

Indonesia- Sumber Jaya

'Community Forestry' land management contracts

SUMMARY

The Indonesian Community Forestry Programme or Hutan Kamasyarakatan (HKm) began in 1998 and aims to transfer the management of cultivated state-owned protection forests to the communities, provided they agree to manage it by using multi-strata coffee gardens, thus ensuring that the land will continue producing watershed protection benefits. Rewarding Upland Poor for Environmental Services (RUPES), an International Centre for Research in Agroforestry (ICRAF) initiative to develop reward mechanisms for environmental services provided by upland communities, is working in Sumber Jaya (Lampung province) to support local communities gaining access to the programme. The programme is also moving slowly into other parts of the country. Upstream villages in hydroelectric power catchment. Supported by RUPES since 2004 (engaging with company at the moment), and building on the Indonesian law for community-based forest management (HKM).

MATURITY OF THE INITIATIVE

Ongoing: HKm has been ongoing since 1998. In Sumber Jaya, the first contracts were signed in 2000, with a probation period of five years, followed by an extension to 25 years. None of the contracts has been extended yet and this continues to be the case as of 2008, at which point the scheme is considered inactive. It has evolved into a specific RUPES supported project entitled RiverCare.

DRIVER

In 1990, the government designated (watershed) "Protection Forests" due to the belief that uncontrolled deforestation and conversion to coffee on sloping land had led to a serious increase in erosion. It was believed that this negatively impacted operation of the newly constructed Way Besai hydropower dam and reduced water availability for irrigated paddy rice downstream (Verbist et al, 2006). This resulted in the eviction of thousands of farmers from these forests between 1991 and 1996, with the government even resorting to military intervention.

Since 1998, the government, ICRAF and the local NGO Watala, the Ford Foundation and the UK Government's Department for International Development (DFID) have been working towards the development of a Negotiation Support System, combining a reconciliatory negotiation process with a toolbox that could clarify the likely consequences of plausible land use change.

In this context, a community forestry programme was set up – the HKm - allowing farmers to obtain land tenure in return for protecting the remaining forest and planting trees in their coffee farms. ICRAF is providing support to demonstrate the potential of agroforestry in watershed protection (known as "*kebun lindung*" or protective gardens), as they consider that a "coffee-agroforestry mosaic" can be as effective as the original forest cover in protecting watershed functions related to water yield and water quality (RUPES, 2003).

"since the late 1980s a 're-treeing' phase started whereby farmers converted much of the monoculture coffee stands into mixed shade coffee systems. Ironically, coffee farms on private land now have a higher tree cover than the contested 'forest lands'. Insecure land tenure of the forestlands discourages farmers from investing in tree planting. (...) Although on average, rainfall remained constant over the years, the average discharge increased. Reduced evapo-transpiration of coffee gardens compared to forest is the likely cause. Perhaps coffee farmers should receive a reward, because with the land under coffee the hydropower scheme can operate more days per year at full capacity than if the watershed were under forest cover!" (Verbist et al., 2006).

STAKEHOLDERS

Supply

Upstream communities (wanting to access state-owned forestland classified as (watershed) Protection Forest. From around 40,000 hectares of eligible land in Sumber Jaya, sixteen farmer groups have been granted HKm rights (Kerr, 2006).

Demand

National government on behalf of water users in general, and of hydropower plants in particular, like the government-owned Way Besai Plant.

Intermediary

Local NGOs YACILI and Watala.

Facilitators

RUPES (ICRAF) involvement began in 2004 (ICRAF was previously working in the area). Its action-research aims to develop guidelines to increase the benefits of the HKm programme, both for the communities and for the watershed. It focuses on three sub watersheds of 200-1500 hectares: Way Petai, Way Ringkih and the Gunung Abung-Simpang Sari watershed.

Regional Plan and Development Agency (BAPPEDA-Lampung) and West Lampung district forestry office.

MARKET DESIGN

Service

Water flow regulation, erosion control (for sedimentation reduction and landslide risk management) and water quality.

Commodity

Best management practices, through agroforestry: planting timber and fruit trees, to generate a multi-strata association within coffee gardens (400 trees per hectare) and implementing soil conservation measures.

Conservation and protection of existing ecosystems: HKm members are also under contract to enforce the protection of remaining natural forest (for example by removing newly arrived encroachers)

Payment Mechanism

HKm agreement rules, after Kerr (2004):

Interested communities must form a group and submit a proposal to the Forestry Department. Proposals must include a map of the proposed area identifying the land to maintain as natural forest and the land to plant as multi-strata coffee gardens. An inventory of the existing trees is made and planting of additional trees is planned - seedlings may be obtained from the local forestry office.

