

INDIA

SUPPORTING KHASI COMMUNITIES TO REGENERATE
THEIR FOREST
November 2016 Report



| HECTARES FINANCED | TREES FINANCED | TONS CO ₂ SEQUESTERED ¹ | BENEFICIARIES |
|-------------------|----------------|-----------------------------------------------|---------------|
| 1500 | 1,249,500 | 254,850 | 1607 |

A total of 1,249,500 trees have been financed thanks to the support of donors and sponsors

THE PROJECT

In the Meghalaya state lies the “wettest place on earth”. In the East Khasi Hills, WeForest partners with a federation of 10 indigenous governments and 62 Khasi villages to restore areas of forest through assisted natural regeneration and to combat the issues that threaten the forest, including charcoal making, grazing and forest fires. Communities are empowered to take ownership of their natural capital and restore the degraded forest areas. Self-help groups, farmer's clubs, home-based nurseries and more are established to promote sustainable entrepreneurship and economic development among the local villagers. To avoid further deforestation and switch to a more forest-friendly lifestyle, the project is installing fuel-efficient cooking stoves and rice cookers for the 3,500 households in the project area. As a result of this activity, pollution and fuelwood consumption will be reduced and health of the forest protected.



KEY DETAILS:

Location: East Khasi Hills, Meghalaya State

GPS: 25°24'20.08"N; 91°39'28.45"E

Restoration approach: Assisted natural regeneration and enrichment planting

Partners: Ka Synjuk Ki Hima Arliang Wah Umiam Mawphlang Welfare Society (KSKHAWUMWS)

¹In East Khasi Hills the total above-ground biomass is estimated to average 169.9 tons of CO₂ per hectare over a period of 20 years. This carbon figure is based on on-site measurements in 2014 according to methodology as compliant with REDD+ standards and carbon certified by Plan Vivo (Source: 2015 Plan Vivo Annual Report Khasi Hills Redd+ Project)

PLANTING UPDATE

KEY PLANTING FACTS

- 1500 hectares under restoration
- 132 nursery units
- >40 species across intervention area
- Main tree species: *Alnus nepalensis*, *Castanopsis indica*, *Exbucklandia populnea*, *Myrica esculenta*, *Pinus kesiya*, *Prunus nepalensis*, *Schima khasiana*

Since May 2016, assisted natural regeneration continued to take place in the form of fireline creation, cuttings, weeding and thinning, to enhance forest growth and achieve desired spacing between the trees. Social fencing is also key element of the project, which means communities agree to keep the areas of intervention free from grazing. In total there are 136 nursery units (small nurseries) currently operational in the project area raising native seedlings. The seedlings are used for enrichment planting² in the forest areas that do not have sufficient forest cover to recover by themselves. In particular, home-based nurseries are reported to be performing very well. The nursery in Nongrum (Figure 1), run by the Nongrum farmer's club, is one of the leading examples. In August 2016, when the team visited to check the progress of the nursery, they counted 4 units of seedlings (each unit has around 400 seedlings) of 8 species and a 99% survival rate.

MAY - OCTOBER 2016:

- Assisted natural regeneration took place in 500 ha
- Firelines created, cuttings, weeding and thinning carried out
- 35,843 seedlings planted
- Monitoring of nearby site



Figure 1. Nongrum farmer's club nursery



Figure 2. Enrichment planting on site ©EnricoFabian

²Enrichment planting is the planting of trees in degraded forests to increase the population density of existing tree species or to increase tree species richness; often used as part of assisted natural regeneration schemes

