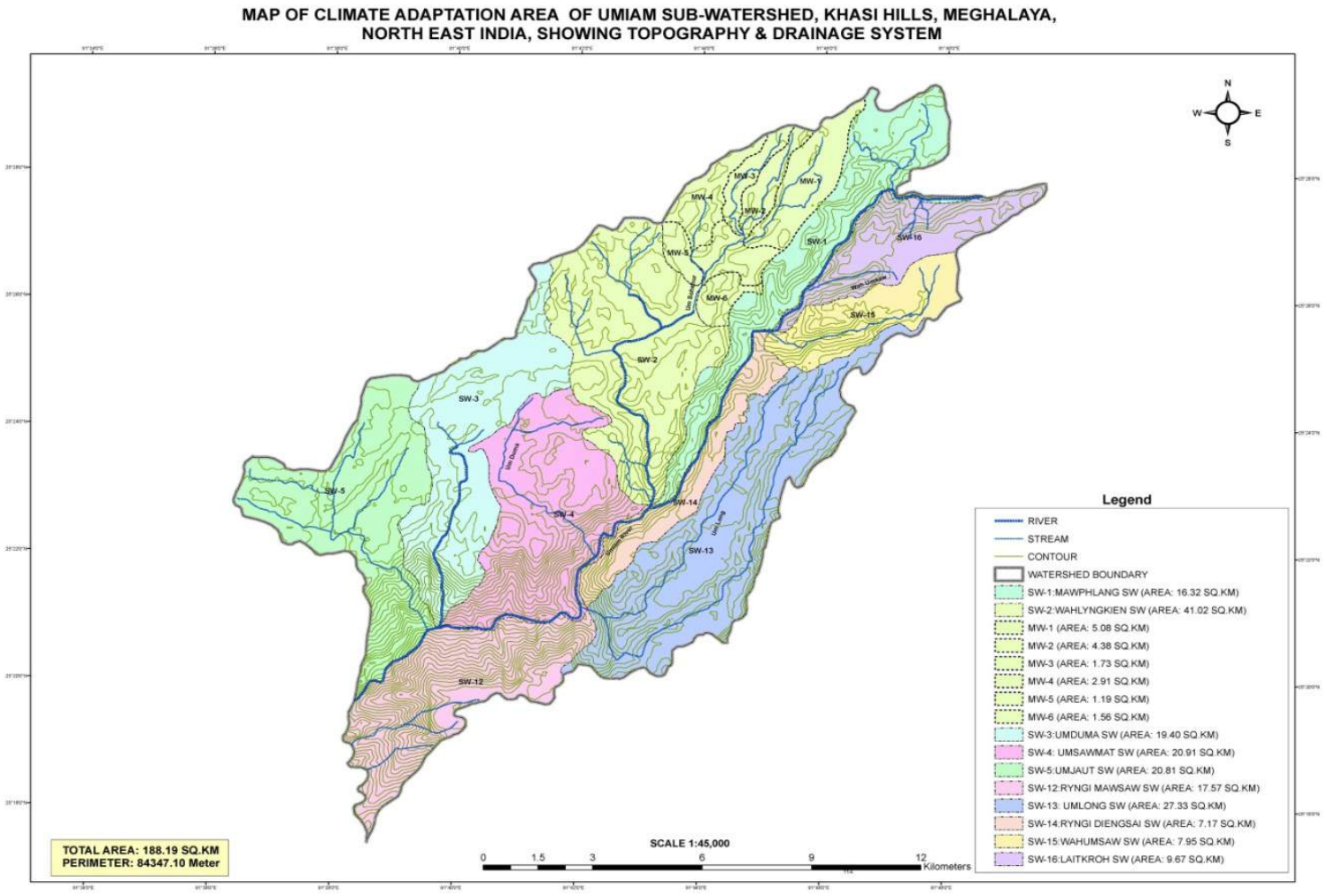


Figure 2: Umiam Sub-watershed



B2. Description of the project area

B2.1. Geophysical description

The project area is situated in the Central Plateau Upland region of the State of Meghalaya in Northeast India. The altitude of this plateau varies from 150 m to 1,961 m above the mean sea level and is characterized by a great diversity in relief. The plateau is highly dissected, with steep regular slopes to the south, which borders Bangladesh. The Central Plateau region within the project area consist of rolling uplands intersected by rivers and dotted with rounded hills of soft rock. The main river running through the project area is the River Umiam, which is one of the major rivers of the State and an important source of water for the state capital city of Shillong.

- *Sub-tropical Pine Forests*: The Khasi Pine forests found in the project area are not a climax forest type for this area, but rather represent a successional community that colonizes degraded forests. They are particularly dominant in drier, more degraded sites. This is evident from a comparative study of the composition of old growth mixed evergreen forests that characterize the Khasi sacred groves and adjacent Khasi pine forests. These pine forests are often interspersed with broad leaved trees in valleys and shaded depressions. During the rainy season, there is profuse herbaceous undergrowth. Much of this growth is seasonal and lies dormant during winter giving a barren look to the ground vegetation. Moderately shaded areas and slopes support grass-legume association, which is subjected to grazing with terrestrial ferns forming gregarious patches all over the area.
- *Mixed Evergreen Cloud Forests*: A remarkable feature of the project area is the presence of remnants of a number of primary mixed evergreen forests known as sacred groves, of which the Mawphlang Sacred Forest is most prominent and well-preserved. These relic forests have evolved through centuries of protection. Such groves are rich in floral growth and biodiversity. Due to extremely high rainfall these mixed evergreen forests, dominated by oaks and chestnuts, are unique in the state. The forests are especially rich in endangered epiphytes and amphibians.
- *Grassland and Savannas*: The most common vegetation types of the project area are rolling grasslands covering large areas. Such grasslands have developed as a result of removal of their natural forest cover. A few scattered trees can also be seen within such grasslands.

The climate of the Khasi Hills is influenced by its topography. The central plateau region of the state is impacted by cyclonic air movement that brings large quantities of precipitation across Bangladesh, which is discharged in local watersheds. The climate is characterized by four seasons:

- A dry spring season from March to April,
- A hot rainy summer season (Monsoons) from May to September
- A mild autumn season from October to mid November
- A cold winter season from mid-November to February.

The mean maximum temperature of the region ranges between 15°C in winter to 25°C and the mean minimum temperature ranges between 5°C to 18°C. The relative humidity varies from 25% during winter and 88% during summer season. The summer Maximum temperature is 28°C and the minimum 12°C. Winter maximum temperature is 20°C and the minimum is 3°C. The region is characterized by very heavy rainfall. Mawsynram, located just south of the project area, records the world's highest rainfall of 1,372 cm. The east-west alignment of the hill ranges of the central plateau region exerts rain shadow effect and the rainfall towards the north is relatively lower.

B2.2. Presence of endangered species and habitats

The geographical location of Meghalaya, in which the project is located, favoured immigration and introduction of various animal and plants species from neighbouring countries such as China, Myanmar and Bangladesh. As a consequence, the project areas possess a diverse mosaic of plant and animal species, many of which are either endemic or very rare. The region is classified as a global biodiversity hot spot under the Eastern Himalayan Endemic Bird Area. The region is also a hot spot of amphibian biodiversity. A recent review of literature carried out by Meghalaya Biodiversity Board reveals that a total of 436 Rare, Endangered and Threatened plant species have been recorded from Meghalaya representing 13% of the state's flora. *Gastrochilus calceolaris, Gymnocladus assamicus, Illichium griffithii, Pterocybium tinctorium, Saurauia punduana, Taxus baccata and Vatica lanceafolia* are few of the critically endangered plant species of Meghalaya. Meghalaya is endowed with a rich and luxuriant orchid flora of nearly 352 species belonging to 98 genera and representing 27.08% of the country's orchid flora. More than 110 mammal species are known from the Meghalaya Subtropical Forests [IM0126], but none are endemic to this ecoregion. Some of the species of conservation importance represented here include the tiger (Panthera tigris), clouded leopard (Pardofelis nebulosa), Asian elephant (Elephas maximus), wild dog (Cuon alpinus), Malayan sun bear (Ursus malayanus), sloth bear (Melursus ursinus), smooth-coated otter (Lutrogale perspicillata), large Indian civet (Viverra zibetha), Chinese pangolin (Manis pentadactyla), Indian pangolin (Manis crassicaudata), Assamese macaque (Macaca assamensis), bear macaque (Macaca arctoides), capped leaf monkey (Semnopithecus pileatus), and hoolock gibbon (Hylobates hoolock). The tiger, clouded leopard, Asian elephant, Assamese macaque, bear macaque, capped leaf monkey, wild dog, sloth bear, and smooth-coated otter are threatened species (IUCN 2000).

Many of these endangered species exist within the traditional Khasi sacred forests located in the project area. This temperate type of primordial forests has evolved through hundreds of years of protection. Many endangered species, which includes orchids, rhododendrons, ferns and other flora and fauna, are still found in these forests. The rich biodiversity of this forest has attracted the attention of biologists and research scholars from India and many other countries. While most of

the forests of the region have become fragmented, with little or no connectivity, a number of the sacred groves remain linked with a broad band of pristine forests lying along both banks of Umiam River. This stretch of forest is the last wild life *refugia* in the region.

The presence of areas with rich biodiversity, and harbouring rare endangered species of flora and fauna, places no constraint on the project design and implementation as a major objective of the project is to protect, conserve and extend the forest cover. Project implementation helps to conserve and extend wildlife habitat and preserve the rich bio-diversity of the area. Prominent among the rare and critically endangered and endemic flora and fauna found in the area, include the following:

Table B2: Presence of Fauna and Flora in the Project Area

Fauna	Flora
• Mammals: Pangolin, Chinese Ferret Badger, Leopard cat, Indian Porcupine, Flying Squirrel, Flying Fox, Binturong and Seraw, Slow Loris	• The flora of Meghalaya is some of the richest in India. Among the over 400 primitive angiosperms, orchids & fern, the following species found in the project area are critically endangered.
• Birds: Forest Wagtail, Bush Quail, Khaleej pheasant, Red fowl, Red-Yellow legged Falcon, Hill Partridge.	• Red Vanda, Blue Vanda, Ladies slipper orchids and the Pitcher plant.
• Reptiles: Blind snake, Khasi Keel back snake, Python.	
• Amphibians: Odorana mawphangensis, Sylvi ranadanicli, S. leploglossa, Pterora nakhare, Philautus shillongensis, Rana leptoglossa, Euphlyctis hexadactylus, Bufoides meghalayanus(Khasi Hill Rock Toad)	

B2.3. Other critical factors affecting project management

A village-based survey carried out in 2010 indicated that villages with limited motorable road access had higher rates of poverty among community families.

B3. Recent changes in land use and environment conditions

The project area represents a landscape dominated by five primary land covers including: dense forests with more than 40% canopy closure, open forests with 10 to 40% canopy closure, barren or fallow lands, agricultural lands, and settlements. Forest cover has been decreasing for over a century as populations have expanded and demands for timber, forest conversion for agricultural land and settlements. Access to minerals through mining has driven forest felling and clearing. In addition, natural forest regeneration in this high rainfall has been suppressed due to pressures from fuel-wood collection, grazing and dry season forest fires. These forces have driven a pattern of forest biomass loss that has resulted in a steady decline in forest cover and forest condition and health.

As Table B3 indicates, dense forest has been converted into open forest and barren lands over the past 20 years (1990 to 2010). The practice of extensive and shifting agriculture (*jhum*) has declined in the project area as farmers have focused their agriculture on more fertile soils located in valley bottoms and on lower slopes (*bun* farming), however some forest clearing remains on steeper slopes. The practice of charcoal production has also impacted forests in some project areas, as has forest clearing for commercial broom grass production.

Table B3: Land Use Change in the Project Area: 2006 & 2010

LAND USE	2006 (Ha)	2010 (Ha)
Dense forest	10,446	9,270
Open forest	5,908	5,947
Barren or fallow	5,794	6,330
Agriculture	3,179	4,777
Other (shadow*/water/no data)	1,812	814
Total Area	**27,139**	**27,139**

* visible when conducting analysis using GIS imaging

B4. Drivers of degradation

The key drivers of deforestation and forest degradation in the project area are:

- **Population Growth**: Meghalaya's population increased by 30.65% between 2001 and 2011, which was 50% faster compared to India as a whole. Many rural families continue to have 6 to 8 children, making investments in education and health care difficult. Out migration is not an attractive option for many Khasis as they are a highly cohesive culture.
- **Forest fires:** Fires occur during dry months when the forest floor is covered with a thick layer of dry leaves and needles. Fires are often set by discarded cigarettes, children playing with matches and escaping fires from agricultural burning. An earlier pilot project developed by Community Forestry International (CFI) demonstrated that community awareness-raising

with community imposed prohibitions on smoking and carrying matches into the forest have significantly reduced the incidence of fire. Building fire-lines and hiring village firewatchers also contributed to reductions in ground fires. In addition, the establishment of fines for those who cause fires also creates an incentive to be careful. Incidence of fire will be monitored by the LWC as burn areas are highly visible. Rewards to communities that prevent fire may be given at the end of the fire season. Training in fire safety and control is also important as communities may use fire to establish fire-lines (sanding) as well as for agricultural clearing.

- **Unsustainable fuel wood collection:** Over 99% of the rural community uses firewood as their sole source of fuel. Being situated in a relatively cold region, firewood consumption per household in the area is high, averaging 10 to 20 kg per household per day. Firewood is collected from nearby forests. If dead trees are not available, people resort to felling live trees and saplings. While some villages have regulations guiding fuel wood collection, many do not or these systems have broken down. The establishment of an NRM (plan vivo) planning process will help communities re-establish sustainable firewood production systems.
- **Charcoal making:** There is a significant demand for charcoal in Meghalaya. Charcoal is used by iron-ore smelting industries and it is also used for heating homes and offices in urban centers such as the city of Shillong. Charcoal making and its purchase by industries is illegal in Meghalaya. Charcoal making is concentrated in a few villages with limited alternative income generating opportunities.
- **Stone Quarrying:** There is a large demand for stone, sand and gravel for construction in Shillong city. Many stone quarries exist in the project area. Quarries are usually on steep slopes and they lead to erosion and landslides. Hima governments will be asked to place a moratorium on leasing land for quarries and not extend existing leases wherever possible.
- **Uncontrolled Grazing:** The rural communities allow cattle, goats and sheep to graze in nearby forest areas. Grazing causes forest degradation as young seedlings and saplings are grazed or trampled. Grazing animals are reported to have little economic value with communities often eager to switch to stall-feeding and higher quality livestock.
- **Agricultural Expansion**: Communities or clans own most of the forests in the project area. However, when community and clan forests are privatized they are often permanently cleared for agriculture. Forest clearance is also practiced for extensive and shifting agriculture (*jhum*) on steep slopes. Agricultural expansion is taking place in several Hima in the southern part of the project area where businessmen are providing loans to families to clear forests and plant broom grass for markets in other parts of India. Slowing and halting this process will require consultations with farmers involved in this activity to discuss alternative agricultural and other economic activities which could be supported both through the project as well as under Government of India schemes and projects.

