RUPES

REWARDS FOR, USE OF AND SHARED INVESTMENT IN PRO-POOR ENVIRONMENTAL SERVICES

TECHNICAL ADVISORY NOTE

Programme on Rewards for, Use of, and Shared Investment in Pro-poor Environmental Services

RUPES 2

Grant number 534

Abstract

Landscape of Dieng Plateu, where smallholder potato farmers potentially provide watershed functions through environmentally-benign agricultural practices.

The Programme on rewards for, use of, and shared investment in pro-poor environmental services (RUPES 2) (2008–12) built on the concept of rewarding people to protect or enhance environmental services that benefit businesses or the wider population, expanding on the lessons learned in RUPES 1, in Indonesia, the Philippines, Viet Nam, Nepal, India and China. The target group for RUPES 2 was indigenous forest dwellers and smallholding farmers in less productive environments who were vulnerable to environmental degradation and climate change. Activities were aimed at national policies and the 'buyer' and 'broker' part of the 'rewards for environmental services' (RES) value chain for long-term sustainability of benefits for the target group. The project was a frontline activity focusing on the poverty aspects of climate change, responding to the Asia and the Pacific Division's interest in combating land degradation and empowering the poor in upland areas. RUPES 2 helped find solutions for rural poverty, provided lessons for sustainable RES and support to policy makers and institutions to develop policies and services.

In Indonesia, the National Rewards for Environmental Services Protocol, as the operational document of Law 32/2009 on Environmental Management and Protection, included lessons from RUPES. In Viet Nam, RUPES contributed to the formulation of Decree No. 99/2010 and its guidelines. In China, the State Council and the Government of Xishuangbanna Prefecture adopted the lessons from a RES scheme for grasslands, which was initiated by RUPES, for designing ecological land-use plans. In India, RUPES' partner, Wetlands International South Asia, provided three scenarios of wetlands' management that balanced human needs with ecological requirements to the National Environment Policy on the role of economic incentives for environmental conservation. In the Philippines, RUPES 2 helped draft the Philippine Climate Change Act of 2008 and conducted a final review of the Sustainable Forest Management Act in 2008. In Nepal, RUPES 2 influenced a policy shift in recognition of 'payments for environmental services' (PES) among Hindu Kush Himalayan countries through its partner, the International Center for Integrated Mountain Development.

RUPES 2 facilitated the engagement of international, national and local beneficiaries as investors in RES schemes, providing information for creating business cases—such as quantifying and identifying ecosystem services, informing smallholders of the feasibility of schemes to improve their livelihoods, and conducting participatory monitoring, particularly for water quality and carbon stock—and preparing local intermediaries to design and facilitate efficient and fair RES schemes. RUPES 2 also supported local actors by providing a series of tools, with accompanying knowledge-sharing sessions, for identifying environmental services as the basis for designing schemes. Local partners were also active in advocating policies for PES implementation at regional level and pioneering independent institutions as centres of PES initiatives. Good practices of RUPES have been published by the Food and Agriculture Organization of the United Nations, Forest Trends, and The Economics of Ecosystems and Biodiversity (TEEB).

Main lessons learned

Learning for national-level application and role of government

National policies and regulations on environmental services and RES schemes should embrace broader perspectives of RES while becoming the basis for nationwide adoption and sustainability of RES schemes.

RUPES' experience tells us that understanding of broader paradigms of RES schemes (commoditization, compensation and co-investment) could accelerate adoption at national and provincial/district levels. A prescriptive definition (that is, RES should be based on the market principle of environmental services' supply and beneficiaries' demand) would limit implementation, especially at lower levels of government. A strict list of RES criteria is difficult to fulfil because schemes need long-term investment (both financial and social) and commitment. Introducing RES is an evolving process for environmental services' conservation and poverty alleviation that will facilitate the process towards a measurable flow of environmental services.

RES schemes will be sustainable with support from government, either central or local. In some countries, like Viet Nam and China, RES schemes will be sustainable when central government adopts the schemes and proceeds to recreate similar programs in various provinces. In other countries, like Indonesia and the Philippines, the most successful sites in implementing RES schemes were Cidanau and Lantapan, where local government was supportive. There, the adoption of RES schemes moved from a successful local experience to the national level. Furthermore, governments' role in convincing the private sector to include such schemes in companies' operational costs, beyond corporate social responsibility expenditure, seems also to be relevant in most countries.

Designing efficient and fair RES schemes

RES schemes are designed voluntarily and pro-poor. Each stakeholder engages in a negotiated scheme of RES through free and informed choice. In this case, poor farmers as providers of environmental services are not an object of enforced restriction, such as government regulation over their decisions regarding land practices, while the beneficiaries are not compelled to payment, such as taxing.The RUPES case studies in Indonesia, Viet Nam and the Philippines show that this condition ideally can generate greater trust and collaboration amongst stakeholders. This happens because the voluntary aspect of RES schemes balances their rights, obligations and commitments towards increasing awareness about environmental services and poverty alleviation, not as pressured by regulations or elites. The dissemination of information at a community level through direct mentoring and facilitation is more effective than the usual channels of communication. Brochures, journal articles, television, websites, policy briefs, manuals and books are not sufficient to reach communities. RUPES has learned that communities prefer to learn through practice and therefore direct mentoring and facilitation has been shown to be more applicable.

Research on RES schemes requires broad, multi-disciplinary knowledge and expertise. The RUPES 2 project acknowledged the ICRAF team's contribution in solving the need to have interdisciplinary experts. RUPES 2 coordinated different projects with similar or complementary issues to work together in achieving each project's goals.

Particular efforts are needed to fill gaps of knowledge among related stakeholders in order for them to fully understand the concept of rewards for environmental services. The RUPES team produced policy briefs, leaflets and brochures in different languages to develop a common understanding of the concept of environmental services and payment or rewards for environmental services.The team also engaged in workshops, seminars and conferences at national and international levels.

Exposing pilot sites and business cases to potential buyers through coordinated events (for example, the Environmental Services Fair in the Philippines) increases the possibility of interested investors or buyers engaging in schemes. However, if RES is not formally mentioned in companies' internal policies, 'commitments' from buyers may only be lip service.

This may be discouraging for local communities. In such cases, the role of the intermediary is important in negotiations between environmental services' providers and beneficiaries.

Related to the point above, intermediaries who act as champions guarantee that RES schemes will become operational. The Cidanau and Vietnamese cases proved how both could embrace multi-stakeholder engagement in schemes. A specific program focusing on increasing the capability of intermediaries may be needed as a follow-up action of RES projects in Asia because in many instances the intermediary needs more knowledge in project management and planning besides the technical knowledge about RES and conservation.

The establishment of an environmental services' multistakeholder forum as the intermediary can be a good alternative for bridging and communicating the needs of various stakeholders involved in a RES scheme. As in Cidanau, such a forum can also monitor and evaluate the implementation process of a scheme to assure transparency of the program, in terms of activities and financing, and prevent any possible conflicts among stakeholders. Together with government, such a forum can help convince the private sector to mobilize their investment in RES schemes. Capacity, confidence and commitment of RES intermediaries, especially NGOs, need more elaborate mentoring to be ready for expanding existing RES schemes. The role of intermediaries is highly important for effectively facilitating RES schemes. However, the levels of confidence, capability and commitment of intermediaries as implementing agencies are diverse. Technical assistance and deep mentoring to new intermediaries might be needed in order to prepare them in negotiation and facilitation in various interests.

Gender and PES

Further analysis of gender aspects is needed to effectively mainstream gender equality into program implementation. The RUPES 2 project found it challenging to mainstream gender equality in program implementation given the complexity of the project (that is, covering a broad range of sites in Asia with nested and multiple partners).

Rekonvasi Bhumi – a RUPES NGO partner – received a prestigious environmental award of Kalpataru from the President of Republic Indonesia for developing and implementing PES in Cidanau.