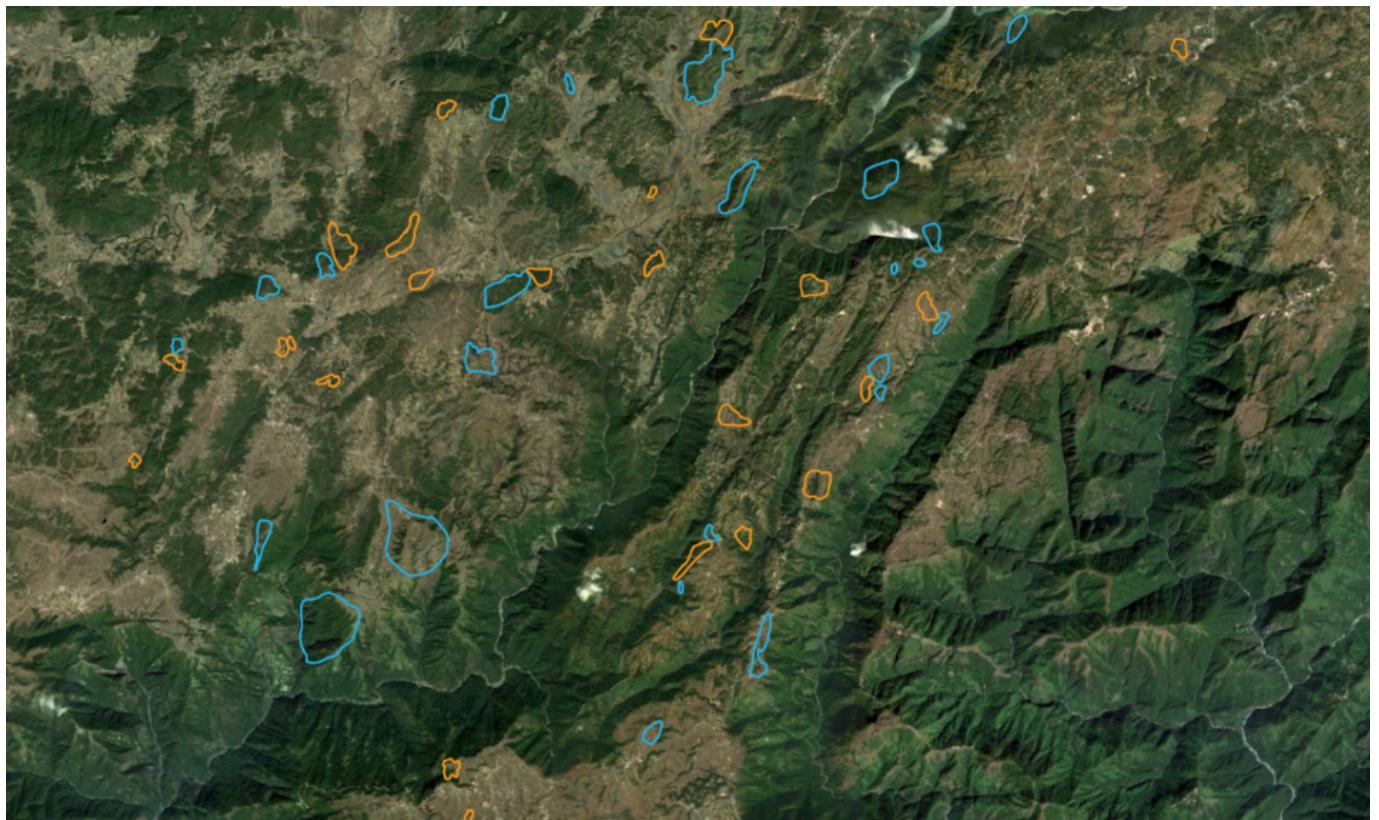


Figure 3. Polygons of intervention areas (blue established in 2014; orange in 2015)



Figure 4. Before (2011) and after (2016) photo of reference site (Plan Vivo project)