Part C: Community and Livelihoods Information

C1. Participating Communities

The project focuses on the involvement of the Khasi people, an indigenous tribe in the state of Meghalaya, which is in the northeast of India, bordering Assam (India) and Bangladesh. The majority of the population in the Khasi Hills speaks Khasi, their native language. About 85% of the Khasi are Christians while a substantial minority practice the indigenous Khasi religion, which has influenced the clan system of Khasi society: Khasi land is divided into governments (himas) which are headed by the chiefs of the most influential clans. The system of descent and inheritance is matrilineal, meaning that women continue family lineages and property is passed on to the youngest daughter.

In the project area, there are 4,357 households representing a population of 25,411 with an average household size of 5.8 members. The villages are almost exclusively Khasi, with 62 villages administered through their traditional village councils (Dorbar) under the overall supervision of 10 indigenous governments (*hima*). These indigenous governments are represented by the Khasi Hills Autonomous District Council (KHADC).

Average village size is 73 households, though project communities vary in size from 12 households to 262 households. The target households and communities reside around the private, clan and community forests in the project area. Community forests are managed and controlled by the *Hima Dorbar (*council) for the benefit communities in the area. The project also involves forest owning clans and households with private forest.

C2. Description of the Socio-economic Context

The main occupation of all target groups mentioned previously is agriculture. The main crops grown are rice, maize, potatoes and vegetables. To supplement their incomes the farmers also rear livestock such as cows, sheep, goats, pigs and poultry. The average land holding in the project area is only 0.25 ha per household. In 2010, a baseline survey undertaken by the Bethany Society showed that the average annual income per household (of 5 or 6 members) was just Rs. 30,000 – less than USD$ 2 per day. Some 29% of households interviewed had an annual income of between Rs. 6,000 and Rs. 24,000. The project's village survey indicated that in most project communities 80 to 90% of the households were below the poverty line. Poverty and lack of employment opportunities was one of the most frequently noted problems facing project villages. Development priorities include creating jobs, better road access, improved water supplies, and improved access to schools and health facilities.

The East Khasi Hills district data reflects the areas heavy dependence on agriculture and natural

resources, yet population expansion is exceeding land and forest carrying capacity. As mentioned above, Meghalaya's population increased by 30.65% between 2001 and 2011, which was 50% faster compared to India as a whole. Many rural families depend on large families to carry on with subsistence farming and other livelihood activities. Out migration is not an attractive option for many Khasis as they are a highly cohesive culture. As a result, remittances from Khasi working out of the state to rural communities are limited. It appears rapid population growth over the past century remains an underlying cause of poverty and environmental degradation in the project area.

In the project area, potatoes are the major crop with average production of 9.9 metric tonnes per hectare. Other important crops include: rice, cabbage, peas, sweet potatoes, beans, maize and turnips. Heavy use of fertilizers and chemical inputs are reported to be causing soil problems with the result that yields are falling in some areas. Despite the high price of inputs, vegetable prices may not reflect producer costs, with potatoes selling as low as Rs. 5 per kilo. Farm families are experimenting with alternative production systems especially the cultivation of fruit trees including peaches, plums, pears and other stone fruit. Improved animal husbandry systems such as stall fed pig and poultry raising, and fresh water aquaculture are also popular rural enterprises.

The project communities are demonstrating a strong commitment to education with a rural literacy rate for the district of 55%. Khasi society is quite literate and most families place a high value on educating their children. High levels of school attendance are common among village youth, especially girls, who often seek high school graduation or college degrees. Access to schools, roads and markets varies among the project villages. Based on village profiles conducted by the project team, the 62 villages can be categorized according to their size, access to services and forest dependence.

The village profiles indicated that 56% of the 62 villages had a high forest dependency with 1 to 3 community forest blocks within 1 to 2 km of the village. Access to roads was also a factor with 11% of the villages at least 0.5 km from the nearest road. Some remote hamlets were up to 5 km from the road. The village survey indicates that villages with limited motorable road access had higher rates of poverty among community families.

C3. Description of Land Tenure & Ownership of Carbon Rights

The state of Meghalaya is governed under the Sixth Schedule of the Constitution of India. This means that customary beliefs and practices are recognized and legitimized, including those governing the management of land, forests, minerals and other resources. The Sixth Schedule bestows the rights of resource management to the indigenous people of the state and their traditional institutions, coordinated by Autonomous District Council. The Khasi Hills of Meghalaya

is comprised of small tribal administrative units known as *Hima*. Less than 10% of the State's forests are under the authority of the Government of India and the State Forest Department, and these are largely limited to national parks and wildlife sanctuaries, while the remaining 90% is held by communities, clans, and families.

Aside from private forests, most of the forests in the project area are under the stewardship of one of the 10 respective *Hima* and are managed *Hima Dorbar*, an indigenous council represented by all male adults of every constituent village. These community forests are managed for the benefit of the entire community under including strict conservation of sacred forests, as well as multiple-use in production forests. The community members are the actual owners of these community forests. The *Hima Dorbar* does not own any land, rather they are custodians elected to manage and control such forests. Private forests are under the control of the owners, who may be private individuals or members of a clan.

The Project area is comprised of ten such *Hima*, which have formed a Federation to coordinate management. In August 2011, the Federation registered under the Meghalaya Societies Registration Act as "Ka Synjuk Ki Hima Arliang Wah Umiam, Mawphlang Welfare Society" of Meghalaya. Carbon benefits arising out of the project are wholly owned by the Synjuk Federation and are used to cover the costs of mitigation activities and management, with the balance distributed to the 62 villages within the ten *hima* through annual development grants.

The land tenure for each forest owner, be they owners of clan, private or community forests, has been established during the project design phase. Forest boundaries are well known and accepted, and in the few cases where disputes have arisen, they have been resolved. When forest conflict arises, they are settled by the *Hima Dorbar*, or referred to the Autonomous District Council. The Khasi Hills Autonomous District Council has approved this REDD+ project as the formal Government of India agency representing the indigenous governments. In addition, the project has been recognized by the Meghalaya Department of Environment and Forests and collaborates closely with the State Government's Climate Change Center. Carbon revenues are also to be used to meet the operational costs of the federation and the LWC, who are responsible for project administration, coordination, and management of mitigation and livelihood activities, monitoring, and reporting.

Part D: Project Interventions & Activities

D1. Summary of Project Interventions

The Khasi Hills project seeks to prevent the conversion and degradation of ecosystems through REDD+, comprised of forest conservation and an ANR component. The project aims to slow, halt, and reverse the loss and the degradation of forests in Meghalaya and is the first REDD+ project in India. Restoration of degraded forests are achieved by supporting communities in land management and forest regeneration activities that yield livelihood benefits. The project supports the development of community natural resource management (NRM) plans for the management of forests and micro-watersheds. Where possible, the project will link forest fragments to enhance hydrological and biodiversity services, especially on major and minor riparian arteries of the Umiam River.

Project Interventions can be summarised in the following way:

- **Program Management and Institution Building:** A key component in the REDD+ project strategy is to build the capacity of indigenous governments to protect and restore community forests. While indigenous governments and communities possess legal ownership of local forests, increasing population and economic pressures combined with an erosion of local controls has resulted in rapid depletion of forest resources. By strengthening local institutions and management capacities forest stewardship can improve. This component includes four key tasks:
  1) Uniting the ten indigenous governments (*hima*) within a resource management Federation to oversee the planning and coordinate strategy and financial support.
  2) Establishing Local Working Committees (LWC) that can support the 62 participating villages to formulate natural resource management plans. The LWC operating and responsive to their respective *hima* and the Federation.
  3) Supporting the participating villages to prepare their natural resource management plan and initiate mitigation and livelihood activities.
  4) Engaging government and civil society partners to collaborate in implementing the REDD+ project, drawing on their technical and financial resources.

- **REDD+ Mitigation Activities:** Reducing emissions from deforestation and forest degradation is a core component of any REDD+ project. The project seeks to achieve a range of hydrological and biodiversity goals, including storing and sequestering carbon. This is achieved through five activities:
  - **Advance Closure:** This initial activity involves mobilizing communities to restrict access and use of degraded forests, which possess good regenerative potential reflected in the presence of saplings and seedlings, rootstock for coppicing species, and favourable soil

and moisture conditions. These sites would be closed to grazing and fuel wood collection for an initial period of 5 years to allow them to regenerate. The community would also be responsible for preventing forest fires in the area. After several years, the area may be treated with Assisted Natural Regeneration activities.

- **Assisted Natural Regeneration:** The second activity involves selecting open forest sites with high potential reflected in the presence of viable root stock and mother trees for assisted natural regeneration (ANR) treatment. This activity requires 10 person days per hectare for thinning, multiple coppice shoot cutting, and weeding undesirable species. ANR treatment just costs approximately 10 to 20% of plantation costs and results in accelerated forest regeneration with natural species and high survival rates. The project is currently implementing ANR treatment on 1,500 hectares of degraded open forests identified by communities with another 1,500 hectares targeted for treatment over the next five years.
- **Controlling Forest Fires:** The third activity involves the controlling of ground and canopy forest fires. Dry season fires delay natural regeneration in degraded forests and threaten dense forest areas, while emitting substantial carbon emissions. CFI's earlier pilot projects indicate that through the establishment of fires lines (a traditional practice in Khasi society), the creation of awareness regarding the need to control fires quickly and effectively, and the provision of fire watchers during the dry season, both the extent and frequency of forest fires can be dramatically reduced.
- **Sustainable Fuelwood Production:** The fourth task requires developing sustainable systems to produce fuel wood. Khasi households consume between 15kg and 20kg of fuel wood daily. Hacking and collection of firewood both reduces forest biomass and health. The establishment of sustainable fuel wood harvesting systems in natural forests can result in improved forest condition in the project area. Harvesting plans and rules that identify the time and place for fuelwood collection, as well as permitted volume allowed for extraction are established by the village councils to regulate forest use.
- **Reduce Fuelwood Consumption:** The fifth activity focuses on reducing fuel wood consumption through the installation of fuel-efficient stoves. Traditional stove technologies are inefficient and create health problems by emitting smoke into the household. Fuel-efficient stoves can reduce fuel wood consumption by 30 to 50% and with new smoke stacks can direct harmful smoke out of the house. The project aims to train SHGs and youth in the manufacturing and installation of smokeless, fuel-efficient stoves and the acquisition and distribution of liquid petroleum gas (LPG) cook tops and seeks to install these in at least 80% of project households over a ten-year period.

- **Livelihood Activities**

Poverty is a major problem in the project area where 80% or more of the households in the 62 villages live below the poverty line of USD$2 per day. To be successful this REDD+ project

addresses livelihood needs. This includes the implementation of five activities:

- **Community Benefit Sharing Program**: The project shares revenues from carbon offset sales through the provision of annual Community Development Grants to all participating villages. The grants vary from Rs. 15,000 to Rs. 25,000 ($225 to $360) depending on net revenues available for funding small development projects identified by each village. Projects include drinking water enclosures, ponds, playgrounds, and civic building projects.
- **Livelihood Program - Women's Self Help Groups:** This livelihood strategy involves the development of Self Help Groups (SHGs) and targets women. SHGs are organized and trained in bookkeeping, micro-finance, GOI bank programs, and small enterprise development. Aside from training, the project provides small seed grants to help in establishing SHGs. The project also collaborates with government projects and schemes involved in micro-finance group development as well as with local NGOs working in this area. SHGs are involved, where possible, in other project activities including the fuel-efficient stove project, the sustainable farming system program, and the ecotourism strategy. Earlier pilot project experience suggested that many families wished to improve their income from livestock and transition to more intensive stall feeding. This strategy not only increases income from animal husbandry, but also accelerates forest restoration. The project provides support with the construction of stall and pens. It assists communities to access government veterinary services and connect with markets. The project provides women's micro-finance groups with piglets and poultry and is developing a pig-breeding program for the project area.

- **Livelihood Program – Farmers' Clubs:** The second strategy is the Sustainable Farming Systems Program which targets men. This approach is designed to improve farm incomes and reduce negative environmental impacts from the current heavy dependence on chemical fertilizers and pesticides. Special attention is given to assisting farmers to transition from low value potato cultivation to raising fruit trees, especially stone fruits, cut flowers, and other high value crops. The project provides farmer's clubs with poly-houses, a type of green house that extends the growing season through with the assistance of the Indian Council of Agricultural Research. These institutions have the necessary infrastructure to impart training to farmers and agriculturists to improve production. The project sponsors such training. Scientists from these Institutions are invited to come to the project area to demonstrate modern practices in these fields. Such training is accompanied by construction of poly houses, training in animal husbandry techniques and the construction of pigpens and poultry raising.

