

The rewards

Through RUPES in Bakun, the current environmental service rewards mechanism involving the hydropower companies is being assessed for its efficacy in poverty alleviation and resource sustainability. RUPES will also help Bakun's people develop a proposal for a watershed conservation program to reduce sedimentation. Benefitting from the program, the hydroelectric companies need to reward the Bakun people for their efforts to reduce sedimentation. The rewards would include the provision of incentives to villages for reducing the incidence of forest fires and to upland farmers for protecting and preserving their private woodlots instead of converting them to vegetable gardens.

Site partners

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Bakun local government

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Kalahan

The site

The site is known as Ikalahan Ancestral Domain and covers 38 000 ha in Nueva Vizcaya plus about 10 000 ha in Nueva Ecija. The entire area is mountainous. It is located approximately at latitude 11° N and longitude 122° E, with elevation of 600–1717 MASL, average rainfall of over 4000 mm per year and temperatures between 8 and 24 degrees. Rainfall ranges from 3 000 to 5 000 mm per year. Much of the area is forested, largely with dipterocarp species, although the western edge is mostly pine. Some of the forests are primary but most are secondary. Broad areas in the east are barren because of logging by outsiders several decades ago.

The population is mostly indigenous tribes, predominantly Ikalahan. Also, some I-wak reside on the northern side, Kankanaey in the northcentral portion and Ifugao in the extreme eastern part. Interrelations are good. Most families practise subsistence swidden farming although a few have begun to plant commercial, high value vegetables.

The issues

In the past, each family was allowed to cultivate anywhere. Especially targeted areas were the forests because the soil was very fertile. This has resulted in widespread burning and conversion of forested areas



to farmland. Although the Ikalahan were observing fallow periods to regain soil fertility, the time needed for successful rotation was 15 to 18 years or even longer. As the Ikalahan population increased, the traditional farming system required more land for cultivation, resulting in the continuous reduction of the forested area.

The Ikalahan ancestral domain is an ecologically sensitive area with rich biodiversity. It is also a very important watershed for three important river systems. The Kalahan forests recharge the aquifers which benefit the downstream farmers, but the Ikalahan caretakers of those forests are not even able to recover their costs in providing this service. The forests also sequester huge amounts of carbon.

The rewards

RUPES focuses on carbon storage as the key environmental service. The domain is a case site for the development of a carbon sequestration payments mechanism. Through the Kalahan Education Foundation, one of the activities of RUPES Philippines is helping communities surrounding the Kalahan Reserve to build their capacity for entering the international carbon market through the clean development mechanism and to look for potential buyers for this environmental service. Potential buyers include bird watching, church, students, foreign and other groups. The reward mechanism for the environmental services will be through the people's organisations within their ancestral domain, which already provide educational, medical and other services plus employment.

Site partner

Kalahan Educational Foundation

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Lantapan

The site

Lantapan is a river valley located between the richly biodiverse Mount Kitanglad Range Natural Park on its northern side and the Manupali River on its southern border. The river runs into a network of irrigation canals currently operated by the Bukidnon irrigation management office. The whole system ultimately drains into the Pulangui reservoir that supports the biggest hydropower plant in Mindanao, operated by the National Power Corporation. Lantapan is rich in natural resources and has favourable climatic conditions, attracting migrant farmers and the agribusiness sector. The majority of the people are dependent on farming for their livelihood. However, agribusiness started to dominate agricultural activities in 2000. Corporate banana farms and swine and poultry production stimulated economic growth and were key drivers of land-use change in the last 10 years.