1. The institutional context

LINKS WITH OTHER IFAD INITIATIVES

Grants

- Pro-poor Rewards for Environmental Services in Africa (Kenya, Uganda and Tanzania) of World Agroforestry Centre: sharing lessons and tools in RES
- Asian Project Management Support Programme of Asian Institute of Technology: conducted a participatory gender assessment of RUPES 2

Loans

- The Pro-poor Partnership for Agroforestry Development (3PAD) in Viet Nam: providing technical assistance in piloting PFES models in the districts of Ba Be and Na Ri of Bac Kan province
- Cordillera Highlands Agricultural Resource Management Phase 2 (CHARM) in the Philippines: providing capacity building about RES
- Integrated Natural Resources and Environmental Management Programme in the Philippines: supporting in design and implementation of the project since one of its objectives is payments for water regulation, soil conservation, carbon offsets and biodiversity
- Rural Empowerment and Agricultural Development (READ) in Indonesia: providing technical advice for their working programs on natural resources management
- Leasehold Forestry and Livestock Programme in Nepal: communicating with IFAD Nepal Country Programme Manager about its collaboration with ICIMOD and progress made in Nepal
- Inner Mongolia Autonomous Region Rural Advancement Programme, China

Target regions and implementing partners

RUPES 1 (2002–2007): six action research sites in three countries	Partners
Indonesia: Bungo, Jambi; b) Singkarak, West Sumatra; c) Sumberjaya, West Lampung	WARSI, Yayasan Danau Singkarak,
Philippines: a) Bakun, Benguet; b) Kalahan, Nueva Vizcaya	CHARM, Ikalahan Foundation
Nepal: Kulekhani, Makwanpur	Winrock Nepal
RUPES 2 (2008–2012): 16 action research sites in six countries	**Partners**
China: a) Tibetan Plateau (Alpine Ecosystem); b) Songhuaba, Kunming; c) Xishuangbanna, Yunnan	ICIMOD, Yunnan University, Xishuangbanna Botanical Garden, Xishuangbanna Prefecture Government, AusAID
India: Lake Loktak, Manipur	Wetland International South Asia, Loktak Development Agency
Indonesia: a) Cidanau, Banten; b) Citarum, West Java; c) Kuningan, West Java; d) Sumberjaya Lampung; e) Bungo, Jambi; f) Paninggahan Singkarak, West Sumatra	FKDC (Watershed Forum), Rekonvasi Bhumi, LP3ES, Kanopi, Indonesian Power Company (PLN), Forestry Service of West Lampung District, FKKT- HKm, WARSI, LEI, Solok District Government, Nagari Paninggahan, Yayasan Danau Singkarak, CO2 Operate BV
Nepal: a) Kulekhani; b) Shivapuri	ICIMOD, IUCN
Philippines: a) Kalahan; b) Bakun; c) Lantapan	Kalahan Educational Foundation, IFAD-Philippines, Bakun Indigenous People Organization (BITO), CHARMP, Municipal Governments of Bakun and Lantapan, USAID-funded SANREM Phase 3 project on Vegetable- Agroforestry, BENRO, National Power Corporation-Pulangui IV, DENR- X,DA-X and NEDA-X
Viet Nam: Bac Kan	IFAD Viet Nam Project, IFAD-GEF, VNFOREST, local line agencies (Bac Kan DOST, DARD, DONRE, Universities, National Park, District & Commune People's Committees)
RUPES 2 (2008–2012): six learning sites in three countries	**Partners**
China: a) Tibetan Plateau (Alpine Ecosystem); b) Songhuaba, Kunming; c) Xishuangbanna, Yunnan	ICIMOD, Yunnan University, Xishuangbanna Botanical Garden, Xishuangbanna Prefecture Government, AusAID
India: Lake Loktak, Manipur	Wetland International South Asia, Loktak Development Agency
Indonesia: a) Cidanau, Banten; b) Citarum, West Java; c) Kuningan, West Java; d) Sumberjaya Lampung; e) Bungo, Jambi; f) Paninggahan Singkarak, West Sumatra	FKDC (Watershed Forum), Rekonvasi Bhumi, LP3ES, Kanopi, Indonesian Power Company (PLN), Forestry Service of West Lampung District, FKKT- HKm, WARSI, LEI, Solok District Government, Nagari Paninggahan, Yayasan Danau Singkarak, CO2 Operate BV

RELEVANCE TO IFAD

Relevance to IFAD's strategic framework and regional strategy

- RUPES 2 related to two objectives of IFAD's strategic framework 2007–2010: 1) to reduce vulnerability of the poor by rewarding them financially for the environmental services they provided; and thus 2) decrease widespread degradation of natural resources.
- These objectives were also congruent with IFAD's 2002 Regional Strategy for Asia and the Pacific.

Relevance to IFAD's programmes

RELEVANCE TO IMPLEMENTING PARTNERS

True to the philosophy of action research[1], the creation of annual activity plans was done in direct consultation with local stakeholders and was a 'moving target' dependent on needs identified locally.

The approach and methodology were differentiated by the four main stakeholder groups: environmental services' providers, buyers, intermediaries and decision makers who were necessary for realizing the poverty-alleviation potential of rewards for environmental services' schemes in Asia.

RUPES 2 helped increase ecosystem services and human wellbeing at the majority of its sites. The diversity and number of sites contributed to the program's objectives and ultimately to the goal that rewards for provision of environmental services would flow to poor people in Asia.

MAIN ACTIVITIES

A. National policy framework

The project supported national policy dialogues, particularly in Indonesia, the Philippines, Nepal and Viet Nam. It helped national policy makers to establish and implement effective international payment schemes and to knowledgeably participate in international forums.

In partnership with international and national NGOs, RUPES also supported national, provincial and local governments to develop rewards for environmental services' schemes and examined institutional constraints. The resulting policy recommendations were packaged and communicated by the national partners, who effectively reached the targeted policy makers. RUPES 2 facilitated dialogue among the stakeholders to enhance the adoption of policy and institutional options for support of environmental services' schemes. Innovative approaches, such as a virtual policy discussion using an online policy portal, complemented face-to-face policy meetings. Mainstreaming in government policies, together with strengthening of local capacity and bargaining power of the rural poor, also provided a built-in exit strategy for project-level interventions.

B. International and national buyer and investor engagement

RUPES 2 focused attention on various aspects of the 'business case' for private and public sector entities to become buyers in RES schemes. The team analyzed emerging trends in corporate social responsibility as an opportunity to finance pro-poor RES.

[1] Action research is research initiated to solve an immediate problem or a reflective process of progressive problem solving led by individuals working with others in teams or as part of a "community of practice" to improve the way they address issues and solve problems. It sometimes called participatory action research. Action research involves the process of actively participating in an organization change situation whilst conducting research. Action research can also be undertaken by larger organizations or institutions, assisted or guided by professional researchers, with the aim of improving their strategies, practices and knowledgeof the environments within which they practice. As designers and stakeholders, researchers work with others to propose a new course of action to help their community improve its work practices. Source: http://en.wikipedia.org/wiki/Action_research

In the context of upcoming compensation mechanisms for REDD, RUPES 2 engaged in testing innovative institutional arrangements for international investment to reduce the driving forces of deforestation through partnerships with forest-based communities. This component researched and developed mechanisms to make carbon markets and carbon finance accessible to IFAD's clientele.

RUPES publicized opportunities for buyers to participate in rewards' schemes and provided technical assistance to sellers to develop their business cases and create contracts. Stronger partnerships were built with consortia of businesses in Indonesia and the Philippines.

C. Environmental service intermediaries enabled

RUPES provided support to brokers of RES, such as interested local NGOs and governments, in order to cost-effectively link environmental services' supply to demand. RUPES 2 further developed the rapid assessment methods pioneered in RUPES 1. Working with universities in the region, the project helped build local capacity for cost-effective brokerage of RES in the scoping and negotiating stages. Documentation of 'good practice' in RES negotiations supported emerging concepts and global standards with synergy with other rewards for environmental services' projects funded by IFAD.

At the local level, the project provided technical assistance to NGOs and project implementers to facilitate the articulation of the sellers' business cases, entering negotiations and establishing contracts.

D. Innovations in effective, efficient and pro-poor RES mechanisms

RUPES 2 continued partnerships with action research sites in Indonesia, the Philippines and Nepal because site-level activities had produced very important lessons in the implementation of RES schemes, which were spread across Asia to ensure the sustainability of schemes already established. Each capacity-building activity was monitored and its effectiveness evaluated.