D2. Summary of Project Activities per Intervention

Table D2 – Description of activities				
Intervention type	Project Activity	Description	Target group	Eligible for PV accred-itation
Program Management and Institution Building	Establish Local Working Committees to manage micro-watersheds	• LWC facilitate NRM Planning • Training and employment for community NRM team	Community (Federation, Hima, and Village Councils	No
REDD+	Forest protection	• Institutional strengthening, Establishing a common approach to forest protection and management by all participating communities (Himas and Durbar • Forest boundary dispute resolution • Forest Management Planning • Controlling Forest Fires • Sustainable fuelwood production and consumption	Community group	Yes
Afforestation and Reforestation	Assisted natural regeneration	• Restriction of forest areas for grazing and fuelwood collection • Community weeding, thinning, MSC performed on regenerating open forests. • Enrichment planting • Protection of natural regeneration of native species • Homebased Nurseries	Community group	Yes
Reduced Fuelwood Consumption	Energy Transition	• Distribution of Fuel Efficient Stoves and LPG Cooktops • Creation of charcoal Briquette Making enterprises	Households	No
Livelihood Activities	Income Generation for Low Income Households	• Piggery and Poultry Projects • Ecotourism • Home-based Nursery Management	Self-help Groups	No
	Income Generation for Low Income Households	• Sustainable Farming Systems • Horticulture Projects	Farmers' Clubs	No

D3. Effects of Activities on Environment & Biodiversity

D3.1. Project Impacts on Biodiversity

Project activities will have a far-reaching impact on biodiversity in the project area. In addition to delivering climate benefits, forest protection will prevent the loss of biodiversity. Enrichment planting will be carried out using only native and naturalised tree species. Moreover, the REDD+ project is expected to enhance, or at the very least maintain, levels of biodiversity by expanding and maintaining habitats.

Reducing the impact of key drivers of deforestation and degradation, especially forest fire and fuel

wood collection, should allow for rapid re-growth of pine and mixed-evergreen forests. By the end of the project, field inventories and satellite imagery should show indications of young secondary forests on 3,000 hectares of area that is currently badly degraded. These young secondary forests should be between 5 to 10 meters in height. The project also seeks to link forest fragments connecting old growth patches in sacred forests and community forests, with newly regenerating forest areas.

Fire management plans including creation and maintenance of fire lines, employment of seasonal firewatchers to reduce forest loss from fire and improve and extend wildlife habitats. Steps are also planned to create wildlife refugia by creation of Wildlife Corridors. Rules on hunting and awareness raising programs should also increase the recovery of endangered animal and bird populations. The project also seeks to give special attention to endemic species of orchids and amphibians by creating special refugia and conservation and education activities.

D3.2. Environmental impacts on soil and water

Project activities are unlikely to lead to any negative environmental impacts. Reducing deforestation and forest degradation will help to prevent soil erosion and contribute to better water quality within the project boundaries. The project seeks to improve the hydrology of the Umiam Watershed by protecting and restoring watershed forests, implementing soil and water conservation measures, and improving the management of riparian areas.

This riparian artery is too steep for settlements or agriculture and falls within the core project area, so conservation imposes minimal economic loss to local communities. Assisted Natural Regeneration (ANR) is the primary approached to the restoration of degraded forests due to its low cost and biodiversity benefits. The project intends to implement ANR on 500 hectares each year, with target areas identified in the 18 micro-watershed plans. This aims to cover most of the 5,000+ hectares of degraded open forest in the project area over the next decade. The level of intensity of effort (i.e. weeding, thinning, enrichment planting) in the target areas will depend on funding from the national rural employment guarantee act -NREGA), as well as carbon revenues. At a minimum, ANR will include protection from forest fires, grazing, and fuel wood collection.

The project also seeks to improve the hydrology of the Umiam Watershed by protecting and restoring watershed forests, implementing soil and water conservation measures, and improving the management of stream and rivers embankments (see Table 4). The project is working to establish indicators regarding volume and duration of spring and stream flows to assess how changes in forest cover are impacting water availability.

Part E: Community participation

E1. Participatory project design

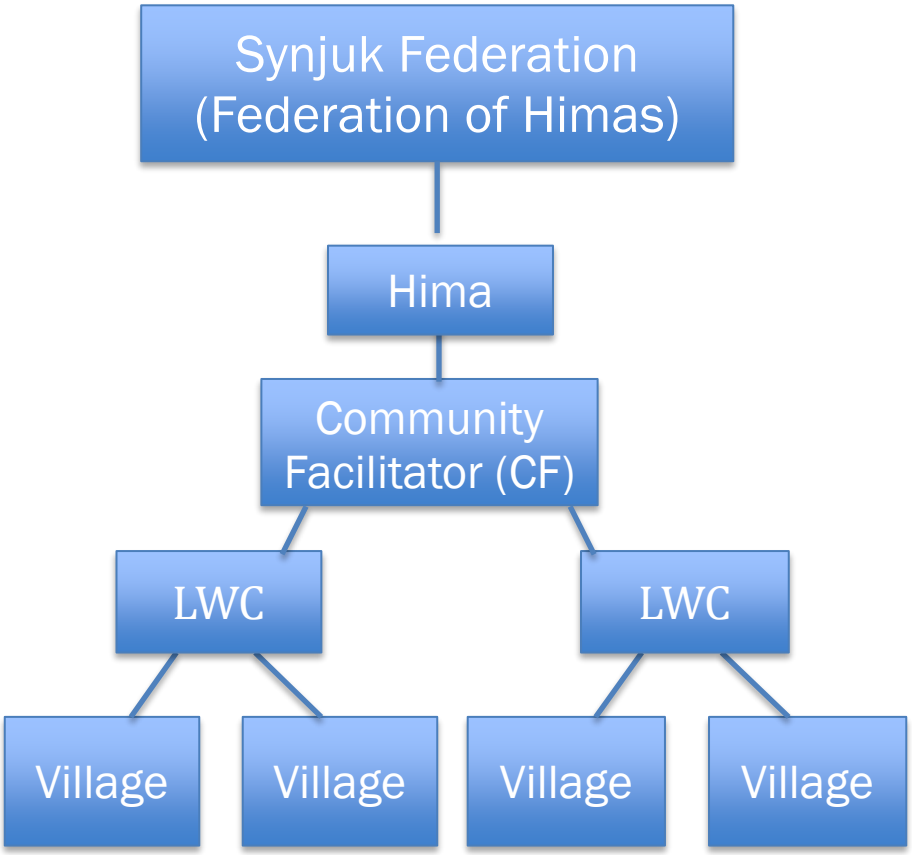
E1.1. Planning Process

Participation in the project grew out of an earlier PES pilot project in Hima Mawphlang. The original pilot project was initiated at the request of the *Hima* leadership and community. Subsequently, nine additional indigenous kingdoms in the project area made a request to CFI to join the emerging REDD+ project initiative. After CFI agreed to support the expanded project, the ten *hima* formed a Federation to coordinate and manage the activities. As there are 62 villages under the supervision of the ten *Hima,* each village was consulted regarding their willingness to participate in the project. All 62 communities in the project area have participated in a series of awareness raising activities that included a description of the project. After their own internal discussions they had the option to participate in the project. In 2012-2013, all 62 villages agreed to participate and agreed to sign a community resolution on conservation and protection of forests. Private and Clan forest owners that wish to join the project may also agree to the terms of the project, though no special payments are provided to them other than those shared by other members of their local community.

E1.2. Governance of Community Groups

Villages prepare their own Natural Resource Management (NRM) plans, which are organised into clusters. These plans include community recommendations on ways and means to enhance incomes and the standard of living of the local community. These clusters work with Lower Working Committees (LWCs) where NRM plans are discussed and then submitted to local Community Facilitators (CFs), who then incorporate all feasible proposals of the community NRM plans into a strategy for their respective Hima and present them to the Federation. The Federation then reviews NRM plans together with the Forestry Team working with the Synjuk (Figure 3). Each of the 62 participating villages have designed and implemented local NRM plans and have signed an agreement with the Synjuk to participate in the REDD+ project (see Annex 2).

Figure 3: Community-based governance



Levels of Community Governance:

- **Village-Level:** The project has the following key staff at the field level
  - Youth Volunteers: One per village who help to undertake forest monitoring and socio-economic activities.
  - Self-Help Groups: Ten to fifteen members, mainly women, who propose and carry out activities that contribute to the livelihoods of the people in individual villages, such as piggery, poultry or running a store.
  - Farmers' Clubs: About twenty farmers, mostly male, join together to carry out activities, such as carpentry, poultry and piggery.
  - Project Participants: Villages prepare NRM plans which contain forest conservation activities, as well as livelihood projects to improve living conditions at village-level.
- **Lower Working Committees (LWCs):** Participating communities are generally clustered into groups of 2-5 villages, to form Village Working Units (VWU) in consultation with the concerned *Hima*. Villages within such clusters are close proximity to one another. One male and one female from each village, as well as the village headmen, constitute a Local Working Committee (LWC). The Chief of each *Hima* (i.e. the Syiem, Lyngdoh, etc.), acts as the Chairman of all LWCs falling within his area of jurisdiction
- **Community Facilitators (CF):** CFs are appointed in each *Hima*, by the *Hima Dorbar*. The CF

is chosen by consensus and must be educated, influential and a respected member of the community. His job includes awareness campaigns within the *Hima* to sensitize people on the need to conserve the forests and natural resources and to manage them sustainably as well as to train Local Working Community members and Extension Workers on all aspects of project works, including book keeping and maintenance of accounts and all aspects of data collection including livelihood & socio-economic indicators.

- **Federation of Himas (Synjuk Federation):** A Federation comprising of all ten *Hima Dorbar* has been formed to represent all the forest owners of the project area (see Annex 4). The Federation is registered with the government as a charitable society. The long-term aims and objectives of this society include the conservation of the forest, its fauna and flora and to initiate steps to improve the quality of life of the community. Such a Federation ensures the adoption of a collective approach to all the scheduled activities as well as an equitable sharing of the benefits. The Federation gives the indigenous traditional Institutions a much stronger voice in all matters relating to forest conservation and relies on knowledge sharing and transfer of skills to ensure a uniform approach to natural resource management. The Federation is in a powerful position to bargain for allocation of funds from the government for the management and control of community forests. The exact constitution, by-laws, and objectives of the Federation are decided upon by the concerned *Hima Dorbars* themselves.

E1.3. Barriers to Participation

The project aims to remove barriers to participation by involving women and men equally at various stages in the project operations. In Lower Working Committees there must be equal representation by men and women. One man and one woman must represent a village as members in the LWC. Moreover, women are especially involved in Self-Help Groups (SHGs), which are common institutions across India to ensure self-financing of local development objectives. Traditionally, the ten to fifteen members of SHGs are mainly made up of women, although men are permitted to join as members. As of 2016, the project aims to employ female Community Facilitators (CFs) who will specifically represent women's interests in the project.

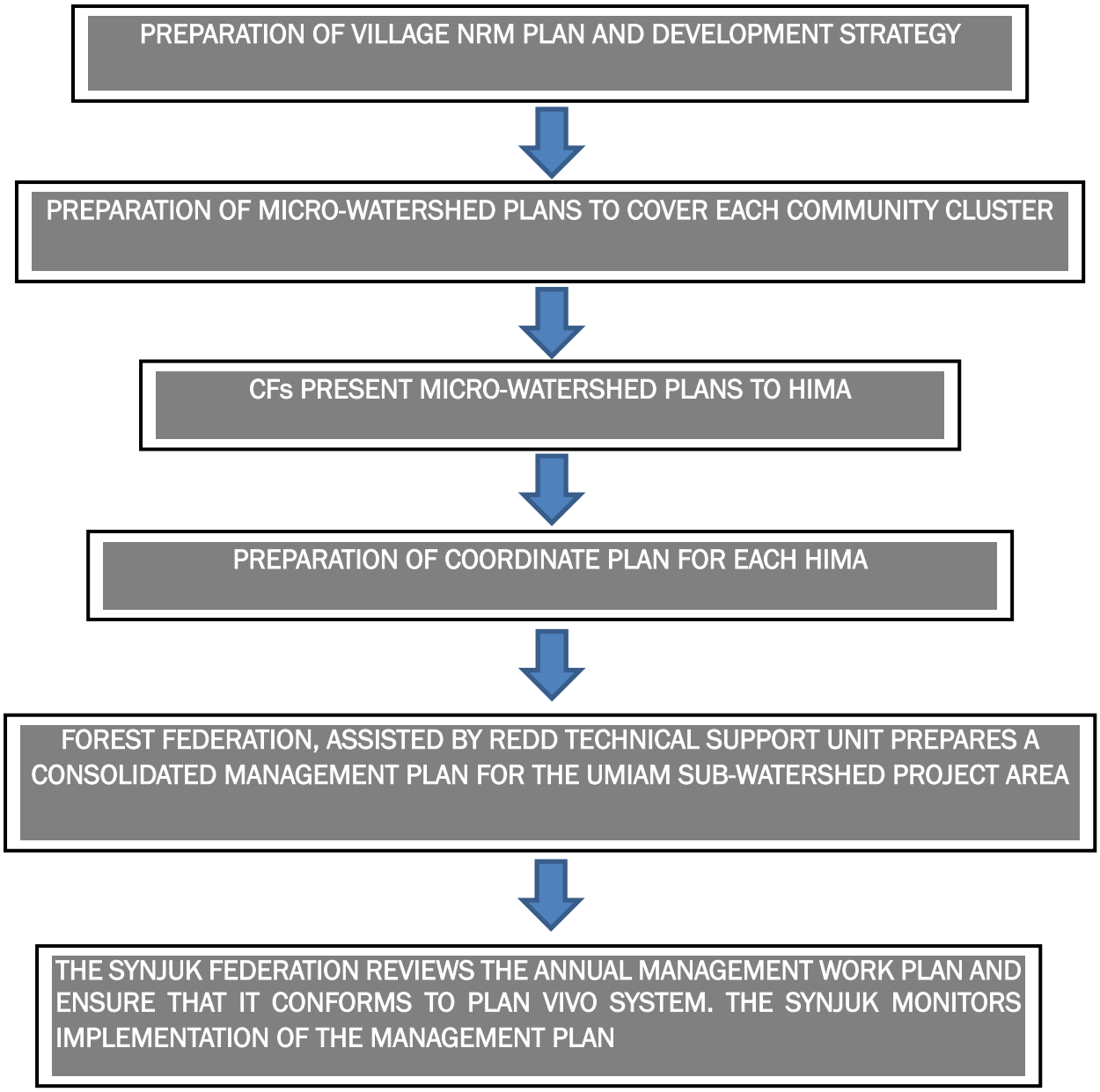
E2. Community-led implementation

Apart from preparing Natural Resource Management (NRM) plans together with village headmen. These plans are then discussed with Lower Working Committees (LWCs) which represent clusters of 2-5 villages. Once NRM plans are discussed at LWC level, they are submitted to Community Facilitators (CFs) who consolidate plans for their respective Hima and submit them to the Synjuk Federation.