The issues

Lantapan has an agriculture-based economy. About 90% of the households have been dependent on smallholder farming. However, this changed since Mount Kitanglad Agri-Ventures Inc and Dole Skyland-Philippines, two large corporations producing highland bananas, started to operate in the late 1990s. The continuing shift to large-scale, commercial agriculture by these corporations and wealthier farmers has forced smallholders to farm on much smaller plots in less productive and more environmentally fragile areas. This pattern of agricultural expansion involves the replacement of forest and permanent crops by annual crops and the spread of annual cropping in high altitude and steeply sloping areas. This causes dramatic increases in soil erosion, causing further land degradation. The irrigation system is also unable to reach its intended service area owing to water shortages, especially during the dry months, which is caused either by low dry season streamflow or the low storage capacity of the system owing to high silt deposits. Similarly, over the years the power corporation has experienced power generation crises owing to the poor condition of the Pulangui reservoir. The extent of silt deposit is enormous, resulting in the plant being unable to produce its expected energy output and a shorter life span for the dam.

The rewards

Several incentive policies at the national level exist, such as ‘usufructury’ rights—the legal term for a person who has the right to enjoy the products of property he or she does not own—in community-based forest management areas. Lantapan has thousands of hectares under Department of Environment and Natural Resources’ community-based management and integrated social forestry programs. In addition, the local government of Lantapan enacted a policy in 2001 that enables the provision of incentives to farmers adopting contour farming, although the implementation of this policy remains weak. The potential of these types of policy incentives has not been fully explored. Government efforts are often lacking, if not weak, owing to limited knowledge of various mechanisms that have worked in other areas and the lack of honest and credible brokers. The Lantapan case provides ample scope for exploring mechanisms that have worked elsewhere. The conditions necessary to begin this process are in place, such as the growing interest of stakeholders and their willingness to collaborate in the project, as expressed during consultation meetings.

Partners

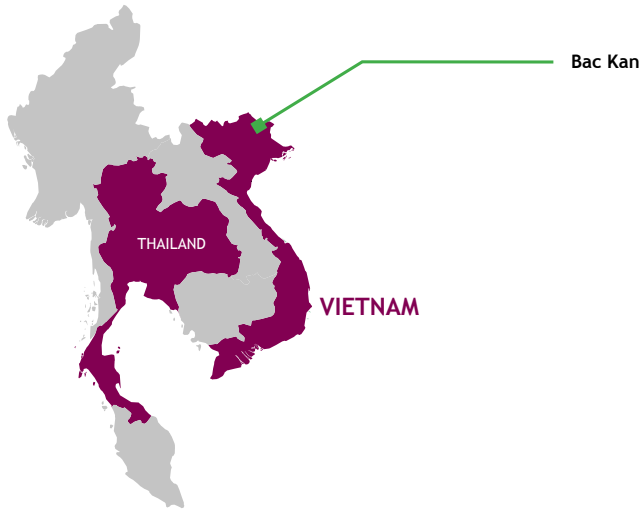
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Vietnam



Current RUPES Vietnam activities have moved away from mapping water environmental services to rewarding carbon environmental services. Current environmental and socio-economic development strategies in Vietnam support sustainable forest management, biodiversity conservation, forest carbon stock and emission reduction mechanisms. These clear commitments from both donors and government will ensure legal, financial and technical support for the planned Reduce Emission from Deforestation and Degradation Plus (REDD+) implementation in Vietnam.



Learning from environmental services rewards and payments sites to develop schemes and REDD

The World Agroforestry Centre and partners, such as the People, Resources and Conservation Foundation, will gather successful conservation case studies of the uplands of northern Vietnam, particularly on Bac Kan province. The case studies will be the starting point for the development of an initial system for forest protection incorporating rewards and/or payments for carbon environmental services. We will produce several recommendations on how to build on existing successful conservation models for developing such a scheme. Links between buyers and sellers of carbon environmental services will also be explored.

Developing environmental services rewards mechanisms in communities

The Centre and Ba Be National Park will cooperate with the people of Leo Keo village in Bac Kan province to develop a common understanding of environmental services issues. Together we will incorporate environmental services rewards programming into community planning and create a contract with local people to reward their expansion of bamboo planting on shifting-cultivation land. Part of this process includes assisting market development for bamboo handicrafts. Our local partner, Thai Nguyen University, will assist with monitoring carbon stocks.

