



Creating new opportunities for lives within the traditional landscape, is one of the ambitions of the Kalahan Education Foundation

- Upland communities need to be educated concerning the value of wildlife in the forests. They also need assistance in devising mechanisms for obtaining some benefit from conserving the wildlife, such as obtaining food or receiving income from conducting ecotourism.
- Payment for forest services will enable upland dwellers to reduce their dependence on swidden farming for livelihood.
- Future generations will be encouraged to remain in the area or return with skills obtained elsewhere.
- Urban people need to be educated about the value of biodiversity and forest protection. Kalahan has a training centre for accomplishing this.

The RUPES Project:

Throughout the world, upland people, many of them poor, earn their livelihoods from lands and landscapes that, when properly managed, provide valuable environmental services to others. However, management practices that maintain or increase environmental services often have a cost to the upland people in time or income. Regulations and prescriptions of land use aimed at securing the services are often ill-designed and enhance rural poverty. RUPES aims to work with both potential users and producers of environmental services to find conditions for positive incentives that are voluntary (within the existing regulatory framework), realistic (aligned with real opportunity costs and real benefits) and conditional (linked to actual effects on environmental services), while reducing important dimensions of poverty in upland areas.

At each of the 6 RUPES action sites, local institutions partner with the World Agroforestry Centre (ICRAF) to implement action research aimed at developing effective reward mechanisms in the local context. The sites are Kulekhani in Nepal; Sumberjaya, Muara Bungo, and Singkarak in Indonesia; and Kalahan and Bakun in the Philippines. National policy dialogues are aimed at making policy frameworks more conducive to positive incentives.

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The Ikalahan started to document carbon storage under their forest management systems in 1994 and provide global benefits at low transaction costs

The Context

The tribal elders of the Ikalahan People of Nueva Vizcaya and Pangasinan in the Philippines organized the Kalahan Educational Foundation (KEF) in 1973 to protect their ancestral lands and their culture. They have pioneered Community-Based Forest Management and several other concepts, now being copied throughout the Philippines and parts of Southeast Asia. These high-mountain dwellers feel that in the past lowlanders looked down on them, strange as that sounds given the geography. For the Ikalahan, gaining recognition for their historical rights to the land is linked to gaining respect for their way of living and their role as guardians of the landscape.

This role comes at a price. The economic realities in much of the uplands drive the younger generation away to urban jobs in the Philippines or to live abroad. These economic circumstances seem at odds with the richness of Ikalahan's natural resources.

The Ikalahan ancestral domain encompasses the mountains that rise above watershed basins abundant with rice paddy production. The domain receives 3,000 to 5,000 mm of rain per year making it one of the wettest places on earth.

"The Ikalahans carry all of the burdens while the people in the lowlands receive all of the benefits"
Pastor Delbert Rice,
Kalahan Education Foundation



Large areas of the uplands in the Philippines were denuded by logging operations and are only recently handed back to local community control for rehabilitation

It feeds three rivers: the Talavera flowing to Nueva Ecija, the Magat flowing to the provinces of Nueva Vizcaya and Isabela; and the Pampang that flows into Pangasinan.

The landscape is an ecologically sensitive area with rich biodiversity. Although much of the area lost its forest cover due to logging concessions the central government granted to outsiders, some natural forest, dominated by Dipterocarp tree species, remained intact. The Ikalahan have imposed a strict conservation regime on this area. Elsewhere, they have actively pursued regeneration of the native forests or the planting of fast growing species. The KEF has also designed a forest management system aimed at keeping the forests in a productive phase by thinning and local regeneration, as an alternative to the plantation system of rotational clearfelling.

The Ikalahan leader hope that creating income opportunities from their forest management can reverse the trend of young people leaving the area and thus maintain cultural integrity. The KEF started an enterprise to make jam and jelly from forest fruits and thus to create local employment for both the collectors of fruit and the women who work in the small-scale factory and to add value to the forest landscape. This way of selling goods from the forest can combine with other mechanisms for deriving benefit from the forest services.

The Ikalahan also started collecting data on tree growth in 1994 and now have a good basis to justify payments for the carbon sequestration that takes place because of their management of the landscape.

Biodiversity conservation, watershed services and carbon sequestration all have potential to generate rewards through RUPES-type mechanisms. The RUPES-Kalahan project set out to follow up on various existing leads and make reward schemes operational.