Once the Synjuk Federation receives NRM plans, different teams employed by the Synjuk

Federation assess them according to their technical and other criteria - specifically the forest team and the socio-economic team. Once plans are centrally approved, they are stored at the central office of the Synjuk Federation and at village-level where they are kept by the village headman. At federation-level, all plans are consolidated into an overall Umiam Watershed Plan.

Figure 4: Community-led implementation of *plan vivos*



E3. Community-level project governance

Through the preparation of Natural Resource Management plans (NRM) for each village, communities are involved in implementing their own NRM plans, which are overseen by village headmen and Community Facilitators (CFs) together with youth volunteers from different villages. Moreover, SHGs and farmers' clubs identify their own priorities and objectives and consolidate them into livelihood activities, with the help of Synjuk Community Development Grants. At the cluster-level, LWCs meet about 4 times a year to discuss progress and issues. Moreover, the Synjuk meet 2-3 times a year to discuss implementation, challenges and improvements to the project. If there are pressing matters at hand, the Synjuk meets more regularly.

The project is already having an important impact by strengthening indigenous government and traditional resource management institutions in the project area. By engaging them in the project design process and empowering them as the lead management institution, the indigenous *hima* and *durbar* are gaining recognition in the part of district and state government, as well as civil society and international organizations. Through the creation of an apex body in the form of a non-profit Federation, the villages and *hima* are able to prepare landscape level management plans that link their small community forests and sacred groves into a unified stewardship system. The Federation also gives the smaller governments and villages a mechanism to speak with one another, as well as with state government. This is important in securing financing for NRM activities, both from national government development schemes and programs, as well as through carbon sales on private voluntary markets.

The creation of technically specialized Local Working Committees at the village cluster level also provides 18 new LWC organizations with the skills needed to prepare village NRM plans and implement them. The LWC is responsible to their respective *hima* as well as to the Federation, allowing for upward and downward flows of information and financing. The institutional components should also lead to a reduction in inter-village conflicts, as well as disputes with private sector agents.

In each of the 18 LWC areas, the community selects one or more degraded forest areas each year for Assisted Natural Regeneration (ANR), including closure to green fuel wood collection, grazing and fire. Depending on the availability of funds and materials, enrichment planting, weeding and thinning activities are implemented. In each micro-watershed, several monitoring plots for dense forests and degraded forests are measured annually and photo monitoring taken. This includes a sample of forests where ANR activities are underway. In addition, the impact on the watershed is visible in changes in the land use pattern reflected in SPOT satellite images. These are analyzed every 5 years with GPS coordinates provided for all ANR areas. At the end of each year, the LWC assesses the success of their efforts in improving watershed conditions. (Biodiversity and

hydrological indicators for communities are under development).

The project also involves experienced forestry professionals from the Meghalaya Forest Department and the Khasi Hills Forest Department, with consultations with several retired West Bengal Forest Department officers. The technical guidance provided by these individuals includes forest inventory data collection and analysis that assist the Federation to compile annual reports on changes in forest conditions and carbon stocks in the dense and regenerated forests.

The project has implemented a grievance mechanism, which allows village members to raise any complaints with village headmen and CFs, who are responsible for reporting complaints to the Synjuk where complaints are registered and tracked. The Synjuk will address complaints by engaging with the CFs, hima heads and village headman to find resolutions to grievances. A grievance form is filled out by the CF and presented during the monthly CF meetings for discussion at which time a resolution strategy is identified. The CF then implements the action and reports the outcome at the next meeting. If there is a grievance from outside the project area, it is also the responsibility of the CF to include that problem in his or her monthly report in order to identify a path to resolution.

Part F: Ecosystem Services & Other Project Benefits

F1. Carbon benefits

Table F1 – Carbon benefits					
Year	Net REDD benefit (tCO_2)	Net ANR benefit (tCO_2)	Overall project benefit (tCO_2)	20% Buffer (tCO_2)	Net Total minus buffer (tCO_2)
2012	0	0	0	0	0
2013	58,778	0	58,778	11,756	47,022
2014	54,893	1,742	56,634	11,327	45,307
2015	51,265	3,483	54,748	10,950	43,799
2016	47,878	5,225	53,103	10,621	42,482
2017	44,715	5,922	50,636	10,127	40,509
2018	41,761	6,618	48,380	9,676	38,704
2019	39,004	7,315	46,319	9,264	37,055
2020	36,429	8,012	44,440	8,888	35,552
2021	34,024	8,708	42,732	8,546	34,186
Total	**408,745**	**47,025**	**455,770**	**91,154**	**364,616**

F2. Livelihoods benefits

Table F2 – Livelihoods benefits							
Food and agricultural production	**Financial assets and incomes**	**Environ-mental services (water, soil, etc.)**	**Energy**	**Timber & non-timber forest products (incl. forest food)**	**Land & tenure security**	**Use-rights to natural resources**	**Social and cultural assets**
Support for farmers' through the support of farmers' clubs, providing training and capacity-building to improve agricultural production and book-keeping	Income generating activities increase local incomes	Reduced soil erosion through forest protection	The project includes the dispersal of improved cook stoves, LPG cook stoves and charcoal briquette making machines	Regeneration of forest allows for better provision of NTFPs	Strong tradition of community rights in project area. Project transfers sense of ownership to local communities managing their own resources	Regulations for access to natural resources through forest management plans and participatory decision-making	Increasing social cohesiveness and cooperation between different hima heads
Improved incomes leading to increased purchase power and greater food security	Disbursement of funds based on locally chosen development objectives	Better water infiltration through forest regeneration and protection	Some households may be negatively affected if they have to walk further to collect assigned allotments for firewood. The project mitigates these effects by providing alternative energy sources	Assigned plots for wood harvesting prevent over-exploitation of forest resources	Increasing focus on community-based forest management		Mobilization of communities; bottom-up approach to improving livelihoods
Community-based irrigation projects to improve crop production	Local piggery and poultry projects supported through the project enable local communities						Empowerment of women

F3. Ecosystem & biodiversity benefits

Table F3 – Ecosystem impacts				
Intervention type (technical specification)	Biodiversity impacts	Water/watershed impacts	Soil productivity/conservation impacts	Other impacts
REDD+ + ANR	Habitat protection and expansion; creation of a wildlife corridor; community-based monitoring of species	Stabilising ground and surface water levels	Prevention of soil erosion; improved nutrient cycling; natural regeneration improves soil productivity	

F4. Additionality and Environmental Integrity

The state of Meghalaya is governed under the Sixth Schedule of the Constitution of India. This means that customary beliefs and practices are recognized and legitimized, including those governing the management of land, forests, minerals and other resources. The Sixth Schedule bestows the rights of resource management to the indigenous people of the state and their traditional institutions, coordinated by Autonomous District Council. The Khasi Hills Automonous District Council approved the project in 2013.

The project has been proposed by a network of ten indigenous governments to sustain and restore the Umiam watershed forests and generate improved livelihoods for the 62 participating communities. The project is not a result of any legislative act, nor part of a commercial initiative that would take place without the REDD+ initiative. Without a REDD+ project, this effort to organize and implement a landscape level management strategy would not take place, due to the ongoing absence of financing and technical support. Through the REDD+ project, resources will be generated to support the development of a management structure including supporting a network of community organizers and a federated body of community and indigenous government representatives. The REDD+ project will require ongoing monitoring and include performance-based payments that will create an information system and incentives that will better ensure long-term management. Without REDD+ financing and technical support there are no other initiatives that would create an enabling environment for community-based management systems to emerge.

While the GoI has allocated substantial resources for development, it has had no impact in slowing the rate of deforestation in the project area which has averaged 2.7% per year between 2000 and 2010. This complete failure to stem degradation and deforestation appears to be linked to the inability of government to effectively engage forest dependent communities. This project is additional as it addresses this problem by building on indigenous institutions and delivering essential technical and financial support.

Table F4: Project Barriers and Barrier Mitigation Actions

Type of Barrier	Description of Barrier	Overcoming Barrier
Financial/ economic barriers	• Lack of funds to support fire control, conservation activities and monitoring. biodiversity	• Funds from carbon sales will support activities
Technical barriers	• Lack of experience in developing management plans, mapping boundaries, and using monitoring equipment.	• Synjuk provides technical guidance to project participants • Training and cross-visits in planning, mapping and monitoring
Institutional/ political barriers	• Community lacks political influence to address threats from coal mining • Community needs to strengthen relations with District Government leadership	• Synjuk has organised meetings with local government leaders to help the communities build communication channels and contacts in government
Ecological barriers	• Remote areas where access to mainstream support is difficult	• Structure of Synjuk allows to even reach remote areas
Logistical barriers	• Poor road linkages restrict the flow of services from government programmes.	• Networking with government agencies should increase access to government services.
Cultural barriers	• Communities distrust government and external actors	• Synjuk leadership and staff are chosen from within the communities and are trusted by community members to act in their best interest

Part G: Technical Specifications

Please refer to KHCRP_TechSpec_Revised March 2017, available at http://www.planvivo.org/project-network/khasi-hills-community-redd-project-india.

Part H: Risk Management

H1. Identification of risk areas

REDD+ and ANR activities are designed to be sustainable and to supply benefits after the project period. Firstly, the project team will work to reduce financial, management, and technical risks. Secondly, political, social, land ownership, and opportunity cost risks are being addressed through the project. Thirdly, the risks of fire are minimized through project interventions. See Annex 3 for a detailed analysis. The risk table attempts to quantify the risk for a range of risk factors including socio-political, institutional, financial, and natural events. The formula is based on giving a score to the likelihood the risk factor will occur (.05 = unlikely, and .1 = likely) multiplied times the severity of potential impact to the project (1= low, 2= medium and 3= high). This provides a composite score that suggest a buffer of 20% is reasonable. Overall the project offers comparatively low risk in the South Asia context, due to very strong tenure security, active and democratic indigenous governments, high literacy in the project communities, and a strong local commitment to restoring forests in the watershed.

H2. Risk buffer

The risk buffer is a proportion of carbon benefits that are not sold. It is based on the risk of non-sustainability of the project. We estimate that a 20% risk buffer is appropriate for project activities where Plan Vivo certificates are sold ex-post, in accordance with the Plan Vivo guidelines for REDD+ projects. The project design relied on a conservative estimate of carbon stocks and benefits in order to reduce the risks of over-estimating carbon credits generated by the project. Potential carbon offsets from below ground biomass, litter and deadwood are also not included and can be viewed as a risk buffer.

Part I: Project Coordination & Management

I1. Project Organisational Structure

The project is coordinated by the Khasi Hills Federation of ten Indigenous Governments (Hima), under the full title of Ka Synjuk Ki Hima Arliang Wah Umiam **Mawphlang Welfare Society** (KSKHAW-UMWS). The Synjuk Federation is recognized by the Government of India under the Societies Act 12 of 1983. Moreover, the regional Khasi Hills Autonomous District Council (KHADC) approved the project in 2011 (See Annex 4 for further details).

The project's organizational structure is based on the 62 participating communities coordinated by 18 Local Working Committees (LWC), each of which supports the NRM activities of 2 to 5 villages located within a micro-watershed (cluster). The communities and LWC are assisted by a team of trained village staff to act as extension workers and community facilitators (CFs), and the community forestry Federation that oversee and coordinate the REDD+ project. As a registered society, the Federation acts as a non-profit project-implementing agency under the direction of its board of governors and elected executive officers (see Annex 4). The Federation convenes 2 to 3 formal meetings each year with representatives from all ten *hima* to hold project management discussions. The Local Working Committees meet quarterly to supervise the NRM plan implementation in the 62 villages. Additional meetings are held at the village level as required to implement project activities.

The Federation receives governance oversight and guidance from its Advisory Committee, comprised of four members, as well as the Chief Secretary of Meghalaya (see below). These individuals have extensive experience managing local, national, and international NGOs. The Advisory Committee members can be called upon by the Federation to address any organizational, governance, or financial issue related to the Khasi Hills Community REDD+ project or other related matters. In addition, the Federation has formed a Technical Advisory Committee to provide guidance on issues related to both the natural resource management components of the project, conducting remote sensing studies, and advise on livelihood activities. The Technical Committee is comprised of six members including: Mark Poffenberger, who led the project design team, representatives from the Meghalaya State Climate Change Center, the State Forest Department, the Northeast Hill University, and the Indian Council for Agricultural Research. Members of the Technical Advisory Committee play a number of roles including reviewing data from annual silvicultural and environmental monitoring activities, reviewing and editing annual reports, and advising on Plan Vivo certification, administration and sales.

Table I1.1: The Advisory Committee

Dr. Kathryn Smith-Hanssen	Former Administrative Director, CFI, California USA ksmithhanssen@gmail.com
Barkos Warjri	(IAS) Chief Secretary Government of Meghalaya barkoswarjri@yahoo.com
Banteilut Lyngdoh	Chairman Rilum Foundation for Sustainable, Smit. yes_2004@rediffmail.com
Shaika Rakshi	Shaika Rakshi, ICCO India, Delhi Shaika.rakshi@icco-cooperation.org

Table I1.2: The Technical Advisory Committee

Dr. Mark Poffenberger	Former Executive Director CFI, California, USA mpoffen@aol.com
Dr. Subhash Ashutosh	(IFS) Additional PCCF, (CC,R&T), Shillong. sashutosh30@yahoo.com
Dr. Sanggai Leima	(Phd) Assistant Professor, SIRD, Shillong sanggai@gmail.com
Dr. S.V. Ngachan	Director, ICAR, Umiam Shillong. syngachan@rediffmail.com
Mr. P. S. Nongbri	CF, Shillong. nongbri.pynbiang@gmail.com
Mr. Tambor Lyngdoh	CCF. KSKHAWUMWS, Mawphlang. tamborlyngdoh70@gmail.com
Dr. B.K. Tiwari	Northeast Hill University (NEHU, Shillong) bktiwarinehu@gmail.com

Table I.3: Project Participants and Stakeholders

Key Function	Organizations Involved	Type of Group & Legal Status	Activities
Original Project Developer	CFI	Non-Profit, reg. in US	Project Design, technical and marketing support, project monitoring, fundraising. Has transferred project coordinating to Synjuk Federation in 2015.
Project Implementer	Synjuk Federation	Non-Profit, reg. in India	Watershed Management planning, Mitigation and livelihood activities
Project Technical Operations	Synjuk Federation through the REDD technical team	Non-Profit, reg. in India	Administer project funding, provide technical support, liaison with government projects, support project monitoring
Community Participation	Hima (indigenous kingdoms)	Non-Profit, reg. in India	Sanction NRM plan for Hima lands Guide FEDERATION, pass Hima regulations and NRM policies as needed
	Village Durbar (village council)		Develop and implement village NRM and livelihood plans
	Self-Help Groups (women's micro-finance organizations)	SHGs (women's micro-finance organizations) Non-Profit, reg. in Meghalaya	Initiate livelihood and small enterprise activities

During the early implementation phase (2012-2015) the project relied on technical support from Community Forestry International. Inputs during this period focused on project design issues,

including institutional mechanisms for project governance, administration, financial management and implementation. Periodically, the project drew on the technical expertise of Rupantaran and BioClimate R&D for technical support and 3rd party reviews with special reference to carbon monitoring and measurement of other project benefits. A Chartered Public Accountant (CPA) is responsible for conducting periodic audits of Federation accounts. The Federation tracks those of the Local Working Committees (LWCs) and the Self Help Groups (SHGs).