RUPES 2 tested new options for RES, continuing the scoping for financial as well as non-financial rewards' mechanisms, at community and household levels, in line with the poverty-reduction mechanisms identified in RUPES 1.

E. Mainstream RES into IFAD rural development initiatives

RUPES 2 disseminated communication materials and lessons to national governments, IFAD CPMs, country teams and projects to raise awareness of the potential for RES.

RUPES 2 provided opportunities for workshops and capacity building and also provided input at the design stage of new IFAD projects.

RUPES 2 contributed to IFAD's knowledge on pro-poor RES and linked its activities on knowledge management to IFAD's Rural Poverty Portal. This was done in the wider context of a communications strategy that was developed during implementation, along with a communications framework that included annual communications plans that catered to a cross-section of audiences, including partners, governments, the private sector and civil society.

Ridging and grass strip are soil and water conservation practiced by farmers as providers of watershed services

2. Programme implementation

THE RESEARCH PROGRAMME

Description of the technology/participatory methodology/approach developed

The action research carried out at RUPES 2 sites aimed to develop RES schemes that would directly benefit poor households who provided environmental services related to water, carbon and/or biodiversity. This approach was underpinned by four principles for fairness and efficiency in enhancing environmental services.

- **Realistic:** based on identified environmental problems and services
- **Voluntary:** willing engagement of providers and beneficiaries in a negotiated scheme
- **Conditional:** benefits received by ES providers are performance-based
- **Pro-poor:** bias toward poor stakeholders for long-term sustainability

Rewards could include payments as well as non-market incentives, for example, secure tenure for ES providers. Monetary incentives might have actually been counterproductive if they undermined existing socio-cultural norms or if they were not sufficient for offsetting opportunity and transaction costs borne by the providers. RES schemes had, therefore, to be linked to a livelihoods' approach that considers the five capitals (human, social, physical, financial and natural) in building assets to reduce poverty.

During RUPES 1 and 2, ICRAF and partners contributed to the development, refinement and testing of a conceptual framework and assessment tools for RES.

Costs of the inputs used to implement the research programme

Table 1. RUPES 2 Expenses, 15 October 2008–30 September 2012

Item	IFAD grant	Total co-funders
Personnel	236,032	
Operational	213,056	
Consultations and Workshops	468,114	
Action Research/Technical Assistance	422,083	
Overheads	160,715	
Total	1,500,000	2,436,000
GRAND TOTAL	3,936,000	

Rural areas and context where the research has been implemented (specifying environmental conditions)

CHINA

Songhuaba, Tibetan Plateau

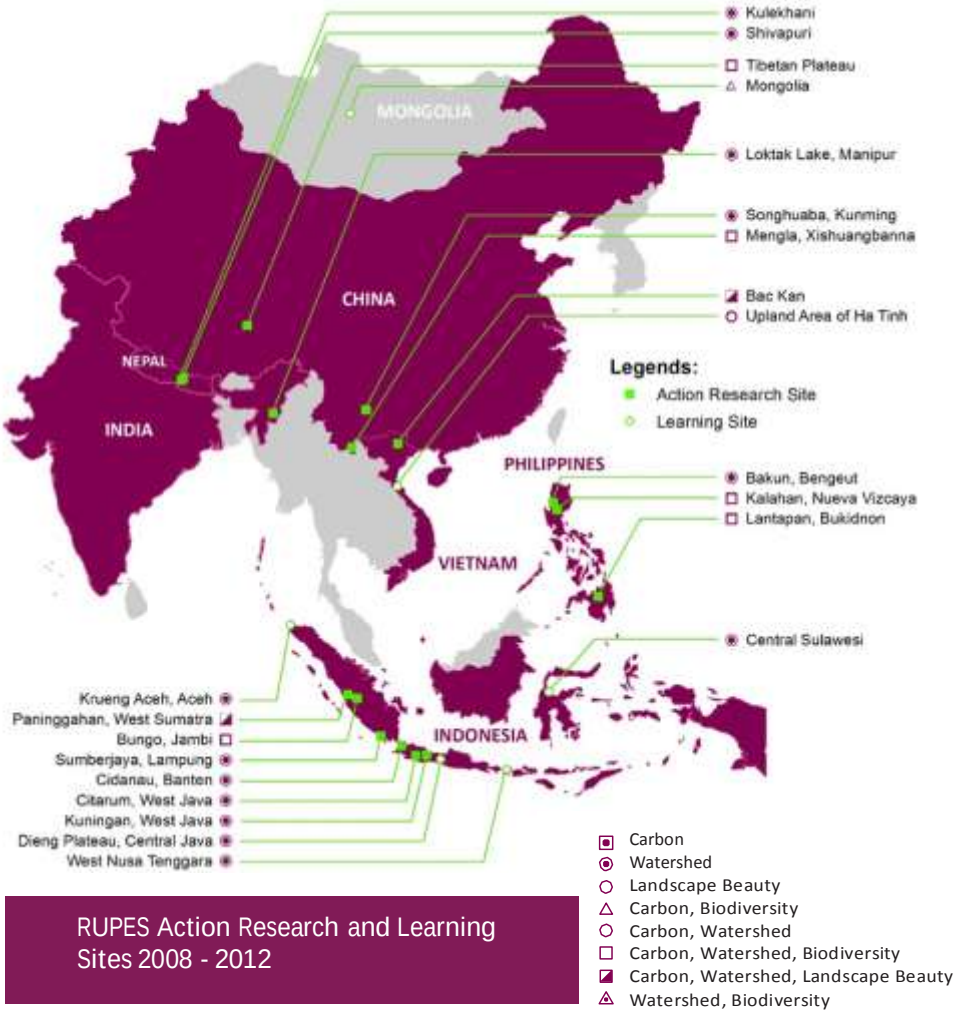
The Plateau's grasslands provide half the drinking water for millions of people downstream and are home to a rich and rare biodiversity of global significance. Grassland-dependent livestock-raising is the primary source of cash, and also non-cash, income for the majority of the Plateau's 5 million inhabitants. A decline in water quality has been driven by growing demand for agricultural produce. At the same time, local governments have undertaken some 'top–down' environmental services' schemes. Although the schemes were intended to protect the environment, there were some problems: only a single source of funds with low compensation to farmers; a lack of evaluation and market valuation of ecological services; and a more general lack of market mechanisms.

Xishuangbanna

Rubber monoculture expanded beyond the rubber growing-limit to very high elevations has placed great pressure on sustainable land use in this watershed. Local incomes come mainly from rubber revenue, placing the inhabitants in a vulnerable situation given the fluctuations of the natural rubber market. RUPES explored policy mechanisms to control forest conversion and provide economic incentives for forest restoration.

Lake Loktak

Lake Loktak, the largest wetland in the Basin, produces fish and vegetables, has moderate floods, supports rich biodiversity and is inextricably linked to the Manipuri culture. It features the Keibul Lamjao National Park, which is a habitat of the globally rare and endangered ungulate species, Rucervus eldii. The ecosystem services are under stress owing to lopsided developmental planning within the basin. Water resources development projects for flood mitigation, agriculture and hydropower generation have led to modification of hydrological regimes, seriously affecting the



RUPES Action Research and Learning Sites 2008 - 2012

processes, functions and attributes of the wetlands. Rapid growth of population in the adjoining hills has led to expansion of the area under shifting cultivation, which has increased lake siltation and led to the loss of flood attenuation capacity. High levels of urbanization with inadequate sewerage led to dumping of untreated sewage into the lake, leading to a decline in water quality. The declining resource base with increasing population pressure has forced the spread of harmful fishing practices. However, at the core of lake degradation was a lack of integration of ecosystem services into developmental planning processes.

INDONESIA

Bungo, Jambi province

Approximately 50% of the land is covered by rubber-based systems, of which 15% is in the form of old rubber agroforests or 'jungle rubber', which is becoming an increasingly important reservoir of forest diversity and other environmental services usually provided by natural forests. Low rubber prices over the past several years have brought a substantial part of the province below the official poverty line, while a decade ago Jambi was better off and was an attractive destination for migrants. In recent years, the enormous increase of oil palm plantations has led to a reduction in the number of jungle rubber areas in Jambi. Unless farmers are rewarded for the environmental services provided by rubber agroforests, these biodiverse areas will soon be replaced by largely monocultural oil palm plantations.