FOREST MONITORING

WeForest restoration sites are located near sites that are certified under the Plan Vivo standard. Although separate, the same restoration and monitoring techniques are being used. Beginning in 2011, the Plan Vivo is 3 years ahead and can therefore provide valuable findings on the growth of the forest and the success of the techniques. In October 2016, Plan Vivo conducted a monitoring visit to the carbon certified plot. Comparing the monitoring results of two reference sites from 2011 and 2016 showed that, in just over 5 years, there is a huge increase in open and dense forests (Graph 1 & Figure 5). Land dominated primarily by shrub vegetation has been converted to forest, resulting in a 37% increase in open forest and a 9% increase in dense forest. Further, forest fires have been reduced from 74% to 29%, charcoal production from 15% to 5% and resource conflicts from 13% to 10%. This shows a substantial improvement in sustainable forest management and engagement of communities on the use of their natural capital. Additionally, more people are abiding by the communities' forest rules. From 2011 to 2016, the number of people following the rules regarding fuelwood collection and hunting increased from 30% to 89% and from 69% to 97% respectively. These results are extremely promising and exceed the exceptions of the project. Similar tendencies are being observed in the WeForest intervention area, which demonstrates that this restoration approach is very appropriate for the region.

Graph 1. The percentage change in land cover between 2011 and 2016

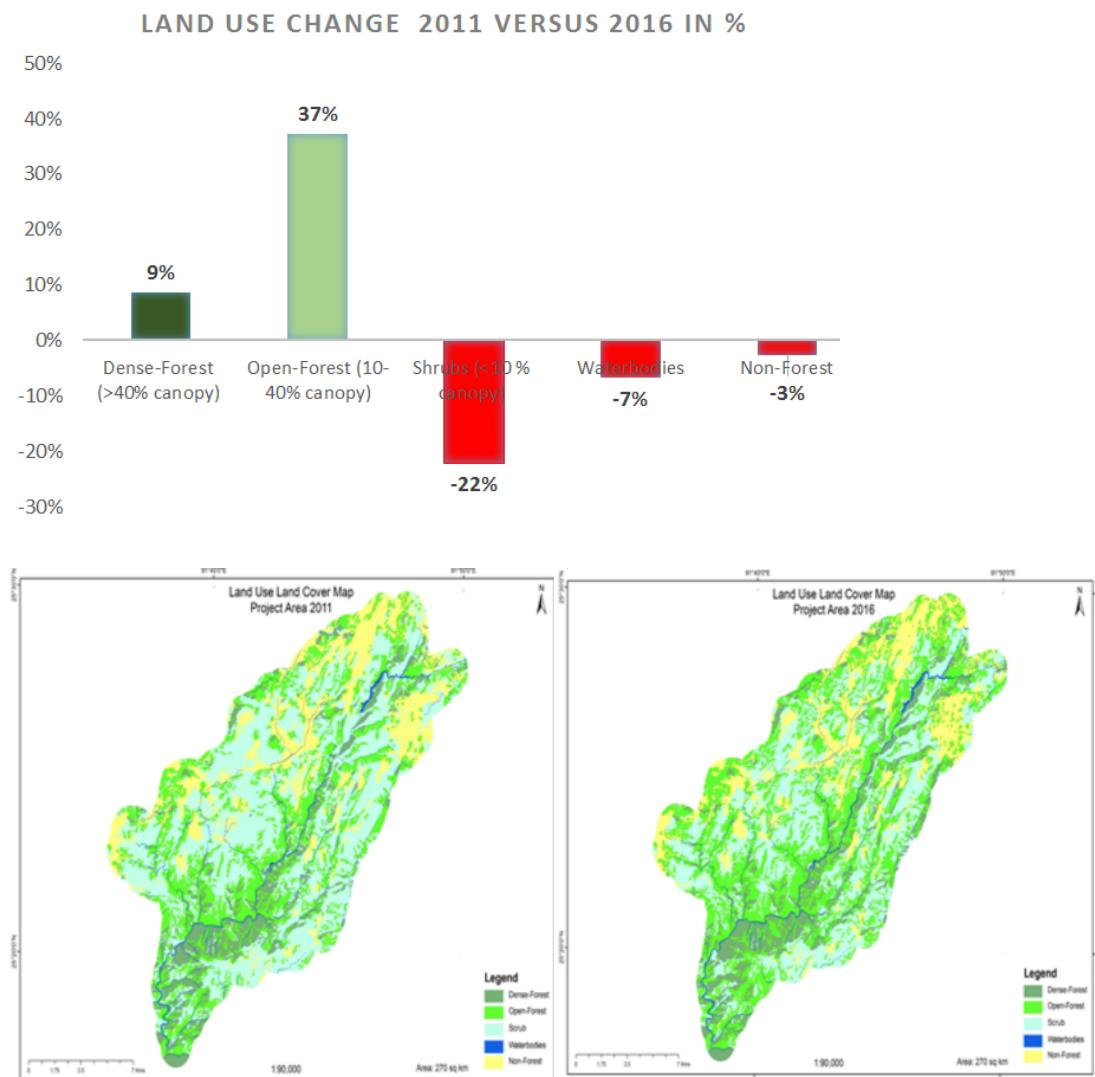


Figure 5. Maps showing the change in land cover between 2011 and 2016. The dark and light green areas represent dense and open forest respectively

SOCIO-ECONOMIC UPDATE

KEY SOCIO-ECONOMIC FACTS:

- 1607 people directly engaged
- 68 self-help groups
- 9 farmer's clubs
- 89 employee

In October 2016, one of the most important annual events of the federation took place - a meeting of all self-help groups (SHGs) and farmer's clubs. The aim of this events was for all participants to meet, share experiences and to motivate each other to improve their socio-economic conditions. Issues of deforestation and forest conservation, agriculture opportunities for youths, entrepreneurship development, climate smart farm practices and the challenges faced and their solutions, were some of the issues discussed. In an award ceremony, 6 SHGs were selected as the best performing groups. In total there are 68 SHGs, of which 53 receive funds from the federation. Those