I2. Relationships to national organisations

The project conforms to the emerging National Government of India Policy on REDD+. The Project has received approval of the Khasi Hills Autonomous District Council, which has already been obtained (see Annex 4). The project design team regularly briefs the Government of India's REDD+ cell regarding early sub-national REDD+ field project experiences. The project has also been presented at national REDD+ meetings and workshops, such as a symposium held in Hyderabad in December 2011, and was visited by the Prime Minister of India, Narendra Damodardas Modi, in 2016. There has been increasing national interest in the project and its approach with many governmental schemes looking to the project as a potential blueprint for replication.

Forests are sparsely mentioned in India's INDC, which were submitted prior to the Paris Agreement in 2015. The INDC states that the country plans large-scale afforestation of areas and is working on a REDD+ policy. This has not resulted in any concrete policies that would have an impact on the project. The project will monitor India's national efforts on jurisdictional REDD+ approaches and will update the Plan Vivo Foundation accordingly.

I3. Legal compliance

The project is in full compliance with other Government of India laws and regulations. As such, employment conditions are aligned with national laws.

The project sought and secured certification under the Plan Vivo Standard and is in compliance with protocols established under Free, Prior, and Informed Consent (FPIC). The project also secured the Approval of the Khasi Hills Autonomous District Council (KHADC), the level of government legally responsible for overseeing such activities. The project was validated by Rupantaran. No credits generated by the project have been sold outside the Plan Vivo certification system and Markit registry.

I4. Project management

Table I4: Project Timeline

TITLE	TYPE OF ACTIVITY	OBJECTIVES	BRIEF DESCRIPTION	TARGET AREAS/GROUPS	TIMELINE
	Program Management and Institution Building				
Develop CF Federation	Create legal, democratic and transparent apex body	Establish community-based coordinating NRM Mechanisms	Hold elections, register with Government of India as Non-profit, and get training in bookkeeping.	Indigenous governments and leadership in project area	2011
Develop Local Working Committees	Establish and train LWCs to support Village NRM Planning	Create 18 LWCs to supervise NRM Activities	18 LWCs comprised of village heads, male and female leaders create support 62 village NRM planning and activities	Village leaders, women SHG heads, Hima representatives	2011-2013
Formulate Village NRM Plans	Mapping, PRAs, Community dialogue	Design long term strategy for resource management	Map community resources, demarcate boundaries, plan forest restoration and livelihood activities	Village leaders, Durbar members, SHG heads, youth club representatives	2011-2013
Create NGO and Government Support Linkages	Meetings with state government planning agencies, cooperative agreements with NGOs	Establish long term supportive partnerships with government and civil society	Multi-stakeholder workshop, one-on-one meetings with state employment and NRM agencies, rural banks - Contract local NGO to provide technical assistance.	State ministers of forestry and environment. State Commissioner	Ongoing
	REDD+ Mitigation Activities				
Aided Natural Regeneration (ANR)	Identify areas implement ANR in high potential degraded forest sites	Accelerate regeneration of degraded forests, improve habitat	Mapping area needing treatment. Removal of suppression. Restoration of degraded forests through weeding, thinning, multiple shoot cutting.	Accelerate natural forest regeneration, improve species composition, produce timber and firewood	Ongoing
Forest Fire Control	Organize community fire control systems – create awareness	Reduce frequency and size of forest fires	Creation of fire lines and employment of firewatchers during the fire season.	Rural households and communities	ongoing
Sustainable Fuel wood Production	Develop fuelwood management plans	Reduce fuel collection pressure on natural forests	Establish regulations guiding fuelwood collection times, volumes and locations. Create maps of collection zones	Federation representing all community members. Owners of Clan & Private Forests.	ongoing
Clean Energy Program	Distribution of new stove technology in project and LPG cooktops to communities	Reduce fuel wood consumption by 30% - improve household health	Train SHGs and village youth to manufacture and install fuel-efficient stoves. Subsidize costs through project funding	All families in project area utilizing wood burning stoves	ongoing
Biodiversity Conservation	Creation of Wildlife Corridor Protection of amphibian habitats Protection and	Connect the two major wildlife habitats of the project area.	Dialogue with State Ministry of Environment, Federation and Hima representatives. Develop Bio-diversity monitoring system and management plan	Minister of Environment, KHADC, Federation, Hima leaders, and relevant durbar representatives.	ongoing

	rehabilitation of orchids.				
Soil and Water Conservation Measures.	Develop and implement soil and water conservation plan	Control soil erosion & improve watershed hydrology	Gully plugging through vegetative palisades, wattling, grass sodding and slip planting. Riparian planting and river bank restoration	Landless workers, youth groups	ongoing
	Livelihood				
Piggery and Poultry Project	Replace low quality cattle and goat populations with stallfed pigs and poultry	Protect forest from over grazing, increase family income	Inferior breed cattle to be replaced by more profitable and stall fed livestock such as poultry, pigs, etc.	Land owners and agriculturists	2010-2016
Sustainable Farming Systems	Training in horticulture and fisheries	Improve sustainability and productivity of farming systems	Training of farmer innovators. Demonstration of more productive techniques of farming. Support from Indian Council for Agricultural Research (ICAR) and NGOs	Farmers, local NGOs, and Indian Council for Agricultural Research	ongoing
Formation of SHGs	Organize women fund micro-finance groups	Augment employment generation and promote micro-enterprises.	Train women-run SHGs in bookkeeping. Assist them to open bank accounts and be registered in the GOI's rural banking program. Link into ecotourism and stove programs	Village women	2010-2012
Promotion of Eco-Tourism in the Project Area	Eco-Tourism planning and program development	Increase tourist related livelihoods for local communities	Secure technical and financial support from state and central governments for organizing such training. Develop eco-tourism development strategy	State agencies, SHGs, Tour organizers, Village Youth Clubs	ongoing

Village-based activities are recorded by Community Facilitators (CFs) who keep centralized record-keeping books indicating forest monitoring and livelihood activities. At the same time, the central forest monitoring and the socio-economic team employed by the Synjuk Federation transmit their monthly activities to a central data entry operator at the Synjuk's office where all information is consolidated and formalised. Records are backed up every month on an external hard drive which is kept off the premises.

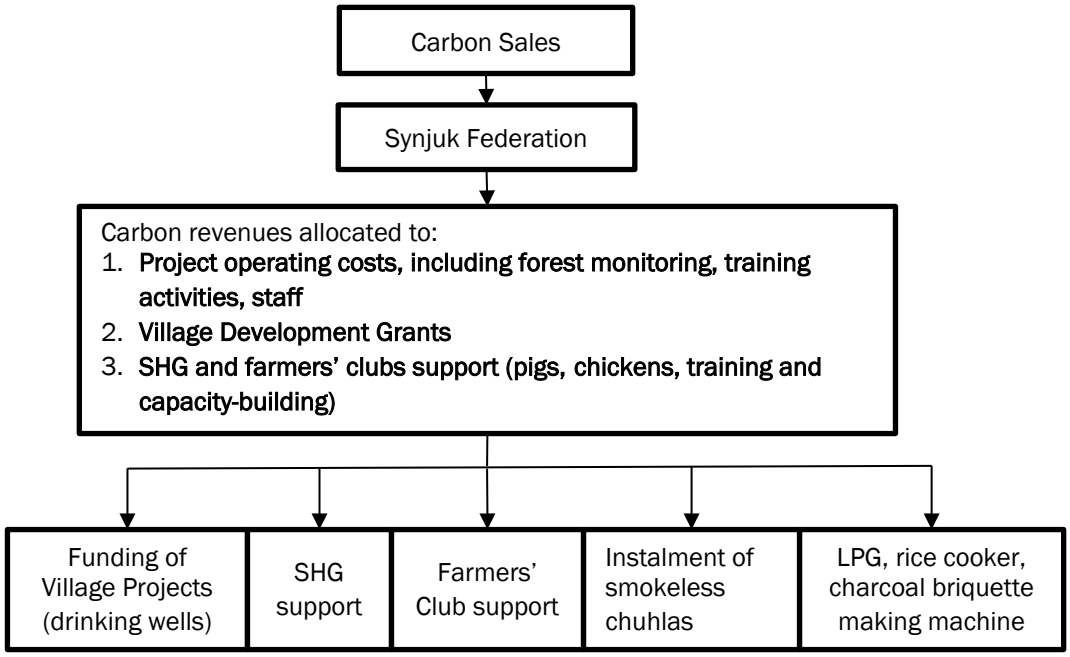
I5. Project financial management

The Synjuk is responsible for managing all carbon revenues and other Payments for Ecosystem Services (PES) income, depositing all funds in a designated project account. PES is dispersed according to the completion of Natural Resource Management (NRM) plans of each participating village and completion of monitoring and project-activities.

The disbursement process includes these steps:

- Revenues from Carbon Sales are received and allocated to the general Project Activities described in Section D.
- Villages prepare Natural Resource Management Plans together with village headmen
- LWCs assess the plans according to overall strategy and priority. NRMs are then given to Community Facilitators (CFs) who coordinate the consolidation of plans at Hima level together with Hima heads. These plans are then presented to the Synjuk where they are assessed and approved, and funds are allocated to proposed activities in the form of village development grants. The amount given in the form of village development grants is consistent for all villages but may vary from year to year based on revenues from carbon sales.
- During implementation, the Synjuk forest team, socio-economic team and Community Facilitators will conduct monitoring exercises.
- If there is a problem in activity or villages fail to meet their monitoring targets, the matter will be discussed with Community Facilitators, village headman, and hima heads.

Figure 5: PES Disbursement



This REDD+ project receives support from several sources. The design of the project was funded by the U.K. based Waterloo Foundation that provided £100,000 from 2011-2012. CFI provided technical and logistical support through the Margaret A. Cargill Foundation from 2012 to 2014.

The project's financial structure assumes multiple sources of financing over three, ten-year project periods (2012-2021, 2022-2031, and 2032-2041). CFI has assisted the federation to raise funds through carbon sales as a source of support for the Federation's operations through 2015. The Federation and the participating *Hima* and communities seek additional funds and technical support from Government of India programs. Beginning in 2015, administrative and financial management systems were fully in place and the management of REDD+ project funds are administered by the Federation.

Due to the uncertainty regarding future financial support for the project, a series of budget scenarios are being developed to create greater flexibility in responding to actual funding availabilities. Funding priority is given to maintaining management institutions and monitoring activities. Secondary priority is given to REDD+ mitigation activities, while tertiary priority is given to livelihood and community development activities.

Estimated costs are broadly divided into categories presented in Table I5 and is further broken down by funds required from carbon sales and REDD+ funds and those potentially obtainable from Government of India schemes and programs. The project budget assumes that during the first ten year project 80 to 90% of the project communities and forest areas will be positively impacted by project related experiences. Under this budgetary scenario, based on projected costs during initial years, it would require approximately $200,000 per year in external funding to support project management, REDD+ mitigation, and livelihood activities, with approximately 75% from carbon sales and 25% from Government of India sources. Since funding from external grants and carbon sales are uncertain, the project adopts a flexible approach to financing. Funding priority is given to resource management activities with greater emphasis on livelihood activities as financing allow.

During the initial years of the project, while the Federation seeks GOI approval to directly receive foreign funds, all revenues from carbon sales are transferred from the Plan Vivo ESCROW facility to the Federation. After deduction of issuance fees (PVF), commission charged by the project's retail/reselling partners, and occasional consultancy/verification fees, all remaining funds derived from carbon revenues are used directly for REDD+ project activities by the Federation. Carbon sales are held in a project account for the Federation. A local CPA audits the Federation's accounts annually.

Table I5: Annual Budget Scenario (2013)

BUDGET ITEM	UNITS AND UNIT COST	REDD+ PROJECT FUNDS AND CARBON SALES	GOV. OF INDIA SCHEMES AND PROJECTS	TOTAL FUNDS REQUIRED
Project Management				
Administration and Management	Federation Operations Local NGO Support	$22,000 $15,000		$37,000
Project Monitoring and Reporting	Data collection, analysis and reporting	$6,000		$6,000
REDD+ Mitigation Activities				
Forest Protection	Fire watchers, fire line maintenance, patrolling $300 per village per year	$18,000		$18,000
Forest Restoration	$18 per hectare for ANR Treatment based on labor costs x 620 hectares per year	-	$10,800 (NREGA)	$10,800
Efficient Stoves	$15 per stove x 500 HH per year	$7,500		$7,500
Livelihoods				
Animal Husbandry Project	$1200 per village x 6 villages/year	$3,200	$4,000	$7,200
Micro-Finance Program	120 SHGS (2 per village) cost $100 per year	$6,200	$6,200 (Rural Bank)	$12,400
Sustainable Agricultural Program	$1500 per village x 6 villages/year	-	$9,000 (ICAR)	$9,000
Community Performance Award	$300 x 60 villages	$18,000		$18,000
TOTAL		$95,900	$30,000	$125,900

The Federation markets and trades Plan Vivo Certificates based on actual forest carbon emission reductions and sequestration. The amount of payments depends on the degree to which the project has achieved project emission reductions and sequestration targets. During the 2013-2015 period, the project sold 10,000 to 20,000 tCO_2 each year, with the revenues meeting the project financing requirements. The funds are deposited in the federation account with joint signatories.