Measuring carbon environmental services provided by agroforestry

Carbon storage in two agroforestry systems—home and forest gardens—is being assessed. This will enable a comparison of carbon storage in shifting cultivation and forest systems. The findings will be used to negotiate rewards for carbon storage provided by agroforestry farmers. This work is being carried out in collaboration with Seoul University, Korea.

RUPES Vietnam

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Bac Kan

The site

Bac Kan province is located at the centre of the Viet Bac region, about 170 km to the north of Hanoi and about 200 km south of the border with China. The topography of Bac Kan province is complex with many valleys, hills and rocky mountains, with an average slope of 26°. Bac Kan province has thousands of streams and rivers of different sizes. With forest cover at 55.1%, the province appears rich in forest resources. However, natural forest is only about 9%, while poor quality forest and regrowth forest (pioneer tree species) occupy more than 50%. About 20% of the total forest land is bamboo. About 124 000 ha of forest land lacks tree cover and could be a target for forestation and reforestation programs. The province has a population of 306 000. It has seven districts, one town and 122 communes. Most residents are poor (poverty rate is 34 percent, above the national average of 20 percent in 2004).

The issue

The total forest land in the project area is 164 850 ha, compared with only 19 057 ha of agricultural land. This shows the high potential for forest resources to play a role in improving local livelihoods. The limited agricultural land and unexploited forest resources could be the reasons for the high level of household poverty in the targeted districts. The potential for, and constraints on, environmental services payments schemes in Bac Kan province were assessed according to



how the local situation could meet the most important requirements of such schemes.

Dominated by forestry and agroforestry upland terraces and Ba Be Lake, the Bac Kan provincial landscape provides all four environmental services: watershed function, carbon sequestration, landscape beauty and biodiversity conservation. On the basis of lessons learned from environmental services cases in Vietnam, it appears that the most successful schemes relevant to Bac Kan might be watershed function and carbon sequestration. The assessment of potentials and constraints in Bac Kan focused on these two kinds of environmental service.

The rewards

The project's proposed goal is to achieve sustainable and equitable poverty reduction and improved livelihoods among the rural poor in Bac Kan. The project's purpose is to establish a framework for sustainable and profitable agroforestry development in the province, targeting poor rural households. The project contains three components.

1. Sustainable and equitable forest land management.
2. Generating income opportunities for the rural poor.
3. Innovative environmental opportunities.

Under Component 3, forage-based conservation, sustainable land-use management, bio-energy development and other innovative options will be assessed and promoted. Options for environmental services payments or rewards are to be assessed and tested through pilot projects including integrated watershed management, afforestation and reforestation under the clean development mechanism, energy development under the clean development mechanism and conservation funds for soil and water resource management. Pro-poor ecotourism will also be promoted.

Site partners

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Join RUPES

There are a number of opportunities to become involved in RUPES Program at international or national levels for researchers, government and non-government organizations, policy makers, funding agencies, companies or industry association, students or their professors.

Sharing methods and expertise, engaging in joint studies, collaborating in implementing, assessing and designing environmental service reward projects, contributing a site to a dynamic site learning network, supporting training and capacity building, or even making a direct investment in prototype payment mechanisms – all these are ways to participate. RUPES is specifically looking for working with international research and development organizations, to synthesise different experiences and to access new developments and opportunities to add value to the project.

Please feel free to contact us if you or your organization is interested to know more about RUPES for some potential collaborative activities.



The RUPES Project

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 RUPES sites, local institutions partner with the World Agroforestry Centre to implement action research aimed at developing effective reward mechanisms in the local context. Tibetan Plateau and Songhuaba in China; Loktak Lake in India; Aceh, Bungo, Cidanau, Kuningan, Singkarak, and Sumberjaya in Indonesia; Kulekhani and Shivapuri in Nepal; Bakun, Lantapan, and Kalahan in the Philippines; and Bac Kan in Vietnam. National policy dialogues are aimed at making policy frameworks more conducive to positive incentives. RUPES is financially supported by the International Fund for Agricultural Development and various other donors.

RUPES Program

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