

# India

## Healthy forests, healthy people, healthy climate

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An initiative for biodiversity conservation and sustainable livelihoods in the North Western Ghats



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Report period: July 2018 to June 2019



## Background

The forest landscapes of the North Western Ghats are very rich in cultural and biological diversity. This region is also known as a global biodiversity hotspot, which means it has a significant amount of biodiversity but also faces different threats due to the pressures of economic development. Most important among these threats is deforestation. Private ownership of large tracts of forests and absences of better economic alternatives are major drivers of deforestation in this landscape. Deforestation in this region causes loss of biodiversity, depletion of ecosystem services, and disturbance of ecological balance. It is widely known that carbon emissions from deforestation contribute significantly to climate change.

## Project design

The project addresses the threat of deforestation by providing positive incentives to local communities for using biodiversity sustainably, creating a sustainable fuel supply chain, and building communities' capacity in conservation. Specifically, the following activities will be carried out to achieve the goals and objectives of the project.

- a) Engaging communities in private forest conservation using direct and indirect incentives; target of saving 600 hectares of forest using Conservation Agreements.
- b) Capacity building for better understanding of the relationship between ecosystem services and sustainable livelihoods; community training in sustainable biodiversity use based on FAIRWILD certification protocol.
- c) Reducing the pressure on forest resources for wood fuel demand; distribution of advanced biomass gasifier stoves in 500 households.
- d) Ecosystem service mapping and valuation; carbon stock estimation of 600 hectares of forest under Conservation Agreements.

## Summary

This year, Conservation Agreements were newly signed with five villages. Activities carried out included training in the gathering of honey, the distribution of improved cooking stoves, economic feasibility studies on medicinal trees and organic mangoes, and the picking, processing, and sale of fruits from FAIRWILD certified trees.

## Activity Report

### Activity 1: Engagement with local communities in private forest conservation using direct and indirect incentives

#### Overall target

- Save 1500 acres (600 ha) of community forest through Conservation Agreement
- Conduct rapid biodiversity assessment and socio-economic survey report for villages that signed the Conservation Agreement

#### Fiscal year target

- Make an additional 30 villages aware of incentive-based forest conservation initiative
- Bring 500 acres of additional community forests under protection

#### Report

In the third year, the AERF team covered five new villages to generate awareness about and implementation of incentive-based forest conservation on private lands: Dingni, Morde, Chafvali, Nive Khurd, and Kond Asurde. The AERF team signed Conservation Agreements for a total area of 965 acres (390 ha) in five villages: Katawali, Talwade, Ujgaon, Devade, and Kalambaste. Assessments of ecosystem services were carried out in three villages for forests protected through Conservation Agreements.



Farmers signing a Conservation Agreement in the village of Devade

## **Activity 2: Capacity building for better understanding of the relationship between ecosystem services and sustainable livelihoods**

### **Overall target**

- Provide orientation training in sustainable biodiversity use, ecosystem services, and their role in livelihoods for communities in 30 villages from the project region

### **Fiscal year target**

- Provide orientation training in sustainable collection for an additional 100 farmers, ensure they receive direct benefits for ecosystem services conservation

### **Report**

In the third year, the 60 farmers from five villages—Wadi Adhishti, Kosumb, Devade, Ujgaon, and Ambavali—could get exposure to training in sustainable collection of non-timber forest produce (honey) and ecosystem services mapping/conservation. An important aspect of this year's capacity-building exercise was learning-by-doing exercise involving local communities. Local community members and AERF field assistants from the villages developed skills in preparation of organic fertilizers, its use for ecologically sustainable production of mangoes, and setting up of bee boxes for sustainable production of wild honey. A critical skill necessary for setting up of a bee box is identifying and catching the queen bee.



Capacity building sessions in the villages of Ujgaon and Kalamabaste



The AERF team set up four bee boxes in four villages—Kosumb, Wadi Adhishti, Devade, and Ambavali. Ongoing monitoring of bee boxes is carried out to check the movement of bees.



Photos of workers capturing the queen bee and setting up a bee box in Devade

### **Activity 3: Village energy profiles**

#### **Overall target**

- Do energy profiles of at least 50 villages for effective distribution of 500 improved cook stoves

#### **Fiscal year target**

- Do energy profiles of an additional 30 villages and distribute 300 cooking stoves.

#### **Report**

The AERF team faced difficulties in achieving the target for the distribution of improved cooking stoves. There were two reasons: community members were expecting the stoves to be offered free of charge; and they expressed concerns about the time needed to make the small wood chip fuel. Despite these challenges, the AERF team managed to distribute 163 stoves in the villages of Dingni, Katawali, Talawade, and Kalambaste. We intend to complete the target during the extended period of the project (until September 30).



Improved cooking stove demonstration and distribution in Kalamabaste and Katawali

#### **Activity 4: Ecosystem service mapping and valuation**

##### **Overall target**

- Conduct carbon stock estimation of 600 hectares of forest under Conservation Agreement and valuation of two additional ecosystem services

##### **Fiscal year target**

- Conduct mapping of 200 hectares of forest for carbon stock estimation
- Conduct identification of one additional ecosystem service and its valuation

##### **Report**

In the third year, the AERF team focused on mapping and valuation of two ecosystem services for which the market is already developed and functioning: medicinal trees and pollinator dependent production of economically important horticulture crops such as Alphonso mangoes. We felt the need to do it simply because the voluntary carbon market is still not functioning in

India and thus valuation of carbon stock or sequestration of carbon dioxide will be a valuable academic exercise. Thus, AERF field researchers surveyed the forests under the Conservation Agreement for the presence of two economically important tree species: *Acacia catechu* and *Pterocarpus marsupium*. The field team marked 2,200 trees of *Acacia catechu* in the community forest of Kalambaste and some 400 trees of *Pterocarpus marsupium* in Katawali. As per market valuation, 1 cubic meter of wood of *Pterocarpus marsupium* can fetch a price of INR 20,000 (USD 300 ) for the farmers. Similarly, heartwood of *Acacia catechu* sells for INR 60,000 per tonne (USD 900). The AERF team is working with agreement holders on a revenue model that will be based on sustainable use of these resources. It will result in selective logging of matured trees and conservation of other species that would otherwise be lost due to destructive harvesting.



AERF field researcher during mapping exercise (left), inflorescence of mango (right)

We could get some very good numbers for production of organically fertilized mango orchard. From the total 170 mango trees, we could harvest mangoes from 104 trees, for a total production of 12,000 mangoes. The total value of these mangoes at current market price, which is an indicator of valuation of ecosystem services of pollination, was INR 240,000 (USD 3,478).



The AERF team also completed organic and FAIRWILD certification for 12 sites in the Sangameshwar block. This year, the registered collectors in collaboration with local community members collected and processed 12,500 kg of certified Bibhitaki fruits. This is by far the highest collection of Bibhitaki fruits from the region. All fruits were processed for export. The first consignment of 1,200 kg of Triphala was dispatched by June 30.



Triphala consignment (left), fruits of *Terminalia bellirica*, an important ingredient of Triphala (right)

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