

Pangalengan farmers: friends of the forest

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The highlands of Pangalengan in the Bandung district of West Java, Indonesia, have fertile, volcanic soils and enough rainfall throughout the year to allow two planting seasons. The main economic activity in the area is vegetable growing and most people depend on this activity for their livelihoods, either directly through the production of vegetables, or indirectly as brokers of agricultural products, suppliers of agricultural chemicals or as motorbike transport operators. Many people also work in nearby tea plantations.

The area is dominated by large farms of more than 100 hectares, but more than eighty percent of the population are small-scale farmers who depend on plots averaging 0.3 hectares. With the rapid rise in population, there is a continuously growing pressure for farmland and over the years it became common practice to grow vegetables in the neighbouring forest land of the Mount Tilu nature reserve. This reserve, established in February 1978, includes primary forests that are important as a habitat for many endangered animals. In addition, the forest acts as a water catchment for the surrounding area.

The government carried out logging for timber on this land and after it had been cleared, farmers were employed to replant the cleared areas. As they did so, they also started to grow vegetables in between the tree seedlings. Formally, they were not allowed to cultivate in the forest, but the Department of Forestry turned a blind eye as long as the areas were replanted. It became a regular way of making a living.

Over time, however, the government realized that things were getting out of hand. Soil erosion was increasing and the water level in the rivers was going down. As the area is a major source of drinking water to many places and also has a hydro-electric facility, this was considered serious and thought to be the result of farming activities taking place in the forest. The vegetable growing left the soils bare, increasing erosion and water loss from the ground and the farmers were thought to be carrying out illegal logging and destroying the forest to make room for crops.

In 2003, therefore, the government introduced a ban on vegetable growing on forest land. More than 5000 people were denied their livelihoods and the farmers and their families faced an urgent crisis.

Friends of the forest

Farmers from the villages Lama Jang, Warna Sari, Pulo Sari, Marga Mulya and Marga Mukti that surround the Gunung Tilu mountain decided to revitalize an already existing farmer's group and to initiate a project which they called the "Friends of the Forest". Their aim was to find ways to conserve the forest while continuing to gain their livelihoods from it.

The farmer's group was reorganized and a committee of twenty-three people was formed, led by a local farmer called Pak Ikin. The first step was to explain their ideas to the Department of Forestry. The Department supported the idea and the committee began its activities.

The tropical rain forest at Gunung Tilu is very rich in biodiversity and has a wide variety of tree species. It is also home to many wild animals including amongst others a number of primates, the leopard *Panthera pardus* and the Javan wild dog *Cuon alpinus javanicus*, Javan pig *Sus verrucosus*, muntjac *Muntiacus muntjak*, and many bird species. Many of these species are threatened by human hunting activities.

The main daily tasks of the committee members involves moving around the forest to prevent cutting down of trees, burning of the forest, hunting and any other destructive activities by people. To support their livelihoods, the members of this committee collect wild fruits, tubers and other plant parts for food as well as for sale. An example of the wild fruits collected in this forest is *sawo* (*Manilkara zapota*), while the most widely collected tuber is *ganyong* (*Canna indica*), a delicious food that is similar to cassava.

Other plants are collected for medicinal use. These herbs are believed to cure illnesses like cancer, tumours, cholesterol problems, diabetes, hypertension, rheumatism and colds and are widely accepted by the surrounding communities. One of the most important plants collected is *cabe* or wild chilli (*Piper* spp.), believed to cure rheumatism. Other plants collected for medicinal purposes include *jahe* or ginger (*Zingiber officinale*), *kumis kucing* (*Orthosiphon aristatus*), *temu lawak* (*Curcuma zedoaria*), *lempuyang* (*Zingiber zerumbet*), *kencur* (*Kaempferia galanga*) and *serai* or lemon grass (*Cymbopogon citratus*). *Mengkudu* (*Morinda citrifolia*) is collected for making local dyes. Fearing that these herbal plants might become extinct, the farmers have established small gardens in the forest to propagate them.

Some food crops are also grown in the forest to provide the farmers with food as well as income. Not just any kind of crop can be grown, but only those that do not compromise the conservation of the forest. In collaboration with the forestry department, the farmers have carefully selected crops that can be integrated into the forest ecosystem and do not require the use of any chemicals. The crops grown in Gunung Tilu include coffee, papaya, banana, jack fruit, sugar palm, avocado and cassava. The cultivation of these crops does not involve making the land bare, which would increase soil erosion. Many of these crops also have multiple uses. Banana is grown for its fruits as well as for its leaves. The leaves are used for wrapping foodstuffs and are sold to local markets. Cassava produces tubers as the main food and the leaves are also a good vegetable.

There is also a tree nursery project involving the growing of both exotic and indigenous tree species. The main aim is to fill gaps in the forest created by the previous destruction of trees or gaps due to ageing. The project also aims at conserving and protecting those indigenous tree species that are near extinction.

Each farmer maintains a small tree nursery in his area of operation in the forest and the farmers usually go deeper into the forest to collect seeds and seedlings (wildings) of indigenous tree species to be grown in the nurseries until they are large enough for planting. The farmers have plans to start selling their

surplus seedlings to other community members in order to increase their income as well as spread their message.

Another important economic activity is collecting and selling materials for handicrafts and construction. These materials mainly come from bamboo and are used for weaving boards for house walls as well as ceilings. Bamboo sticks are also sold to other farms where they are used to keep tomatoes upright.

All activities undertaken aim to preserve biodiversity and maintain the ecological balance in the area; and the farmers are in constant dialogue with the Department of Forestry. The farmers have been allowed to grow tree crops and coffee and the forest department has helped by providing some seed, information on marketing and even processing machines in some instances. The farmers committee is negotiating to be allowed to grow more crops in the forest, including chilli and herbs. These are already grown in the small gardens, but are not yet on the list of crops that are permitted in the forest. The farmers feel that these crops are friendly to the forest and have asked the government for permission to grow them.

Interestingly, the committee includes staff members from the Department of Forestry, which helps guide farmers in their discussions with the government. These persons are quite important in trying to find a workable solution that is satisfactory to both parties.

Conclusion

The activities of the "Friends of the Forest" farmers are very different from the usual farming practices that are carried out in the main vegetable growing areas in Pangalengan. Most vegetable farmers in the area depend on large amounts of chemical fertilizers and pesticides, to the extent that it has brought about an ecological imbalance in the area. Natural predators of harmful insects have been eradicated, useful animals as well as the chemical balance in the soil have been negatively affected and the water sources are polluted.

Unlike most other farmer groups, the "Friends of the Forest" farmers depend only on local resources to carry out their projects. So far, they have neither requested nor received any donor support. It is a great example of using local resources and initiatives to solve local problems and the lack of reliance on external resources makes it possible to replicate this experience elsewhere. The farmers in the Gunung Tilu area feel that so far very little publicity has been given to their activities, which could bring new ideas and some hope to those interested in maintaining ecological balance such as the small organic farming movement in the area.

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