



Makaibari, Darjeeling

Background

Makaibari is one of the few tea estates in the world that has more land under forest cover than tea bushes. It offers a model for conservation, while also being engaged in production. It is one of the very few community areas that has been progressive. It is located in Darjeeling district, nestled in the foot of the Himalayas. Makaibari Tea Estate (MTE) is located about 3 km southwest of Kurseong, at an elevation of 900-1200 m above sea level. The tea estate covers 673 ha but only 274 ha are cultivated with tea bushes. Makaibari is neither a PA (protected area) nor a RF (reserved forest); yet it has all the components of an ecosystem that includes people, wildlife, forests and cattle, and has managed to enrich its biodiversity and protect the forest area.

The forest of Makaibari is a sub-tropical rainforest, and the tea estate retains 70 per cent of its area under forest cover. The average rainfall varies from 3000-3500 mm and the average number of rainy days is 120 in a year. The fauna species in the forest area are in abundance, and comprise leopard, barking deer, peacock, goral, monkeys, wild boar and various bird species including the hornbill.

The villages are inhabited by the Gorkha community, who are either Hindus or Buddhists. This village follows the system of caste hierarchy, wherein the brahmins are at the higher rungs followed by the limbus and rais. The kamis occupy the lowest rung of the ladder. The number of people inhabiting this area is 1500, out of which 610 are employed at the tea estate. The women are generally pluckers, as they pluck the leaves from the tea bushes whereas the men are employed as 'sicklers' who trim the tea bushes. The people are spread across the villages of Makaibari, Thaphally, Kodobari, Phulbari, Cheptai, Chunagai and Koilapani.

Towards community conservation

Makaibari is one of the oldest tea estates, established in 1859. It is being run by Rajah Bannerjee, the head of the family that has traditionally owned the estate. Despite the ownership of the forests by this family, the local villagers also depend on these forests for their everyday needs such as dry wood, fodder, etc. There are many myths, beliefs, customs and traditions associated with these forests, which ensure that while meeting the needs these forests are not over-exploited. Apart from this the villagers have appointed forest rangers who patrol the forests to keep a vigil on intruders interested in timber smuggling and poaching.

A joint body committee (JBC) is the local institution that implements and monitors various socio-economic programmes and issues, including conservation of all the seven villages. It consists of elected members from each village, along with some representatives from the MTE management. All the powers are vested in the hands of the JBC, meetings of which are held weekly. The JBC also discusses the issues of overall village development. Any offender is handed over to the JBC, which in turn decides the punishment or the fine. The women have organized a Mahila Samiti, which is an offshoot of local political parties.

Forest conservation greatly benefits the tea cultivation. The tea cultivation system followed here is based on the bio-dynamic method of cultivation that was developed in 1924 by Rudolf Steiner. Under this method the tea bushes become a part of the larger ecosystem that is typical of a sub-tropical rainforest. The ground underneath the bushes is full of life, and they also attract various birds and insects. The local people prepare the compost that is crucial to this method of farming. Each household at Makaibari looks after a compost heap that consists of cowdung from their own cattle, the pruning litter from the tea bushes, and the organic waste material from their kitchens. The compost is enriched with yarrow, nettle, cowdung and other natural plant materials. This is later sold to the management of the estate, which further treats it with homoeopathic preparations. The compost is applied to the tea bushes, which represents a symbiotic relationship between the forest and the tea bushes.

The forests contribute to the tea culture such that the canopy cover prevents the direct scorching of the tea leaves, thereby retaining the moisture. Insects are attracted to the plants in the forests

rather than the tea leaves. The forests also harbour the birds to feed on insect pests of tea leaves.

There are many local customs that further contribute towards the conservation of these forests. The people of Makaibari believe in the *Bandevta* or the jungle god, who resides in the '*koheli*' bird (the scientific name of the bird could not be verified). This bird is never seen during the day and is only recognized by the peculiar sound of 'ku ku' at sunset. Another abode of the jungle god that they believe in is the *chillauni* tree (a kind of hardwood found in North-East Indian forests). These trees dot the forest and are found in the homesteads. A prayer is conducted during the spring season (*Baisakh*) by offering *sindhur* (vermilion powder), *mithai* (sweets) and *supari* (betelnut). Besides, a number of other trees are also considered sacred by the villagers, such as the ber that requires a *pandit* (priest) to conduct the ceremony, unlike the *tulsi* and *peepal* trees, which are worshipped by the villagers directly. The villagers also believe in *Banjhakri*, an evil spirit that roams in the forest and takes possession of small children in certain areas in the forests. This restricts the entry to those areas. These restricted areas are believed to have the highest concentration of wild animals. The cattle is stall-fed rather than taken to the forest for the fear of them being attacked by leopards. It is easier for the villagers to collect the urine and dung of the cattle, which is used in the compost in each household.

Each of the villages is provided a part of the forest for resource use and prevention of conflict among the different villagers. In order to reduce the pressure on the forests, each household has been provided with an LPG through partial contributions made by the workers. Timber for the construction of houses is procured from the nearby town of Siliguri by the MTE management. Other than fuel and fodder, some roots, tubers, fruits and medicinal plants are also extracted from the forest. There is no commercial extraction of NTFP, apart from a few women who sell fruits in the nearby town of Kurseong.

The MTE management emphasises direct and indirect benefits to the local people, in order to effectively implement forest protection along with motivating people. Every year the villagers select a part of the forest for planting tree saplings. The forest area and the plant species are decided by the respective village committees. In order to benefit the people, the management recommends one out of five trees to be a fruit tree that is to be planted and then nurtured by the people. All the villagers actively participate in protecting the forest from intruders, while a group of 18 forest rangers selected from the villages has been appointed to patrol the area. The rangers' group comprises representatives from the management too, including the owner of the estate.

Impacts of community effort

As a result of prolonged conservation efforts, this area has a dense forest cover. The forest cover results in the prevention of landslides and soil erosion. Peacocks that were never heard here can now be heard all over the forest. Interestingly, while the leopard population seems to be decreasing everywhere in Darjeeling, they appear to have increased in the forests of Makaibari. The forest rangers who patrol the forest area record the observations of wildlife made by them regularly in a logbook.

As an incentive towards conservation efforts, a number of schemes towards social upliftment of local people have been implemented. These schemes have improved the socio-economic, health, education and employment status of the local villagers.

Opportunities and constraints

The owner of Makaibari attributes the production of high-quality tea to the thriving sub-tropical rain forest in the area. The tea estate of Makaibari is a perfect example of conservation, wildlife management, and meeting local livelihood needs. There have been a few instances of poaching and timber smuggling that have been confronted by the forest rangers. In the nearby tea estates there are problems such as leopard poisoning and destroying elephant corridors to cultivate tea. The people working on the other tea estates have more difficult access to fuelwood and fodder. The fact that the youth are not keen on working on the estates and are looking for better opportunities on par with their education is an issue that will have to be dealt with by the management in future.

Conclusion

This case study reflects a very progressive and fruitful result of people's initiatives and action towards biodiversity and socio-economic progress. However, Makaibari cannot remain as an island

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of success; if it is not replicated in other areas to reduce deforestation, the pressure will eventually fall on the forests of Makaibari as well. The model of the tea estate of Makaibari can be replicated in many other areas as well.

This case study was written by Bahar Dutt for this Directory in 2002. She is currently with CNN-IBN.

For more details contact:

Bahar Dutt
J-27-A, Jangpura Extension
New Delhi 110014
E-mail: bahardutt@yahoo.com