Cidanau, Banten province

Cidanau is an important watershed for the supply of domestic and industrial water as well as for protection of biodiversity. The reserve also plays an important role as a catchment for the Cidanau River. As an impact of rapid population growth, Cidanau watershed has experienced fast land-use

Phumdi is floating mass in a Ramsar Protected wetlands of Loktak, India protected through PES schemes

change from forestland into agriculture. An increase in the number of people living, and illegally farming, in the upstream of Rawa Danau Reserve has caused a decrease of flora and fauna diversity.

Citarum, West Java province

Citarum watershed covers 11 600 km^2 and plays an important role not only in the surrounding areas but also for many other areas in West Java and Jakarta provinces. The 350-km-long Citarum River distributes water for various purposes, including electricity, agriculture, fishery, urban commerce and industry. The river (and its watersheds in general) was facing serious problems related to quality degradation, uncontrolled flood patterns, landslides, water shortages, and pollution. Despite the existence of two conservation areas which covered almost 30% of the total watershed, the number of settlements and rapid development of industries had been increasing, which, coupled with poor agricultural practices, were believed to aggravate environmental degradation. Many local people still remained landless without any certain livelihood or source of income and the majority had low levels of education, income and quality of life.

Kuningan, West Java province

Mt Ciremai National Park functions as a water catchment for surrounding districts, including Cirebon, Indramayu, Majalengka and Kuningan. It is an important water reserve for domestic, industrial, agricultural and fisheries use. The forest in the national park had been disturbed owing to land grabbing for agricultural purposes and also because of fire, which resulted in more marginal land. This has had a direct impact on surrounding areas, including the decrease of water discharge and spring water, in particular, during the dry season. The Government of Kuningan district, located upstream, cooperated with the governments and companies of Cirebon district and Cirebon city, located downstream.
The cooperation took the form of a variation of a payments for environmental services' scheme where the Cirebon governments and companies paid compensation to Kuningan district for the water they used. This generated additional income for Kuningan district. However, the transaction process was not transparent and the need to implement conservation practices as well as development of communities around the park was not clear since the money was bundled with other income sources when allocated to villages.

Paninggahan, West Sumatra province

Lake Singkarak is located between the cities of Padang Panjang and Solok in West Sumatra province. Total catchment area is about 58 460 hectare. Logging activity in the past created thousands of hectare of bare land, most of which has not recovered. Agricultural activities in the uplands also helped create 'alang-alang' (Imperata cylindrica) grassland in some parts. About 400 000 people (approximately 205 people per km^2) live in the surrounding area in 13 'nagari'. The main sources of income are agriculture and fisheries (76.5%), indicating that local people depend on the natural ecosystem for their livelihoods. The system of governance in West Sumatra has been changed from 'village' into 'nagari' as part of the decentralization process. The nagari system recognizes the traditional effectiveness of local communities in managing natural resources.

In 2002, the National Strategy Studies on Clean Development Mechanism conducted by the

Kulekhani landscape where farmer groups received loyalty from hydropower for preserving the upper watershed

Ministry of Environment identified the Singkarak watershed as a potential site for implementing a national reforestation carbon project. A RUPES study revealed that reforestation might not be the only solution and found that the change of inflow to Lake Singkarak was also caused by the rainfall pattern and a hydropower plant.

Sumberjaya, Lampung province

Sumberjaya is a sub-district with at least 40% of the sub-district classified as 'protection forest' and 10% as 'national park'. Nevertheless, forest cover has declined. Simultaneously, coffee farms have increased dramatically. Coffee gardens now cover around 70% of the total area. Establishing and maintaining 'shade coffee' as part of an agroforestry system has been considered to potentially slow erosion and a decline in water quality, as well as contributing to farmers' incomes. The Way Besai watershed supplies a hydroelectric run-off dam of PLTA Way Besai Electricity generation with a maximum capacity of 90 MW. The Government's belief that uncontrolled deforestation and conversion to coffee on sloping land in Sumberjaya had led to a serious increase in erosion that threatened the operation of the newly constructed Way Besai hydropower dam and reduced water availability for irrigated paddy rice downstream resulted in the eviction of thousands of farmers from the forests. Studies by the World Agroforestry Centre since 1998 showed that multistrata coffee farms provided livelihoods to people and also controlled erosion in a way similar to that of natural forest. Coffee farming and forest protection should not be set as two opposite practices.

NEPAL

Kulekhani

Kulekhani watershed is the source for the Kulekhani reservoir that supplies water to hydropower plants downstrea m. The 92 MW Kulekhani hydropower plant is the only storage-based plant in the country, providing about 17% of the total hydroelectricity generated in Nepal. There are about 8000 households with over 45 000 residents in eight villages in the catchment.

Most households depend on agriculture and livestock. Intensive agriculture for commercial vegetable production and paddy rice is increasing. Sedimentation, caused by intensive agriculture and land disturbance, is the main problem for hydropower plants in Nepal. Economic losses associated with siltation in the reservoir are very high. While many check- dams were built along rivers to reduce siltation in the reservoir there had been no program to encourage upland communities to practice more conservation-oriented farming and there were no incentives provided by the hydropower plant to the community forest users for improving the forests. Legislation mandates all hydropower plants to pay royalties to the central government. Twelve percent of the royalties are returned to the district that houses the power plant. However, there was no acknowledgement of the role of upland communities and forests in providing hydrological services.

Shivapuri

Shivapuri Nagarjun National Park is the nearest national park to the capital city, Kathmandu. It is rich in biodiversity and also has cultural and livelihoods' importance for local communities Sundarijal catchment inside the park provides up to one-third of the piped water of Kathmandu Valley. Water from the catchment is also used for generating hydroelectricity, irrigating paddy fields, bottled water, and the soft drink industry. The catchment is also an important site for both domestic and international visitors who come to enjoy its natural beauty.

Deforestation for agricultural cultivation and harvest of forest products coupled with human–wildlife conflict were serious issues. Limited budget for park management made it difficult to effectively control deforestation. This was compounded by the fact that local people had no interest in upland conservation because they did not receive tangible incentives. There are people living in the villages located within the park boundary who have literally been fenced in and are subjected to 'command and control'. The International Union for the Conservation of Nature's biophysical-economic- livelihoods assessment of conservation inside the park indicated that even though conservation makes economic sense, continuing to expect catchment land and resource managers to cover the costs for downstream water users would further marginalise the local people.

THE PHILIPPINES

Bakun

The Municipality of Bakun, which covers about 31 000 hectare of rugged mountains, was the first in the country to be awarded a Certificate of Ancestral Domain Title (CADT). It is inhabited predominantly by people of the Kankanaey-Bago tribe. The tribe's indigenous way of life governs how they relate with their natural ecosystems and among themselves. The indigenous people living in the watershed were predominantly poor, with about 87% living below the poverty threshold. The Bakun watershed has a total drainage area of 29 300 hectare, consisting of four big rivers and several tributaries. The Bakun and Gambang rivers support the hydroelectric operations of two mini-hydropower companies, Hedcor Inc and the Luzon Hydropower Corporation, which provide benefits to the municipality . The increase in silt load accumulation was estimatedto cost the power plants about PHP 30–40 million (USD 729 000–971 000) worth of repairs and maintenance of turbines and other facilities annually. Water pollution, on the other hand, was caused by chemical waste from agricultural inputs and oil from vehicles. The existence of these problems could be seen in the decline of the quantity and quality of water.

The municipality of Bakun had been receiving monetary remuneration from statutory, negotiated and voluntary benefits, paid in cash and kind by the power plants since their establishment. These benefits and financial assistance would have been ideal to alleviate the livelihood of the indigenous people. However, it was within the discretion of the LGUs to utilize the benefits according to their own municipal development priorities, with no or very little direct assistance given to those who were directly responsible for the stewardship of the watersheds. Based on the 2005 assessment of benefits provided by the two hydroelectric companies, most of the benefits went to infrastructure development. Very little had been aligned to livelihoods' development and watershed conservation.