The ANR activities of the project have been partly co-funded by Belgian reforestation company WeForest, which has sponsored trees and home-based nurseries for the enrichment planting of ANR areas. As such, the project is able to proceed with project activities when carbon sales do not generate sufficient funds to implement the annual work plan.

I6. Marketing

CFI, the original project developer of the project, has been in charge of marketing in the project implementation phase 2012–2016. Responsibilities have been gradually handed over to the Synjuk Federation, which will assume marketing responsibilities such as administering the project's Markit account and managing certificate sales. The Synjuk has established agreements with a number of international NGOs to assist in the marketing of carbon offsets. These include Zeromission (Stockholm), COTAP (Berkeley, Ca.), C-Level (Brighton, UK), and WeForest (Brussels). The Synjuk is currently exploring a long term sale of carbon offsets to INFOSYS (Bangalore). The project works closely with these organizations to develop a marketing strategy that engages new corporations that wish to offset their emissions. The project provides their partners with information about achievements in addressing for REDD+ and Afforestation goals, as well as socio-economic and other environmental objectives.

I7. Technical Support

The Synjuk Federation receives continuous technical support through the project's Technical Advisory Committee (TAC) and CFI staff. This includes a close working relationship with the Meghalaya State Climate Change Center and their GIS team who help monitor changes in forest cover. The project also has close ties with senior professors at the Northeast Hill University in Shillong, the region's top research center. The project receives technical support from the Indian Council of Agricultural Research (ICAR), who help guide the sustainable agriculture strategy and provide training support, as well as other state government line agencies including fisheries, horticulture, animal husbandry, and water resource development. The forest monitoring team and the socio-economic monitoring provide training and technical expertise to Community Facilitators who carry out monitoring activities to track implementation and progress of the project. The Synjuk Federation continually provides training throughout the year to Self-help groups and farmers' clubs in order to build capacity and human capital on the ground.

Part J: Benefit sharing

J1. Memoranda of Understanding (MOU) Governing Payments for Environmental Services (PES)

The Synjuk Federation has signed memoranda of understanding (MOUs) with each participating village in the ten different himas. Agreements are based on Natural Resource Management (NRM) plans which each village has prepared at the start of the project. NRMs were prepared from the bottom-up: Villages discussed their concerns and felt impacts due to increasing forest degradation and deforestation. Local plans were drawn up which detailed how villages proposed to protect any forest surrounding their villages and restrict access to forest resources in order to make forest resource use more sustainable. Each participating village has an agreement with the Synjuk including a village-map of where forest is located and which areas will be protected (Annex 3).

These agreements are kept on site at the central office of the Federation and are also available at village level in Khasi and were signed after a long consultation process in the pilot phase of the project where each village had the chance to propose an overall Natural Resource Management (NRM) plan. Based on successful monitoring and implementation of NRMs, PES funds are disbursed in a number of ways, including cash and in-kind benefits (see J2).

There is increasing convergence between government schemes and the project in areas where there exist governmental grants for sustainable development activities. As such, some projects are co-funded by governmental programmes, although these usually function on the basis of giving loans to villagers, whereas the Synjuk's PES in cash or in-kind are provided as a result of participating in the project.

If villagers wish to make changes to their agreement or are not content with the way PES is managed by the Synjuk Federation, they are encouraged to raise any grievances with their village headmen and CFs, who will alert the Synjuk Federation. Issues pertaining to PES are discussed at Synjuk meetings where the Federation shall attempt to settle concerns and disputes.

If carbon sales do not materialise as fully as hoped, the project has included a statement in its agreement that project activities shall still be carried out to the best of their abilities, as it is assumed that participating in project activities will result in benefits for the area regardless of cash or in-kind PES disbursement.

J2. Payments & Benefit Sharing

Based on successful project implementation and forest monitoring, PES is disbursed to participants in a number of ways:

J2.1. Community Development Grants

Apart from forest conservation plans, villages propose village-level activity plans which benefit the whole community, such as building drinking wells and washing ponds. These plans are submitted to Lower Working Committees (LWCs) where plans for clusters of 2-5 villages are consolidated. LWCs then submit village-activity plan and proposed budgets to the Synjuk, Federation. Upon approval of village-activity plans, funds are transferred into LWC accounts from where cash can be drawn. Payments are sent in two instalments, with one payment covering the initiation of the activity and the second payment upon proof completion. Community Facilitators (CFs) will monitor the progress of village activities and report back to the Synjuk. If work is not completed in a satisfactory manner, payment is withheld. Moreover, the project provides rice cookers, LPG cookers and smokeless chuhlas to villages to reduce pressures on the forest in terms of fuelwood collection.

J2.2. SHG grants

Moreover, funds are transferred to village-based self-help groups to support local groups for small-scale income generating projects, such as

- In-kind benefits, such as pigs and chickens to support local piggery and poultry projects
- In-kind benefits, such as utensils and crockery which can be rented out and used to generate income for micro-finance loans
- Managing and maintaining home-based nurseries (payments are made in 2 instalments: one during the set-up of the nursery and the other upon survival of tree saplings)
- Capacity-building in the form of training for book-keeping, caring for pigs and chickens, maintaining nurseries

Each SHG must open a bank account to receive funds. The socio-economic monitoring team employed by the Synjuk Federation undertakes monitoring. CFs and Sunjuk staff visit nurseries regularly. SHG members are also encouraged to maintain a database of saplings that are planted.

J2.3. Farmers' Club Grants

Grants for farmers' clubs activities are disbursed on similar activities and following the same procedures. Farmers' clubs must have bank accounts and receive:

- In-kind benefits, in the form of pigs or chickens
- Trees and seedlings that may diversify production, such as peach or other fruit trees

J2.4. Capacity-building, such as bookkeeping, chicken and pig farming, etc.

By providing a bottom-up approach that gives each village a voice and a forum to discuss and debate plans, aspirations and challenges, the project ensures an equitable approach that benefits all villages equally and simultaneously. Members that receive rice cookers, LPG or fuel-efficient woodstoves are selected by villages in a consultative process. This includes poverty level or number of household members.

Part K: Monitoring

The Project has developed a comprehensive monitoring plan based on the requirements of the Plan Vivo Standard (2013). This plan will enable the project to monitor performance (assessed by achievement of annual targets and five year goals), validate assumptions used for calculating the carbon benefits and ensure community involvement. The monitoring plan also includes monitoring of indictors to assess the effectiveness of project activities to mitigate the key drivers of deforestation and forest degradation and of indicators to assess the socio-economic impacts and environmental impacts of the Project. The monitoring Plan is summarised in Table K.1: Ecosystems Service Benefit Indicators, Table K.2: Socio-Economic Monitoring Indicators, and Table K.3: Environmental and Biodiversity Monitoring Indicators.

Baselines have been established at the start of the project in 2011, covering (a) forest cover (b) carbon stock and (c) socio-economic indicators. As a REDD+ project, annual monitoring (and reporting) is largely based on monitoring of activities supported by the project, with impact monitoring taking place every 5 years and with the resulting information being used to revise the technical specifications.

Indicators measured and recorded annually (see tables K.1, K.2, K.3 in sections below) will be submitted in the project's Annual Reports which are submitted to the Plan Vivo Foundation. Results from five-year indicators are reported and presented to the relevant verification body tasked with auditing the project every 5 years (Rainforest Alliance in 2016-2017). The results of these verification audits are distilled into project verification reports and made available at www.planvivo.org.

K1. Ecosystem services benefits

K1.1. REDD+ and Assisted Natural Regeneration:

Forest Growth is monitored for both the dense forests and open forests through annual forest inventories conducted on sixty plots randomly located throughout the project area. The inventories are conducted in late November of each year under the leadership of the forest technical team. The Community Facilitator and youth volunteers collect the data and community members from the respective area where the inventory plots are located under the supervision of the senior forestry specialist. Each local data collection team submits their findings to the senior forestry specialist who analyses the information and creates summary tables for inclusion in the annual report. The data includes information on changes in biomass and carbon stocks in both the dense and open forests (see Table K.1). The results are used to reflect on the health of forests in the project area and to allow periodic updates in the Technical Specifications during the five-year verification exercise.

K1.2. Forest Fire Control

Avoiding emissions from deforestation and forest degradation includes reducing the impact of forest fire through community-based fire control activities. Monitoring the impact of these activities is done through annual reports on the area burned in each hima. This data is collected by the Community Facilitators and youth volunteers through dialogue with community members and visits to any burn sites. The fire information is recorded by the Community Facilitators and reported to the project team office throughout the fire season (February through May). The data is analysed at the end of each calendar year and included in the Annual Report. Where fires have occurred, community meetings are held to discuss the causes, the effectiveness of fire control activities, and future measures that can be taken to better control incidences of fire. The project team also collects annual information on the length of the fire lines constructed in each Hima. Community Facilitators report the length of fire lines constructed or maintained in each village and convey this information to the project office, which analyses it and includes it in the Annual Report. The community decides where to place fire lines to best protect regenerating and dense forests from damage due to fire.

In addition, the project team requests the assistance of the Meghalaya State Climate Change Center to analyse MODIS satellite imagery to assess the location and frequency of fire events in the project area, as well as in the larger East Khasi Hills District. This data helps distinguish the impact of the fire control activities in the project area in comparison to neighbouring forests outside the project area. This exercise is done every five years as part of the verification process and to assess the effectiveness and impact of the fire control program.

K1.3. Forest Restoration

Each year the project team meets with project communities to identify degraded open forest areas that the village may want to restore. During the year, the project supports a variety of community activities to regenerate targeted forests. A number of monitoring indicators are used to assess, aside from those mentioned above. These include the number of hectares that the village has placed under “advanced closure” for Assisted Natural Regeneration (ANR); the number of hectares that have received additional silvicultural treatment, such as thinning, weeding, pollarding, and singling; the number of active nurseries providing supplemental saplings; the number of saplings planted; and the number of planted saplings surviving. This monitoring data is collected by the community facilitator from village members, nursery managers, and youth volunteers and is then transferred to the project office. The final results are tabulated at the end of the year and published in the Annual Report. Each participating village develops their own NRM plan. The impact of this planning process is to create sustainable use rules and regulations. By 2017, the project seeks to

ensure that 100% of communities have rules governing fuelwood collection and hunting.

K1.4. Charcoal Making

Charcoal manufacturing is a driver of deforestation in the project area and a source of support for some low-income households. The project has a number of activities that are designed to provide alternative income generation. The progress and impact of these efforts to reduce charcoal manufacturing is monitored annually through a survey of the number of households actively involved in charcoal making. The data is collected by the project team and the community facilitators and is analysed at the end of the year and reported in the annual report. The data is used to identify communities with charcoal making and provides a basis for a dialogue with those villages to develop income-generating plans for the coming year. The project seeks to reduce the number of households dependent on charcoal making in the forests by at least 50% by the year 2021.

The primary methodology used to monitor changes in forest cover is an analysis of a time series of satellite images of the project area. For the baseline, SPOT images from 2006 and 2010 were used to determine that the rate of deforestation was 2.7% per annum (forest areas that have moved from the dense forest category (40% canopy closure or more) to non-forest) and the rate of degradation was 0.1% (forest areas that have moved from the dense forest category to open forest (10 to 40% canopy closure). Actual changes in forest cover were determined at the end of 2016 through the analysis of satellite image done in 2017 and will be reassessed every 5 years (i.e. 2021, 2026, 2031, etc.).

In addition to the analysis of remotely sensed data to monitor forest cover, the Project will conduct annual field-level inventories of 60 forest plots to assess changes in biomass and carbon stock. The measurements are conducted at the end of each calendar year. The forest plot sample includes 20 dense forest plots (10m x 10m), 20 open forest plots (20m x 20m), and 20 plots under Assisted Natural Regeneration (ANR) (20m x 20m). The data is collected in November each year and analyzed to assess changes in biomass. The plot locations are marked with paint and identified using GPS coordinates. This will include both the dense forest plots and the open forest/ANR plots. Resources required for monitoring include a forestry professional guide, the community facilitator team that works for the Federation, and members of the LWC who are trained in forest inventory techniques. Equipment includes plot and tree measuring tapes, clipboards and data collection forms, cameras, GPS units, plot lines, and paint. The data will be analyzed by the Federation and the project's REDD Technical Support Unit (RTSU) using an EXCEL and ACCESS database system.

Annually, the activities contributing to REDD will be monitored (see Table K.1). These will indicate that the planned REDD activities have taken place. Community facilitators from each of the 18

micro-watersheds are responsible for collecting this data and reporting the findings to the monitoring officer. The annual monitoring indicator report provides information on changes in carbon stock in the monitoring plots the total area burned by forest fire, and the length of fire lines created to protect forests. This, in turn, provides an overview of community capacity to limit forest loss and carbon emissions. Annual reporting to the Plan Vivo Foundation includes monitoring results from biomass surveys and photo monitoring for certificate issuance as well as annual activity reports.

To monitor regeneration in ANR areas, biomass surveys are carried out annually. At least one plot is measured and photographed in each ANR area. Twenty ANR (20x20m) plots were established for monitoring purposes over the first three years of the project to assess changes in carbon stock in areas that are being protected by the community through social fencing. In addition, another 20 plots of open forest are being monitored to maintain a reference baseline. The project also reports on any additional degraded forests that have been placed under "advanced closure" by communities and the area receiving silvicultural forest restoration treatment. Every five years, ANR areas will also be monitored using satellite image analysis as for REDD+ areas. To detect forest regeneration or a lack of change in ANR areas, the perimeters of ANR areas are marked on maps and satellite images using GPS data.