funds are used to set up livestock schemes and nurseries. From May to September, an average of 9 SHGs were visited by the socioeconomic team per month to offer support and to review the accounts. One of the oldest and most successful SHGs is located in Nangkiewshaphrang and rears pigs (Figure 6). Through the various trainings received by the federation, the members are now well equipped in documenting and internal loaning systems, which helped them reduce the negative impacts of a recent financial crisis.

MAY - OCTOBER 2016:

- Meeting of self-help groups and farmer's clubs
- Award ceremony
- Self-help groups visited
- Preparations underway for herbal nurseries



Figure 6. Interview with the Nangkiewshaphrang SHG



Figure 7. SHG member in Umediengpoh with one of her SHG trees

ENERGY TRANSITION

95% of the local households are without access to efficient stoves and therefore depend on fuelwood. Families are now being trained to use smokeless chulas with liquefied petroleum gas, a much less polluting alternative to coal and fuelwood, and electric rice cookers (Figure 8). Whenever the federation identifies a new plot and a new participating village, how to reduce fuelwood use in the area is a key focus of the discussions with village councils e.g. cooking with fuelwood to feed pigs is discouraged. Using the rice cookers alone has a big impact on reducing fuelwood consumption. Every household uses around 3 kg of fuelwood per day. By using the rice cooker, this amount is reduced by half. One rice cooker will last around 5 years, hence it can save 4.5 tons of fuelwood over its lifetime (Assumption: 300 days of rice cooking p.a.).

HERBAL NURSERY DEVELOPMENT

Various herbal nurseries are being set up throughout the Khasi Hills to diversify the income of the local population, provide medicinally valuable plants and strengthen cultural values and local knowledge of medicinal herbs. Community members such as Bah Meding Jyrwa (Figure 9) are engaged in the set-up of herbal nurseries. Mr Jyrwa will have to report on the growth and take measurements of protection and proper care of the plants and will be receiving guidelines and support from the federation. Up to 30 different herbs and spices, such as wintergreen oil (Figure 10) for muscle treatment and *Hedyotis* sp. (Figure 11), for the treatment of infections and other diseases, can be planted in these nurseries.



Figure 8. Rice cookers for distribution to local people



Figure 9. Meeting with Bah Meding Jyrwa



Figure 10. Jalynthrait (Wintergreen)



Figure 11. Bat long (*Hedyotis* sp.)



THANK YOU