Kalahan

The site is known as the Ikalahan Ancestral Domain, which covers 38 000 hectare in Nueva Vizcaya plus about 10 000 hectare in Nueva Ecija. The entire area is mountainous. About 90% of the population are from the Ikalahan tribe. Most families practise subsistence swidden farming although a few have begun to plant commercial, high-value vegetables. The Ikalahan ancestral domain is an ecologically sensitive area with rich biodiversity and is an important watershed that benefits downstream farmers and sequesters huge amounts of carbon from the atmosphere.

The Kalahan Educational Foundation (KEF) is a community-based organization established in 1973 by the Ikalahan tribal elders to protect the communities from possible eviction by land grabbers. In the past, each family was allowed to cultivate anywhere, especially in forests where the soil was still very fertile. This resulted in widespread burning and conversion of forested areas to farmlands. Although the Ikalahan were observing fallow periods to regain soil fertility, the time needed for successful rotation was 15–18 years or even longer. As the Ikalahan population increased, the traditional farming system required more land for cultivation,

resulting in continuous reduction of the forested area. As well, encroachment by non-Ikalahan owing to intermarriage and selling of CADT rights threatened the stability of the Ikalahan culture and conservation efforts.

Lantapan

The Municipality of Lantapan is in a river valley through which several rivers and creeks flow from the national Park through intensively cultivated agricultural areas to the Manupali River, which runs into a network of irrigation canals constructed by the National Irrigation Administration, currently operated by the

Bukidnon Irrigation Management Office. The whole system ultimately drains into the Pulangui Reservoir and supports the biggest hydropower plant in Mindanao, operated by the National Power Corporation (NPC-Pulangui IV).

The shift to commercial agriculture by corporations and large landholders pushed smallholders onto smaller plots in less productive and more environmentally fragile areas. This pattern of agricultural expansion involved the replacement of forest and permanent crops by annual crops and the spread of annual crops even at high altitudes and on steeply sloping areas. This increased soil erosion rates, causing further land degradation. The irrigation system is now unable to reach its intended service area owing to water shortages, especially during the dry months, caused either by low stream flow or low storage capacity due to high silt deposits. Similarly, the NPC has over the years, experienced a power generation crisis owing to the poor condition of the Pulangui Reservoir. Sustaining the volume of water demanded by different stakeholders has become problematic. Water competition not only lead to scarcity and depletion of underground and surface water but also aggravated conflict stemming from overlapping water rights and poor benefit-sharing.

VIET NAM

Bac Kan

The RUPES action research site at Ba Be, Bac Kan province covered 57 693.63 hectare of forestland and 5947.78 hectare of agricultural land. Bac Kan is one of the poorest provinces in Viet Nam (poverty rate of 36.6% compared to country average of 13.4% in 2010). It was also one of the potential candidates for the expansion of the UN-REDD program under phase 2. Some of the management practices were unsustainable because they would potentially degrade forest and forestland in the long term. These were slash and burn agriculture, illegal logging, agriculture on sloping land and forestland, monocropping of maize, and cattle grazing.

On the basis of lessons learned from rewards for environmental services' cases in Viet Nam, it seemed that the most successful schemes relevant to Bac Kan might involve watershed functions and carbon sequestration. The assessment of the potential and constraints in Bac Kan was therefore focused on these two kinds of service.

TARGET GROUP AND IMPACT

Description of the target group, the beneficiaries and the benefits

The ultimate target group for RUPES 2 was indigenous forest dwellers and smallholding farmers in less productive environments that were vulnerable to environmental degradation and climate change[2].

RUPES supported rewards' mechanisms that provided cash payments to farmers who conducted reforestation and conservation activities, such as the Sloping Farmland Conversion Program and Grassland Conservation Rewards Program in China, a voluntary carbon scheme in Singkarak, and a tree-based agroforestry scheme on farmers' private land in Cidanau[3].

[2] RUPES . 2013. Rewards for, Use of, and Shared Investment in, Pro-poor Environmental Services project, phase 2. Research sites in Asia 2008–2012. Finlayson R, Wijaya CI, Leimona B, eds. Bogor, Indonesia: World Agroforestry Centre (ICRAF) Southeast Asia Regional Program.

[3] Leimona B, Pasha R, Rahadian N. 2010. The livelihood impacts of incentive payments for watershed management in Cidanau watershed, West Java, Indonesia. In: Tacconi L, Mahanty S, Suich H, eds. Payments for environmental services, forest conservation and climate change: livelihoods in the REDD? Cheltenham, UK: Edward Elgar Publishing, p. 106–129.

Specifically to reduce soil sedimentation flows to a river, RUPES encouraged farmers in Sumberjaya to conserve soil on their coffee farms through a River Care program[4] that involved a hydropower company as the beneficiary of the environmental services, and facilitated farmers in two villages in Citarum to receive cash payment from a drinking water company through converting their monocultural agricultural system to a coffee agroforestry system.

In Lantapan[5] and Bungo, RUPES 2 helped local stakeholders reduce pressure for converting land to more commercial uses (vegetables in Lantapan and oil palm plantations in Bungo), averting deterioration of the Bakun watershed and loss of biodiversity in Bungo. In Kulekhani, the district development authority of Makwanpur paid upland communities as part of hydropower royalties obtained from the central government. The upland communities were empowered through development forums to manage the royalties as well as the watershed.

At Lake Loktak[6], RUPES 2 focused on an incentive system to promote sustainable water management for ecological restoration and sustaining livelihoods. Specifically, RUPES 2 supported development of a water allocation policy for Lake Loktak, balancing human needs with ecological requirements. In Viet Nam, RUPES 2 developed an excellent working relationship with the Pro-poor Partnership for Agriculture and Forestry Development (3PAD) Project—funded by IFAD—through facilitating the development of a community contract between Ba Be National Park as the environmental services' beneficiary and forest owners and the Leo Keo community as providers.

Main research outcomes/impacts

IMPACT ON FINANCIAL CAPITAL

In Cidanau, the communities earn their income from tree crops—*melinjo,* coconut, robusta coffee, durian and clove—representing the top five income sources. Further planting of these tree crops was supported through the PES scheme. Tree species were selected on the basis of commodity prices and market demand to enable participants to build a productive base of valuable tree crops. The farmers' groups in Cidanau also invested some of their PES income to develop a fruit-tree nursery, with training from a local NGO provided in how to process the fruit into crackers. These value-adding activities might enable communities to gain a better return from *melinjo*. Some participants stated that wage labour from farming and other sectors, such as construction and business (for example, motorbike rental), also contributed more to their household incomes in recent years compared with agricultural products. The communities have become more dependent on labour income compared with income from agriculture because most of them have sold their lands, or only had small land areas to begin with, which could not fulfil their income needs from agriculture. In addition, the PES contract constrained the clearing of lands which participants owned, and respondents added that this gave them more time to undertake alternative work, such as paid labour. The annual PES income of USD 120 per hectare—which after contract renewal in 2013 was raised to USD 170 per hectare — contributed around 3% to PES participants' household incomes. Only one group in Citaman regarded PES as their primary source of income.

IMPACTS ON HUMAN CAPITAL

The various schemes had particular impact on the capacity, skills and knowledge of participants because of their regular interaction with NGO staff and researchers. Participants were more aware of environmental issues, such as the causes of erosion, landslides and downstream sedimentation, as well as management measures, such as erosion reduction, prevention of illegal cutting of trees, waste management, and the role of trees in water and soil conservation.

Participants also reported improved capacity and skills in managing farmers' organizations, including networking to improve local businesses and to improve implementation of the RES scheme. This capacity-building occurred through interaction with the members of intermediary institutions. Interviews with the members of

[4] Pasha R, Asmawan T, Leimona B, Setiawan E, Irawadi C. 2012. Commoditized or co-invested environmental services? Rewards for environmental services scheme: River Care program, Way Besai watershed, Lampung, Indonesia. Working paper 148. Bogor, Indonesia: World Agroforestry Centre (ICRAF) Southeast Asia Regional Program.

[5] Catacutan D, Villamor GB, Pinon CD. 2010. Local government-led PES for watershed protection: cases from the Philippines. Mountain Forum Bulletin X(1).