The waterfall coming out of the local forest reserve provides for limited 'ecotourism' so far

RUPES Kalahan activities

RUPES-Kalahan, implemented by the KEF, has been pursuing markets for the above three environmental services as a way to provide bundled value that can generate larger incentives for members of the community.

To operate in the carbon market, the data sets the Ikalahan had already collected on tree growth were re-analyzed with help from university staff to estimate the amounts of carbon involved. Data collection also continued and new community members were trained in the procedures. Potential buyers were sought within the Kyoto market after the Philippines ratified the Kyoto protocol and got the national approval processes working. RUPES Kalahan has also pursued the voluntary market where the rules for generating carbon credits are more negotiable.

As a first step toward a strong basis for negotiations with water users, the KEF developed a partnership that collects data on area's river flows. Armed with knowledge about the amount of water that flows from their area, the Ikalahan can make a good case during negotiations for compensation. Discussions intended to lead to negotiations have started with the managers of the Magat Dam which Kalahan supplies with water.

The Ikalahan also continue efforts to improve wildlife habitat already begun as part of their conservation activities, compile data on the local biodiversity (including some highly endangered species) and publishing training guides for bird watchers. The project mapped and posted all sanctuary areas, and actively pursued community education regarding the importance of biodiversity. The Ikalahan community welcomes small-scale ecotourism, especially if it leads to a better appreciation and recognition for what they have to offer to city people.

Potential buyers for the biodiversity services include bird watcher groups, church groups, student groups and others. The Magat Dam and, perhaps, the Talavera dam may be potential buyers for water being produced. The Ikalahan, with the help of RUPES, are still searching for a buyer for carbon.

The reward mechanism for the environmental services will go through the

Ikalahan's people's organizations within their ancestral domain to provide educational, medical and other services as well as to create jobs.

Successes

Quantifying Environmental Services

The project has so far made records of tree growth over 12 years for 10,000 hectares of production forests, with all records blocked and mapped. A number of perimeter maps for the total area and preliminary land use maps have been completed. A large herbarium collection for the western area has been completely catalogued.

The capacity of the people involved in the project on issues such as carbon sequestration, mapping, and water measurement has developed well. The capacity of forest nurseries and personnel as well as an extension program for organic agriculture and ecology have also increased substantially. Trained foresters are now available. There is also a significant increase in awareness of the importance of sanctuaries to maintain biodiversity.

Forming effective partnerships and methods

Standing side by side with the KEF, three other people's organizations have become newly registered or are in the process of registering. Two networks have also been established: the Philippine Association for Intercultural Development and the Upland NGO Assistance Committee.

Recently, the municipal government declared the entire municipality as an "organic food production area" and has implemented new regulations for environmental protection and watershed development patterned after the programs of the Ikalahan. These actions will greatly improve water quality.

Developing environmental service agreements: selling carbon sequestration on the international market

Most of the markets for carbon are international. To access them, the RUPES Kalahan Team is preparing a Project Design Document (PDD) for the Clean Development Mechanism of the Kyoto Protocol. The Kalahan Forestry team, with the technical assistance of ICRAF, also prepared the "Forestry Project Idea Note (PIN) on a Sequestration Project in the Ancestral Domain of Ikalahan." The PIN proposes a carbon sequestration project on a 900 hectare



'Mountain fresh' products made of forest fruits generate some employment and income based on the local environmental services

portion of grassland located in the domain. Activities conducted included the Kalahan Forestry team measuring carbon stocks in the grassland area.

What's Next: Carbon and Education

- Growth-rate studies of the Kalahan trees need to be completed so the data can be used to influence future revisions of the Kyoto Protocol. The Kalahan data gives evidence that mature forests provide the greatest amounts of carbon sequestration. This evidence suggests that the Protocol should include provisions that allow communities to benefit from protecting their standing forests. New forests sequester very little carbon.
- Water users must be educated in the need to remunerate water providers.

"The KEF began monitoring the growth of its forests. Its methods were not very accurate but they were helpful. When the RUPES consortium entered the picture and offered to help, we made contacts with one carbon expert at the University of the Philippines Los Banos (UPLB) who helped us to improve our computations to include branches and tops of the trees, not just the trunks. We discovered that we had underestimated the efficiency of the Ikalahan forests by at least 60%."