Table K.1 Ecosystem Service Benefit Indicators

Activity	Activity Indicator (measure annually)	Annual Targets		
		Full Target Achievement	Partial Target Achievement	Missed Target
Fire Control	Number of Hectares Burned during Dry Season by Hima	< 50 ha	51-100	> 100 ha
	Length of fire lines constructed by Hima	> 60 km	40-59 km	< 40 km
Forest Restoration	Number of Hectares with ANR Advance Closure Treatment	> 200 ha	100-200 ha	< 100 ha
	Number of hectares with ANR Silvicultural Treatment	> 50 ha	25-49 ha	< 25 ha
Impact (after 5 years)	Impact Indicator	Means of assessment	Baseline (2016)	Target (2021)
Forest Condition	Average C-stock in dense forest monitoring plots	Plot measurements	157 tC/ha	200 tC/ha (equivalent to approx. annual increment of C-stock of 8 tC/ha)
	Average C-stock in open forest monitoring plots	Plot measurements	26 tC/ha	34 tC/ha
Fire damage	Area burnt by wildfires during year	GIS data & project records	64 ha	32 ha

K2. Socio-economic Monitoring

K2.1. Livelihood Activities

Improving the capacity of community institutions: The sustainability of the project is determined by the capacity of the participating villages and their institutions to continue implementation into the future. The project has multiple strategies to build this capacity and monitors impact by collecting information on the number of functioning Self Help Groups and Farmer's Clubs, the number of Local Working Committee meetings held each year, and the number of training exercises conducted for community groups. This data is collected by the project team through the year and is analysed at year's end and discussed 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 other stakeholder institutions.

Awareness Raising; The project will annually monitor the number of awareness raising activities which should lead to broad-based knowledge of the project and the Federation among participating households. Knowledge of the project should reach 90% of all families by 2021. A Village Knowledge Register is developed for each participating community. This database is managed by the project team and updated on an ongoing basis to provide information regarding community leadership, institutions, assets, problems, and goals. It is reviewed by project staff visiting the village to provide them with helpful data on the community. The Community Facilitator, youth volunteers, village leaders and community members collect the data.

Benefit Sharing: Each year the project distributes revenues from carbon offset sales to the participating villages through the Community Development Grant program. The size of the grants depend on the volume of carbon sold and typically range from $200 to $400 per village. Program monitoring indicators include: number of grants made, funds transferred to each village, type of activity undertaken by the community, and outcome of the grant. The monitoring program also quantifies the number of community members that benefit from the grant activity. The data is collected by the community facilitators from the village leaders and members to gain their input and is analysed at the project office and discussed by the project team to identify any problems and implications for the coming year's grant program. The findings are included in the Annual Report.

Improved Livelihoods for Low Income Families: Approximately 90% of the households in the project area are below the national poverty line. Raising income levels is an important goal of the project and a number of activities are monitored under this strategy. These include the number of families that have benefited through participation in income generating programs, such as the piggery and poultry project and the farmers' club. Other indicators include the number of pigs, poultry, fruit

trees and poly-houses distributed to low income families. This data is collected by the Community Facilitators from village leaders and members and is analysed by the project team to assess if the project is having the impact planned at the beginning of the year. The findings are included in the annual report.

Conflict Resolution: The Community Facilitators monitor any conflict arising among project participants related to the implementation of all project activities. If conflicts occur, the Community Facilitator records the name of individuals involved, nature of the dispute, time and place on the conflict monitoring form and reports this to the project team at the periodic Community Facilitator meeting. The team is responsible for following up on the dispute and attempting to resolve it. Results are also reported on the form which is summarized in the annual report.

K2.2. Socio-Economic Monitoring Plan

The monitoring plan includes socio-economic monitoring to ensure that the project is delivering benefits to participants that enhance their livelihoods and quality of life in accordance with the Plan Vivo Standard. The project seeks to distribute benefits and share them with communities through the provision of annual community development grants (CDG) to each participating village. The village members decide what project they wish to implement and submit proposals to the Federation for funding. Each year, the Federation compiles a report on the type of project, amount spent, and impact of the activity. The Federation also assesses how many community families benefited directly from the project. In addition, the project seeks to build the capacity of community institutions including the Local Working Committees, Self-help groups, and farmer's clubs. Trainings are held by the Federation to build awareness regarding forest conservation and management, bookkeeping, technical skills in agriculture, animal husbandry, and other income generating activities. The number and results of the trainings are reported each year as an annual indicator (see Table K.2).

Table K.2: Socio-Economic Monitoring Indicators

Activity	Activity Indicator (measure annually)	Annual Targets		
		Full Target Achievement	Partial Target Achievement	Missed Target
Benefit sharing and participation	Number of villages with community Development Grants	> 50 villages	30-49 villages	< 30 villages
	Number of families accessing CDGs	> 600 households	400-599 households	< 400 households
Institutional capacity	Number of training programs	> 10 programs	6-9 programs	< 6 programs
	Number of families participating in income Generating Activties	> 200 families	100-200 families	< 100 families

Impact (after 5 years)	Impact Indicator	Means of assessment	Baseline (2016)	Target (2021)
Knowledge and awareness	Knowledge of the federation & project	Baseline survey/resurvey	75 % of households	85% of all households with knowledge of the Federation and Project activities.
Livelihoods benefits	% of all project households receiving benefits from community grants	Baseline survey/resurvey	30 % of households	60% of households receiving benefits from community development grants
	% of households with livelihoods activities reflecting conservation of forests and natural resources	Baseline survey/resurvey	20 % of households	60% of all households with expansion of livelihood activities that also reflect conservation of forests and natural resources

K3. Environmental and biodiversity impacts

The project seeks to address the heavy reliance of project communities on fuelwood by reducing consumption and shifting project families to LPG cooktops. This takes pressure off local forests while improving health conditions within the homes by reduced smoke pollution. Table K.3 presents annual indicators to be used to assess project impact on other environmental and biodiversity indicators. In addition, the project is working with local governments (hima and durbar) to encourage a reduction in size of the areas under open pit mining operations. The project will monitor the total area currently being mined in each village to assess how this environmental awareness program is progressing. Finally, the project team will collect data on the observation of key indicator species that are threatened or endangered. Siting data gathered by youth volunteers and community facilitators will be analyzed at the end of each year and included in the Annual Report to Plan Vivo.

Clean Energy Program: This program seeks to reduce fuelwood consumption and assist project households to transition to cleaner energy technologies. The project monitors several indicators to assess progress and impact. These include: The number of fuel efficient stoves installed; the number of LPG units installed; and the number of charcoal briquette makers installed. This data

indicates the success of the project in meetings it annual goals in distributing more fuel efficient technologies. This data is monitored through the year and analysed at year's end for inclusion in the annual report. Data is collected by the Community Facilitators and the project team. Problems and issues in implementing the activities are discussed a periodic team meetings in an effort to adjust the strategy and make it implementation more efficient. The project also does a sample survey to monitor fuelwood consumption. This data is collected by a special fuelwood survey team during the months of November through January when harvesting typically takes place. The data is then analysed by the project team. At the end of a five year period (up to 2021) the impact of these activities should be reflected in the targets described in Table K.3

Landscape Management: This program seeks to reduce the number of operating quarries in the project area due to their negative impacts on the environment. The project monitors the number of operating quarries by collecting data from each village. The data is collected by the Community Facilitator and reported to the project team which analyses the data and includes it in the Annual Report. The project shares the data with the hima leadership and village councils and it encourages them to not lease community lands to private quarrying operators. Five year targets for the reduction in operational quarries and their expansion are described in Table K.3 below.

Clean Drinking Water: This program is supported through the Community Development Grants and seeks to improve the availability of clean drinking water. The annual indicators include the number of communities that improved their drinking water source and periodic sample surveys of drinking water quality to check for coliform contamination. By 2021, the project seeks to ensure that at least 75% of villages in the project area have clean drinking water.

Biodiversity Monitoring: The program monitors the siting of key indicator species of birds, mammals, amphibians, and reptiles. The Community Facilitators and youth volunteers record any observations on their 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 condition of location. The record is presented at the Community Facilitator meeting and reviewed by the project team at the end of the year. Any decrease or increase in the presence of key species is reported, as are incidence of illegal hunting. The five year target (2021) is for a 50% increase in the observation of endangered mammal species.

Table K3: Environmental and Biodiversity Impact Indicators

Activity	Activity Indicator (measure annually)	Annual Targets		
		Full Target Achievement	Partial Target Achievement	Missed Target
Fuelwood saving devices	No. of fuel efficient stoves installed	> 250 stoves	150-249 stoves	< 150 stoves
	Number of LPG Units Installed	> 200 units	100-199 units	<100 units
Biodiversity	Number of biodiversity surveys conducted by CF and youth volunteers	> 2 surveys	1 survey	0 surveys
Quarrying	Number of reports and lobby advocacy meetings reports held	4 reports/lobbying meetings	2-3 reports/lobbying meetings	1 or less reports/lobbying meetings

Impact (after 5 years)	Impact Indicator	Means of assessment	Baseline (2016)	Target (2021)
Fuelwood consumption	Households using fuel efficient stoves (number)	Baseline survey/resurvey	6% of households	At least 25% of all households using fuel efficient stoves
	Households using LPG (number)	Baseline survey/resurvey	1.5% of households	At least 15 % of households using LPG
	Level of household fuelwood consumption (tonnes/year)	Baseline survey/resurvey	2.5 t/yr	Fuel wood Consumption reduced by an average of 50% across all participating households
Biodiversity	Number of observations of endangered mammal species	Records from surveys conducted by Youth volunteers	42 No. of observation during 2016	50% increase over baseline
Quarrying	% of villages with active quarrying	Baseline assessment	15 % of villages with active quarrying	> 12% of villages with active quarrying

K4. Other monitoring

A number of monitoring indicators are collected and reported every five years as a part of the project verification process.

Avoided Deforestation and Forest Restoration: A key goal of the project is to protect dense forests, regenerate degraded forests, and link forest fragments to create connected wildlife corridors and landscape level forest ecosystems. To determine if these goals are being met, forest cover change is monitored every five years as part of the verification exercise and involves a third-party analysis of satellite imagery. As part of this monitoring exercise, the 2010 baseline SPOT image of the project area has been compared to a 2016 SPOT image (and will be compared to a 2021, etc. SPOT image when available) to assess changes occurring in the dense and open forest class categories. Data from this analysis is used by the project team to revise the Technical Specifications for the project, in order to more accurately reflect the additional carbon benefits being generated.

Human-Ecological Development: The project seeks to improve socio-economic conditions among communities in the project area. The process of broad-based change is gradual, especially given the number of communities and residents and the limitations of the project. As a consequence, changes in selected indicators are monitored every five years in advance of the verification process. Fourteen quality of life indicators have been selected to assess changes in the human ecology of the area. These include: membership in a Self Help Group, families with money invested in a bank, participation in community forestry activities, availability of drinking water, resource conflict in the village, and other indicators. The data is collected through a sample survey of households with at least 150 respondents. The data is analysed by the project team and reported in the verification report and the annual report for that year (see results of 2011-2016 survey). Note that targets are set at the beginning of each five year period.

Table K4: Five Year Indicator Survey (2011, 2016, 2021)

Activity	Monitoring Indicator	Data Collection
Impact of Forest Protection and Restoration Activities on Forest Cover Change	Forest Cover Change – number of hectares under Dense, Open, and Barren classes.	Every Five years – SPOT and LandSat images are acquired and analyzed to observe changes in forest cover classes.
Impact of on livelihoods and quality of life indicators (AKVO Project Survey)	14 Indicators reflecting environmental and socio-economic impact of the project	Every 5 years – CF team using android devices – reported by monitoring team (sample size 150-250 families)

K5. Backing up monitoring data and all other Federation records

The project backs up of all project documents and records on an external hard drive on a monthly basis. A designated staff member will be responsible for doing the monthly back-up and checking all computers for viruses. The hard drive will be stored outside the office at the Federation's Resource Training Center.

Annex 1: List of key people involved

Tambor Lyngdoh, Head of Synjuk Federation	tamborlyngdoh70@gmail.com
Mark Poffenberger, Former Director of CFI, Project Developer	mpoffen2@gmail.com
Kathryn Smith-Hanssen, Former Administrative Manager of CFI, Project Developer	ksmithhanssen@gmail.com
Shaika Rakshi, Independent Consultant	Shaika.rakshi@gmail.com

Annex 2: Producer/group agreement template

COMMUNITY RESOLUTION ON CONSERVATION AND PROTECTION OF FORESTS

We the residents of Village _____ of Hima _____ East Khasi Hills District, after fully understanding the clauses of "Ka Synjuk Ki Hima Arliang Wah Umiam Mawphlang Welfare Society" together with Awareness Programmes conducted by Resource Persons on the need to protect and conserve the forests within the Umiam Mawphlang Sub-watershed and the urgent need to take appropriate actions by the Hima lying on both sides of the Umiam River, Mawphlang, to put an immediate stop to degradation of forests brought about by fire, rampant felling, over-grazing, etc. As a Village, with the Federation, we undertake this Resolution to accept and undertake mitigation measures as per the REDD+ Project to preserve and protect the forests and environment and to take measures to improve the income and standard of living of the community by taking action to prepare a Management Plan to that effect. We also seek assistance from the Government and other Agencies to help us protect and conserve our forests and surrounding environment.

Signed on behalf of _____ Village

Signature of Headman/Sordar/Matabor: _____

Print Name of Headman/Sordar/Matabor: _____

Executive Members:

Sl. No.	Name & Designation	Signature
1.		
2.		
3.		
4.		
5.		

Annex 3: Example forest management plans (*plan vivos*)

PLAN VIVO OF NONGTHYMMAI NENG VILLAGE

1. **Location:** The village is located in Lyngiong Lyngdohship and falls within the Mawphlang Community and Rural Development Block, East Khasi Hills District, Meghalaya. The GPS location of the village is N 25^0 25'27.3" E 091^0 43' 07.0". The village is located on the Shillong – Balat Road. The area of the village including forests is 224.2 ha. Of this, 86 ha is comprised of human settlement and agriculture land. 76.6 ha is dense forests and 61.6 ha is comprised of open forests. The Lyngiong River flows through the south eastern tip of the village. A map of the village showing the land-use pattern, location of forests and other landmarks is attached in Appendix I.