[6] Kumar R. 2010. Payment for environmental services for sustainable water management in Loktak Lake, Manipur. Mountain Forum Bulletin X(1).

intermediary institutions indicated that their knowledge about RES issues increased, such as the principles of RES, how to design community-based forest management, how to strengthen local institutions, global issues, such as global warming, the Clean Development Mechanism, and Reducing Emissions from Deforestation and forest Degradation.

IMPACTS ON SOCIAL CAPITAL

RES contracts brought opportunities for participating communities to interact more with other external stakeholders, which expanded the external networks of the communities to include: 1) researchers conducting studies on RES; 2) local NGOs who facilitated the RES contracts; 3) the buyers, with some of them coming from foreign countries; 4) multi-stakeholder institutions as the intermediaries; and 5) other government agencies besides agriculture and forestry services. The focus groups with RES participants revealed that many had written rules to guide members of their farmers' groups towards meeting their collective obligations under the RES contracts: for example, if one member defaulted on the agreement this would become the responsibility of the whole group. Communities usually participated in regular collective events to produce public goods and services, such as maintaining roads, bridges, community buildings and water supply systems. These activities are an important aspect of rural social capital in Asian countries. Government officials shared the view that the existence of RES schemes had increased their communication with stakeholders as well as demonstrated a need for greater inter-agency communication. They expected that RES could assist government in conducting conservation programmes and improving communities' livelihoods.

IMPACTS ON NATURAL CAPITAL

At some RUPES 2 sites, the RES scheme only targeted individual farmers, and restrictions on land use only applied to private land, so there was no change in access to common resources. Before such schemes and after their beginning, communities utilized non-timber products from nearby forests, such as water, wild boar, fish, firewood, medicinal plants, herbs, fruits and leaves. In Indonesia, communities were involved in various rehabilitation activities (both government-initiated and locally organized) before and after the RES schemes. Government programs included planting trees, such as mahogany, clove, Albizia and Calliandra, forest fire prevention activities, forest patrols for the prevention of illegal logging, and terracing steep lands. In Sumberjaya, Indonesia, River Care contributed to a 20% decrease of sedimentation in a particular sub-watershed. In Singkarak, the voluntary carbon scheme targeted 4090 ton CO_2 in 10 years on a 28 ha area.

THE GENDER DIMENSION

Women's role in the research programme

A reward for environmental services is a mechanism that connects environmental service providers and beneficiaries through flow of environmental services and rewards. Gender equality within the 'community of environmental service providers' is a pre-requisite that facilitates social bonding and collective action to ensure functional and sustainable RES schemes. The RUPES study results showed that almost all women have lesser access, benefits and control over natural resources and their management processes compared to men. Current RES schemes expect that benefits flow directly to women and children but this is unlikely to happen without women's participation at all stages. Gender issues, such as subordination of women, lack of self-confidence in social forums and stereotyping women's role to mainly fall within the domestic category were culturally deeply rooted at the three locations, even in West Sumatra with its matrilineal heredity line. To achieve gender equality in RES schemes, cultural and structural constraints need to be addressed, ideally from the outset. Women's participation in decision-making needs to be improved in order for women to benefit from RES schemes.

Impacts on gender equity and women's empowerment

We recommend that pro-poor schemes should be gender-sensitive. The concept of co-investment in landscape stewardship, one of the paradigms of PES, addresses social capital with respect and mutual accountability in order to build sustainable development yet also provides more space for specific actions for actual delivery of environmental services to meet conservation objectives. Forfuture PES projects, we recommend harnessing the different capacities of women and men so they can both effectively participate in resource management to sustain environmental services and, particularly, address

women's strategic needs while avoiding creating a multiple burden for them. In the Philippines, men and women's roles were mostly defined by the nature of their usual activities undertaken in natural resources management, such as tree planting for men and nursery work for women. Women in particular were quick in picking up information, recognizing opportunities presented to them, and organizing themselves to take advantage of various livelihoods' assistance. PES schemes can tap women's potential for communication activities, particularly for orienting the community about the project, disseminating information on various mechanisms for RES that might be available to the community or mobilizing youth to be involved on issues affecting the provision of ES and RES.

ACCESSIBILITY

Identification of the physical availability of the research outputs in different time and places as well as their affordability by the rural poor

- Ample copies of brochures (series of RUPES-site brochures on local, public/policy and modellers' (scientific) knowledge ('LEK PEK MEK')) were distributed to stakeholders and partners from village to regional level. Additional copies were provided upon their request.
- Booklets written by our local NGO partners in local languages were disseminated to communities at their sites.
- Videos were watched collectively in village offices.
- Copies of books and brochures during RUPES- organized conferences and meetings were also shared to our local partners.
- Except for a few partners whose offices had internet access, most had limited capacity to make use of our publications available on the website.

CONSTRAINTS FACED DURING THE PROGRAMME IMPLEMENTATION

Internal difficulties faced during the implementation of the research programme

RUPES partners required increased capability in documenting, analysing and synthesising the RES process. RUPES partners were very effective in social mobilization, sensitising issues at local levels and organizing dialogues with governments. However, the same partners often lacked the capability to report the process systematically and provide good analyses and syntheses of lessons from the pilot sites. RUPES facilitated some socio-economic and biophysical work and provided reporting formats.

Project delays occurred owing to obtaining official permission, such as permits to conduct research and activities at the pilot sites. This was an external factor that was difficult to influence. RUPES usually conducted a regular check with the relevant government officers to accelerate the process.

The management of a nested partnership is beneficial for the progress of the RES concept. This is because it allows for a bottom–up process in sharing lessons and experiences in the implementation of RES. Furthermore, it helps to influence higher level policy on RES. There were some issues faced in managing nested relationships.

- Different partners have different agendas and objectives in being involved in a network.
- Difficulty in finding agreement (scheduled time, place) in organizing a collaborative event.
- Institutional conflict of interest might occur.
- Delays owing to partners not meeting deadlines.

To overcome these issues, the RUPES management team formed small teams at each level of the partnership to further formulate each activity and plan. The small teams mostly involved other organizations, such as local and national NGOs in the RUPES sub-grants. For national networks, there was an idea to establish a national secretariat coordinated by a national NGO and facilitated by the RUPES project.

Better management of partnerships between IFAD grants and investment projects is necessary to ensure that staff time is allocated effectively. There were problems allocating staff time to provide technical assistance for the activities of IFAD projects. Requests for technical assistance from ICRAF

scientists often came suddenly. The scientists, who had expertise in specific areas of the needed technical assistance (for example, carbon measurement, hydrology) had not allocated time to support RUPES-related activities. As a solution, RUPES proposed to IFAD projects that they communicate their work plans before the beginning of each fiscal year.

Similar understanding about the partnership is also important. While one of RUPES 2 objectives was to partner with an investment project, the latter considered the collaboration as an additional burden to their existing tasks and not as an opportunity to learn and contribute to the science of RES development beneficial for both parties. This meant there was a skewed interest in the collaboration, such that issues such as staff and funding allocation emerged. Eventually, the IFAD project partner's staff were changed who were involved in the PES component that caused the problem. Understanding and learning PES work takes time for new staff.

If grants are evaluated by the degree of collaboration with an investment project, it should be the same for the latter so that the demand will be of the same level.

Collaboration between the RUPES grant and another investment project provided a good practice and synergy because the grant was involved in the design of the investment project, including visiting the initial selected site and local government.

External difficulties faced during the implementation of the research programme (socio-political and environmental aspects)

- Local politics and conflict between groups can constrain proper implementation of environmental services' schemes. While we wanted to follow the mainstream (recognized governance), we were also expected to acknowledge the other side and be inclusive. This required extra time, effort and resources, and importantly, developing a deep understanding of local context to be impartial in our dealings and not jeopardize ourselves and the project.
- In the context of poor governance and local politics, there was a big risk of environmental services' money being diverted to fund activities that could reduce ecosystem services.
- In the context of environmental services' schemes in protected areas, there was potential for conflict between national park authorities and local communities. Our experience to this is related to 1) above, where the presence of multiple actors made the case more complex. Each of them was associated with knowledge, contesting who has the right to decide on, and benefit from, RES schemes, using their own version of 'history and power' as justification.
- Lack of policies about ecosystem services and payment mechanisms severely hampered efforts to develop schemes.
- PES planners/designers need to be reflexive to effectively address rapidly changing local realities. Top–down PES procedures also need to be linked with bottom–up approaches when designing PES schemes.

Institutional sustainability and degree of farmers' and other stakeholders' involvement in the research programme

At all RUPES sites, the project worked with community-based organizations as the main stakeholders, who were themselves identified as local resources managers and providers or sellers of environmental services. Community support was highly important for the proper implementation of the project. Aside from that, the initiative of the community was vital for the sustainability of the project's goals as they were the ones who would ensure the continuity of what RUPES had started once the project ended.

The RUPES partner, FKKt HKm Lampung Barat, facilitated a series of meetings to strengthen the institutional capacity of other community forestry groups. They also sought ways of collaborating with other potential partners on Way Besai watershed management. The Sumberjaya team also established an agreement with Strengthening Community-based Forest and Watershed Management, a project funded by the United Nations Development Program and the Global Environment Facility, to develop a community action plan for watershed management which was in line with the RUPES project. In Citarum, RUPES facilitated the establishment of a provincial environmental services' working group for Citarum watershed. Similarly, RUPES facilitated the creation of a multi-stakeholder RUPES Working Group in northern Mindanao, to expand RES development from

Manupali watershed to Mt Kitanglad Range Natural Park. Fortunately, a number of the members were also part of the Technical Advisory Committee of the Bukidnon Watershed Protection and Development Council. The Committee was finalizing the implementing rules and regulations of its Bukidnon Watershed Management Framework, of which RES development was identified as a key strategy for resource mobilization. Installing policy guidelines such as these were important to build institutional partnerships and ensure their sustainability. In Kuningan, the RUPES partner developed a multi-stakeholders' forum for Mt Ciremai National Park as the intermediary for the water services' transaction between the drinking water company and the national park. In Singkarak, the Lake Singkarak Management Body, which was comprised of nagari surrounding the lake, was established for better management of Lake Singkarak and its watershed.

In Nepal, the locally formed Sundarijal Environment Committee with support from Nepal Environment and Tourism Initiative Foundation and the International Centre for Integrated Mountain Development (ICIMOD) took a proactive role in approaching various ecosystem beneficiary groups and government agencies to implement the scheme. In Lantapan, farming communities were trained to develop ES-based project proposals as well as negotiate these with potential buyers. The RUPES Working Group will continue to facilitate negotiations that were already underway, as well as support the integration of environmental services rewards' schemes in various watershed and land-use programs and projects. This will include the ADB- and IFAD-funded Integrated Natural Resources and Environmental Project, which includes PES development as one its three major objectives.

The early work of RUPES in China focused on building the capacity of researchers and local forest departments in documenting and understanding the impact of forest-sector programs, identifying issues, developing innovative ways to address the issues, and supporting dialogue with policy makers at different levels. In India, RUPES supported development of a water allocation policy for Lake Loktak, balancing human needs with ecological requirements. The policy was endorsed by the Steering Committee of the Loktak Development Authority and modalities were being worked out for its implementation in participation with various agencies. In Indonesia, a national-level network (Community of Interest to Empower Environmental Services/COMMITTEES) worked with a number of parties to pass a regulation on environmental services in Indonesia. Members organized regular meetings with several key government agencies, such as the Presidential Advisory Council, Ministry of the Environment, Ministry of Forestry, Coordinating Ministry for Economic Affairs, State Planning Development Agency (Bappenas) and others at district and provincial levels. RUPES Philippines organized the Payments for Environmental Services Technical Working Group, which consisted of members from government and non-governmental organizations intent on advocating payments for environmental services.

DISSEMINATION PATHWAYS

Communications strategies at village level

- RUPES mainly used traditional methods of dissemination, such as printed materials, translating studies (for example, the rapid hydrological appraisal tool from the Trees in Multifunctional Landscapes in Southeast Asia project) into four-page brochures for stakeholders and partners and to bridge the gap between knowledge and action (for policy makers and farmers). We also used posters to share project results. In Viet Nam, ICRAF in collaboration with the 3PAD project developed and delivered a leaflet, Most frequent Q&A on PES, and VCDs to policy makers, cadres of local line agencies and partners in Bac Kan.
- RUPES maintained formal and informal face-to-face communication and interactions with stakeholders and partners through field visits, community meetings, training activities, seminars, forums, conferences, and the like, and found this most effective. During break times, the team would screen different videos (from RUPES and other projects).
- The RUPES Working Group communicated through emails, sharing publications related to our projects, and other publications and websites that were of interest to the members and their institutions.

Participatory approach was applied to both community and partners of the RUPES network

- While the ideal dissemination pathway might be to reach as many stakeholders as possible, in Lantapan RUPES targeted farming communities (those who expressed interest in RES and who also had potential ES) to focus communication activities. The team identified key farmer leaders and invited them to represent their communities during training activities, seminars, forums and other events at provincial and regional levels. These farmers received most of the printed materials.
- RUPES also facilitated a cyclical communication strategy where the team could benefit from feedback about RES and the project.
- Importantly, RES was a financing strategy that involved payments and rewards and the team did not want to raise expectations. Hence, communication was carefully prepared and managed.
- During community activities, such as village meetings, we observed the importance of communication materials in the local language for better understanding, especially since RES was a new concept to most people involved.

Communications strategies at national and international levels

RUPES 2 deployed a range of tactics to communicate at national and international levels, in particular, holding national seminars with key policy makers, presenting information at international conferences and directly to international bodies, publishing policy briefs, reports and flyers. Videos were created on River Care and the voluntary carbon scheme in Indonesia and PES in Viet Nam, each focusing on particular aspects of RUPES' work. A collaboration with Tempo TV included broadcasting the videos (about payment for watershed and voluntary carbon schemes) on 25 local TV stations throughout Indonesia and others were screened at seminars, workshops and conferences.

In Indonesia, RUPES were invited to speak at the press briefing led by the Minister of the Environment. One outcome of this was that RUPES' experiences were published consecutively in at least five major national newspapers and as part of a special supplement in the weekly news journal, Tempo. RUPES also contributed to global syntheses and lessons sharing of PES coordinated by international agencies, such as the FAO, Forest Trends and Katoomba Group and TEEB.

The science generated from the project was published in highly respected international journals, such as Proceedings of the National Academy of Sciences, World Development, Land Use Policy, Conservation Biology and Ecology and Society. Through RUPES' work, the World Agroforestry Centre Southeast Asia Program and Indonesia were selected to host the annual international Ecosystems Partnership Conference in August 2013, which will attract more than 500 participants and be sponsored by the Ministry of the Environment.

RUPES was also actively involved in sharing information in exhibitions during IFAD-organized events, such as the IFAD Governing Council Meeting, IFAD 'Atrium Open House' and in-country IFAD events, such as FAO-IFAD Knowledge Sharing in the Philippines.

FURTHER RESEARCH NEEDS

Identification of new areas considered to be relevant and needed to be taken into account since they influence the adoption and/or the relevance of the research results (new problems or links not investigated by the research)

- Investigate best practices of building the capacity of communities to achieve eco-labelling certification in agroforests by communities inside ('village forest', 'customary forest' and other similar tenure schemes throughout the region) or outside forest areas ('community forests', farming).
- Clarify methods of garnering support from other water users (companies, communities) in order to increase environmental services' funds and expand rehabilitation areas.
- Investigate effective methods for communities to secure buyers for environmental services, particularly for the carbon.
- Examine how to ensure the proper use of rewards' money given the challenges generated by political instability and conflict at local levels.
- Map through surveys the changes in farmers' incomes and livelihoods along with the 'willingness to accept' of farmers and the sustainability of funding.
- Investigate how to reinforce the inclusion of payments for ecosystem services into institutional design as a means of sustaining financing for wetlands management.
- Explore tenure and resource rights and collective action in the context of forest and natural resources allocation, as a prelude for effective coordination between national and local institutions and complement statutory and customary laws and policies.
- Examine collective action and property rights in the context of the allocation of water rights as a prelude for effective coordination between water management institutions and complementary policies.
- Explore how payments from environmental services might also fund development of best practices in agroforestry systems, forestry plantations and cooking stove improvements.
- Investigate the dynamics of benefit sharing and equity from payments and rewards: did they really flow to the communities, households and individuals who produced and/or sustained environmental services? How can it be ensured that both men and women, young and old, indigenous and non-indigenous benefit? More research is needed on the mechanisms of equity.
- Design a participatory community-based monitoring and evaluation program to complete the learning of forest communities on RES. This would likely involve monitoring aspects of communities' environments and social features that are important to the communities themselves (not only for a RES scheme) and decide on appropriate solutions from indigenous knowledge systems.