2. **Description of the Area:** The village is situated in the plateau region of the State, at an altitude of 1640 mt above mean sea level. The area is characterized by a great diversity in relief. The southern portion is relatively flat and comprises of the valley of the Lyngiong River. The balance area is dotted with rounded hills.

3. **Population:** 397 (Male = 180, Female = 217).

4. **Number of Households:** 72

5. **Forest Sector Plan:** The village plan period is proposed to be 5 years. The management plan involves restoring the open forests through reducing fuel wood collection pressures, controlling fire and grazing. Fuel wood reduction is being achieved through the installation of fuel efficient, smokeless stoves and halting the cooking of pig food. Fuel wood plantations are being reestablished to help meet demands for firewood. Fire lines and watchers are utilized to reduce the impact of dry season fires. Animal husbandry projects reduce the number of free grazing cows and goats. The nature of the activities and the physical and financial costs thereof are proposed as under:

    - **Degraded area to be treated under Aided Natural Regeneration (ANR):** The area under open forests covering over 61.6 ha will be treated under ANR.

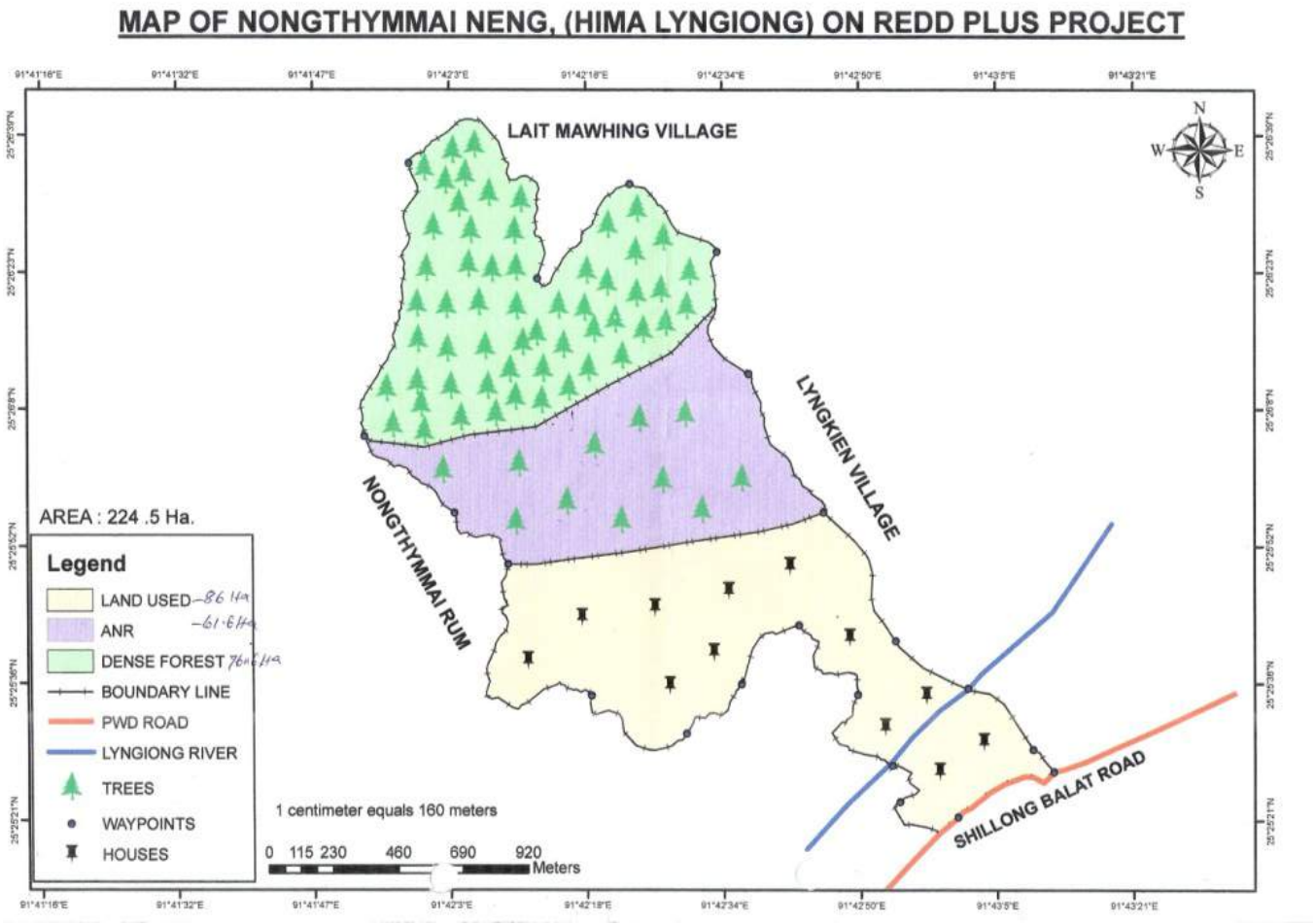
    - **Degraded area needing afforestation:** Under the Advance Closure approach, no afforestation is proposed during the first 2 year plan period. Depending on the success of ANR activities, afforestation works may be implemented as needed.

Table A below presents a tentative five year budget for forest conservation and restoration activities, as well as soil conservation measures. Figure A provides a resource management plan map for the village.

Table A: Proposed Forest Protection and Restoration Activities for Nongthymmai Neng Village

Name of Activity	Unit	Rate (Rs)	Amount (Rs)	Proposed Convergence
(i) Aided Natural Regeneration	30 ha	1300/ha	39,000.00	NABARD, NREGS, Basin Programme
(ii) Maintenance for 4 years	30 ha	500/ha	15,000.00	
Protection of forests from fires (Control burning)	140 ha	400/ha	56,000.00	- REDD+ -
Installation of Smokeless Chulas (stoves)	7 HH	1000/HH	7,000.00	- REDD+ -
Fuel wood Plantation (To be used on rotational basis)	5 ha	25,546/ha	127,730.00	- NREGS -
Of Improvement and protection of wildlife habitat including conservation of existing flora and fauna	-	-	50,000.00	- REDD+ -
Soil Conservation measures to improve the watershed hydrology and protect village drinking water resources	-	-	100,000.00	- Basin Programme -
Total			**394,730.00**	

Figure A: REDD+ Project Map

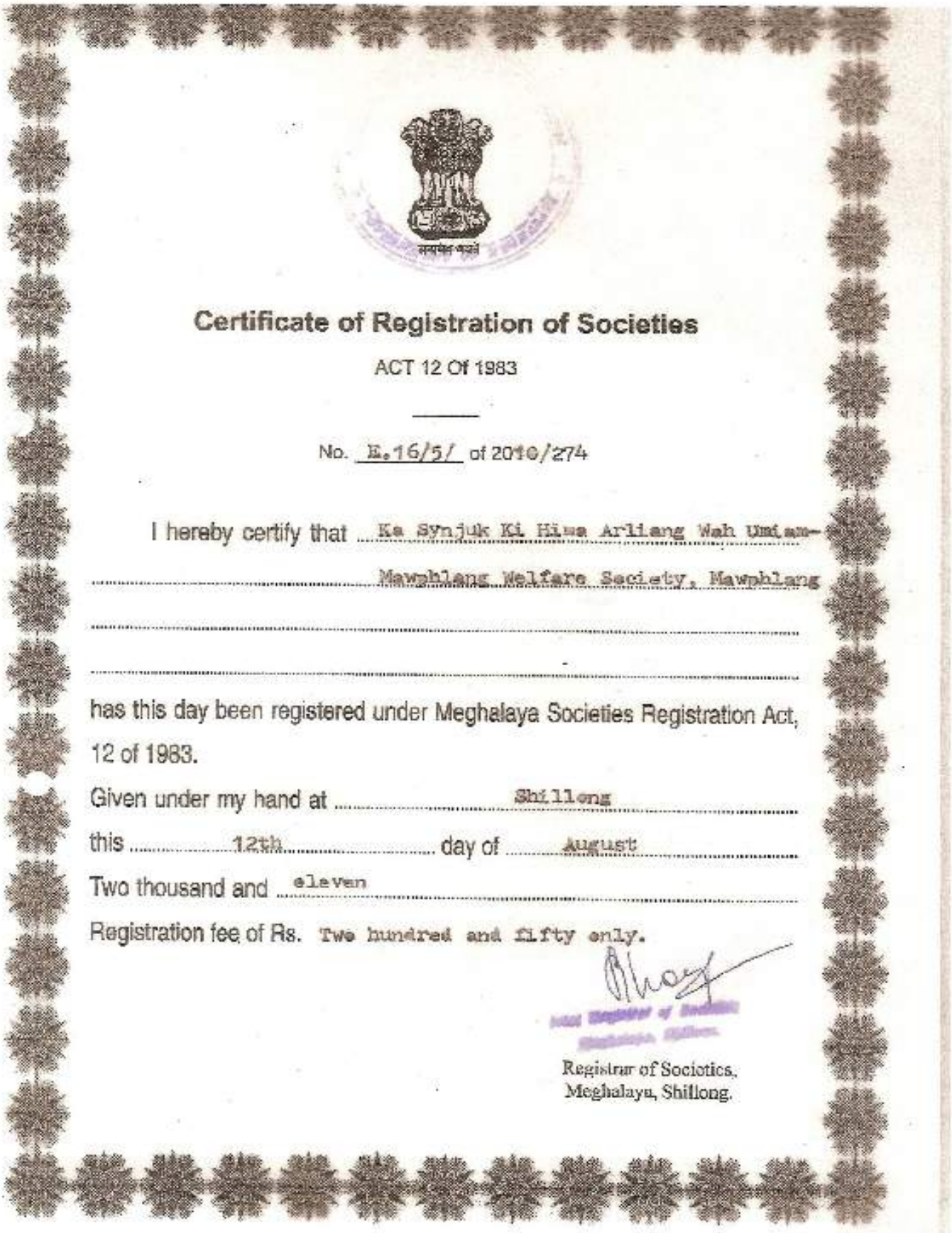


6. **Socio-economic Development Plan - Preferred Income Generating Activities (IGAs) of the community:** The villagers prioritized growing of rice, planting potatoes and peas. Piggeries and Poultry are other activities where people can generate income. Rice is one of the most important crop that people grows for their own consumption but they face water problems as there is no proper irrigation facilities in the village. The village wants to construct a dam across a nearby stream and use the water for agriculture. The proposed strategy presented in Table B represents a series of activities that will increase the sustainability and economic productivity of agricultural and animal husbandry activities.

Table B: Socio-Economic Development Plan for Nongthymmai Neng Village (2012-2016)

Name of activity	Amount (Rs)	Proposed convergence (For details, see Project Management Plan)
Development of Farmer's club	40,000	NABARD
Orchard based farming	1,479,458	NABARD
Soil & water conservation	150,500	NABARD & Line Dept
Water resource management	129,000	NABARD & Line Dept
Creation of new SHGs	4,000	NABARD/REDD+
	1,802,958	
Improvement of Agriculture		ICAR & Line Dept
Potato seed for 1/2 acre land	38,250	
Manure:		
Vermicompost @Rs 20 per kg	121,500	Not clear
1/2 acre of land (2023 sq m) for 1 sq m we need 200 gm of vermicompost		
so for 5 sq m we need at least 1 kg of vermicompost (approx..)		
Cow dung (People's contribution)		
Manure:		
Vermicompost @Rs 20 per kg	121,500	
Costing @ Rs 7 (including worms, low cost shed, materials needed for preparation of vermi compost)	42,525	Not clear
LAB(Lactic acid bacteria 10 litres for 1/2 acre)	22,500	Proposed/Possible convergence
Bamboo vinegar (10 litres for 1/2 acre)	22,500	
Total for 5 years for 15 HH	**368,775**	
Livestock		ICAR & Government agency
Piggery (Fattening)		
Piglets for 2 nos @3000 per piglet	84,000	
Shed for 2 piglets concrete floor @230x24sqft(6ftx4ft) for 1 unit	77,280	
Training cost @500	7,000	
	168,280	
Fisheries: Improvement of 6 existing fish ponds	**100,000**	Basin Program
Convergence & Collaboration with development agencies		
Community Micro-Finance Group		
Self-help Group Capacity Building	20,000	REDD+
Forest Protection and Restoration Award	100,000	REDD+
	120,000	
Total	**2,560,013**	

Annex 4: Permits and legal documentation



Certificate of Registration of Societies

ACT 12 Of 1983

No. E.16/5/ of 2010/274

I hereby certify that Ka Synjuk Ki Hima Arliang Wah Umiam-Mawphlang Welfare Society, Mawphlang

has this day been registered under Meghalaya Societies Registration Act, 12 of 1983.

Given under my hand at Shillong

this 12th day of August

Two thousand and eleven

Registration fee of Rs. Two hundred and fifty only.

Registrar of Societies,
Meghalaya, Shillong.

OFFICE OF THE EXECUTIVE COMMITTEE
KHASI HILLS AUTONOMOUS DISTRICT COUNCIL
SHILLONG.

No. DC.XIV(A)16/2011/2/279 Dt. Shillong, the 23rd May, 2011.

From: The Chief Forest Officer,
Khasi Hills Autonomous District Council,
Shillong.

To: Shri Ivan Roy Pariat, IFS (Retd),
Assistant Programme Coordinator,
Community Forestry Alliance for N.E. India (CFANE),
Windermere, Rngi Jynriew,
Nongthymmai, Shillong – 793014.

Subject: **Community based Carbon Sequestration Project in the sub-catchment of Umiam River**.

Ref: Your letter dt. 19th April, 2011.

Sir,

I am directed to inform you that the Chief Executive Member, Khasi Hills Autonomous District Council welcomes the Pilot Project on Community based Carbon Sequestration Project in the sub-catchment of Umiam River with great interest and formally accord its approval for the said Pilot Project.

Further, the Khasi Hills Autonomous District Council appreciates the efforts taken up by CFANE and CFI in promotion of Sustainable Management of Natural Resources and Sustainable Livelihood of Forest dependent Communities and has also taken notice of the good works undertaken by CFI in the Pilot Project at Mawphlang areas.

I would also like to inform you that the consent of the local village durbars is also required before implementing any project.

Thanking you.

Yours faithfully,

T. Sailo

Chief Forest Officer,
Khasi Hills Autonomous District Council,
Shillong.