3. Useful information

The RUPES team and IFAD representatives during the Regional Meeting in Kathmandu, Nepal

VOCABULARY

Environmental service	benefit provided by nature, such as water, air, food, building materials, biodiversity
ES	environmental services
LEK	local ecological knowledge
PEK	public/policy ecological knowledge
PES	payments for environmental services
MEK	modellers' (scientific) ecological knowledge
RES	rewards for environmental services

KEYWORDS

Rewards or payments for environmental services, ecosystem services, RUPES, pro-poor, co- investment, commoditization, Asia

CONTACTS

RUPES 2 management team
World Agroforestry Centre-Southeast Asia Program

Regional Coordinator	Dr Ujjwal Pradhan (u.p.pradhan@cgiar.org)
RUPES Senior Scientist	Dr Beria Leimona (l.beria@cgiar.org)
RUPES Acting Project Coordinator	Mr Chandra Wijaya (c.wijaya@cgiar.org)
RUPES Project Assistant	Ms Cintin Sakina (c.sakina@cgiar.org)
RUPES Communications Officer	Mr Robert Finlayson (r.finlayson@cgiar.org)

Jalan CIFOR, Situ Gede
Sindang Barang, Bogor 16115, Jawa Barat
[PO Box 161, 16001] Indonesia
Telephone: +62 251 8625415

INDONESIA

Country Coordinator	Mr Rachman Pasha (r.pasha@cgiar.org)

Jalan CIFOR, Situ Gede
Sindang Barang, Bogor 16115, Jawa Barat
[PO Box 161, 16001] Indonesia
Telephone: +62 251 8625415

CHINA

Country Coordinator	Dr Xu Jian Chu (j.c.Xu@cgiar.org)
Country Facilitator	Dr Su Yufang (suyufang@mail.kib.ac.cn)

Centre for Mountain Ecosystem Studies
C/o Kunming Institute of Botany
3/F, Library Building, Heilongtan
Kunming 650204
PR China
Telephone: +86 871 5223014

THE PHILIPPINES

Country Coordinator	Dr Rodel Lasco (r.lasco@cgiar.org)
Country Facilitator	Ms Ailene Florece (a.florece@irri.org)
Team	Ms Caroline Duque-Pinon (c.pinon@cgiar.org) Mr Romnick Baliton (r.baliton@irri.org)

2nd Floor, Khush Hall Building
International Rice Research Institute
Los Baños, Laguna 4031
[PO Box 35024, UPLB, College]
The Philippines
Telephone: +63 2 845 0563/70/75 ext. 2544/2657/2860

INDIA

Project Leader	Mr Ritesh Kumar (ritesh.kumar@wi-sa.org)

A-25, Second Floor, Defence Colony,
New Delhi 110024
India
Telephone: +91 11 24338906, 32927908

NEPAL

Contact person	Dr Laxman Joshi (ljoshi@icimod.org)
Team	Dr Bhaskar Karky (bkarky@icimod.org)

International Center for Integrated Mountain Development
GPO Box 3226 Khumaltar, Lalitpur
Kathmandu
Nepal
Telephone: +977 1 5003222

VIET NAM

Country Coordinator	Dr Delia Catacutan (d.catacutan@cgiar.org)
Team	Dr Elisabeth Simelton (e.simelton@cgiar.org) Mr Dam Viet Bac (d.vietbac@cgiar.org)

No. 1, Lot 14a, Trung Yen 3 Street, Yen Hoa Ward
Cau Giay District
Hanoi
Viet Nam
Telephone: +84 4 3783 4645

IFAD Country Project Managers

CPM Cambodia	Mr Elharizi (k.elharizi@ifad.org)
CPM China	Mr Sana Jatta (s.jatta@ifad.org)
CPM India	Mr Nigel Brett (n.brett@ifad.org)
CPM Indonesia	Mr Ron Hartman (r.hartman@ifad.org)
CPM Nepal	Mr Benoit Thierry (b.thierry@ifad.org)
CPM The Philippines	Mr Youqiong Wang (y.wang@ifad.org)
CPM Viet Nam	Mr Henning Pedersen (h.pedersen@ifad.org)

IFAD Country Programme Officers

Cambodia
Mr Meng Sakphouseth
Country Presence Officer
Ministry of Agriculture Forestry and Fisheries
#200, Preah Norodom Blvd.
855 Phom Penh
Cambodia
Mobile: +855 129 28093
E-mail: sakphouseth@ncdd.gov.kh, sakphouseth@gmail.com, m.sakphouseth@ifad.org

Nepal
Mr Bashu Aryal
Country Programme Officer
Knowledge Facilitator World
Food Programme Chakupat,
Patan Dhoka Road
Kathmandu
Nepal
E-mail: bashuaryal@wlink.com.np, b.aryal@ifad.org

China
Mr Sun Yinhong
Country Programme Officer
UN Building, No.2 Liangmahe
Nanlu, Beijing
PR China
Tel:+861085325228 ext 5251
E-mail: y.sun@ifad.org

The Philippines
Mr Yolando Arban
Country Programme Officer
Knowledge Facilitator
30th Floor Yuchengco Tower
RCBC Plaza, 6819 Ayala Avenue
Makati, Metro Manila
Philippines
Tel: +632901023
E-mail: y.arban@ifad.org

India
Ms Meera Mishra
Country Office Coordinator
WFP Regional Office 2,
Poorvi Marg – Vasant Vihar
New Delhi 110057
India
Tel: +91 11 46554056
Mobile: +91 11 9810252334 (P), +91 965 4592194
E-mail: m.mishra@ifad.org, nippymishra@gmail.com

Viet Nam
Mr Nguyen Thanh Tung
Country Programme Officer
Knowledge Facilitator
IFAD FLO
3 Nguyen Gia Thieu Street
Ha Noi Province 84 4
Viet Nam
Tel: +8449424209, ext. 17
E-mail: nt.tung@ifad.org

Indonesia
Ms Anissa Lucky Pratiwi
Country Presence Facilitator
Jalan SADAR IV/8 RT 05/02 Cinganjur
Jakarta
Indonesia
Tel: +62 8180 6852825
E-mail: a.pratiwi@ifad.org, anissalucky@yahoo.com

The RUPES Project
RUPES worked with both potential users and producers of environmental services to find conditions for positive incentives that were 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 partnered with the World Agroforestry Centre to implement action research aimed at developing effective reward mechanisms in the local context. Sites included Songhuaba, Tibetan Plateau and Xishuangbanna in China; Lake Loktak in India; Bungo, Cidanau, Citarum, Kuningan, Paninggahan and Sumberjaya, in Indonesia; Kulekhani and Shivapuri in Nepal; Bakun, Kalahan and Lantapan in the Philippines; Bac Kan in Viet Nam. RUPES was financially supported by the International Fund for Agricultural Development and various other donors.

RUPES Program
World Agroforestry Centre Southeast Asia Regional Program
Jl. CIFOR, Situ Gede, Sindang Barang, Bogor 16115
[PO Box 161, Bogor 16001]
West Java, Indonesia
Tel: +62 251 8625415; Fax: +62 251 8625416
Email: icraf-indonesia@cgiar.org
Website: http://worldagroforestry.org/regions/southeast_asia/proj

RUPES
REWARDS FOR USE OF AND SHARED INVESTMENT IN PRO-POOR ENVIRONMENTAL SERVICES

World Agroforestry Centre

IFAD
Enabling poor rural people to overcome poverty

Photos: ICRAF Archieves