A contract is written, establishing the composition of the agroforestry plots to be maintained (the choice is flexible) and the soil and water conservation practices to be applied. The communities also agree to protect the natural forest from logging and forest fires.

Scheme developed socioeconomic baseline data acquired through participant surveys and the use of a rapid rural appraisal tool to guide rewards compensating ecosystem service provision.

Terms of Payment

In-kind: legal permission to use state-owned protection forest, for a trial period of five years with the possibility of extension of 25 years. To apply for extension, farmers must register as an official cooperative and pay a fee of Rp15 million (approx. US\$2000). So far, no extensions have been granted. The reason cited for this is the lack of monitoring capacity within the forestry department, necessary to confirm good performance of the HKm groups during their five-year trial period. However, a deeper reason for this may lie in the government's uncertainty as to whether it should actually go ahead with a 25-year permission (Kerr, 2005).

Funds Involved

No information available.

ANALYSIS COSTS AND BENEFITS

Economic

Land fees: Beneficiaries of the scheme must pay an annual land fee to the district, which varies according to the area (around Rp.36,000 in parts of Sumber Jaya). This fee was calculated based on the price of coffee, which at that time was much higher than at present. Currently, the land fee exceeds the land tax that landowners would normally pay (Kerr, 2004) and until now, farmers have not been able to raise enough money for it, due to very low current prices of coffee, and the district government has not been collecting it (Kerr, 2005).

Opportunity cost: With the low prices of coffee after 2002, the profitability of coffee-based systems fell so that returns on labour for intensive management were relatively low; this made multi-strata coffee gardens a more attractive option (van Noordwijk, M. and Haines, 2005).

Transaction costs: Arifin, B. (2006) estimates the costs to establish and manage an HKm group at Rp504 000 (approx. US\$55) per household. Considering the average annual income of a farm household in Sumber Jaya is about Rp1 million (US\$110), households must be able to invest half of their annual income in the process to access the HKm programme (Calculations were based on the time spent on the necessary activities, at average local wage rate).

The largest share of this cost is attributed to start-up costs (information gathering and permit application) followed by group organizing costs (37 per cent) and costs enforcement costs (three per cent). The single largest cost is attributed to the process of obtaining the permit, corresponding to 38 per cent of the total transactions costs (Rp191,944, or US\$21 per household). This includes the cost of mapping and sometimes paying a forester to draw up the management plan. The process of setting up the HKm group and obtaining the corresponding permit lasts up to four years (although in some cases, it has taken only four months).

Environmental

Erosion: According to Verbist et al. (2006) and van Noordwijk and Haines (2005), erosion rates in multi-strata coffee gardens initially lie between those of bare soil and forest, depending on soil cover, but the erosion rate gradually decreases as the surface litter layer establishes soil cover.

Water flows: Verbist et al. (2006) argue that the recorded decrease in dry season flows in the Way Besai river over the past decade, reflects the influence of El Niño events rather than local land use change.

HKm as a perverse incentive for further forest encroachment: Kerr (2006) found that there is uncertainty as to whether the fact the HKm provides the opportunity of gaining legal access to previously encroached state protected forests, may lead to further deforestation with a view to then gain legal tenure over it. Due to poor monitoring capacity, there isn't enough evidence to support this potentially adverse effect of the programme.

About 70 percent of the forest margin is covered by agreements (remaining forest in progress – only seven per cent in 2004). Conditional land tenure in place for 6400 farmers. Implementation of practices like multi-story coffee gardens.



Social

As well as recognition of their right to stay on the land, participants also hope to be recognized as an official settlement and gain access to government infrastructure, like schools, roads and agriculture and forestry extension services.

Kerr (2005 and 2004) considers that tenure is a particularly important incentive, as participants look forward to no longer having to pay bribes to avoid eviction, to being in a better position to prevent illegal logging in the area by outsiders and to becoming part of mainstream society with the power to act as partners with the government for the first time. This also results in greater empowerment of local farmer groups as they become independent in negotiating their needs and can share their experiences with other groups in similar circumstances.

Another important advantage highlighted by the author is that, since the application has to be made in a group, enterprising people who want to take advantage of the opportunity are required to include all their neighbours, thus necessarily involving the poorer and less enterprising people along with them.

Participants consider that HKm offers the opportunity for a secure livelihood (Kerr et al. 2005) and a survey conducted by RUPES (RUPES, 2005) at household level in two villages, found that poorer farmers are in fact the groups that can benefit most from this opportunity to claim forestlands, as it allows them to access land legally and increase their income through environmentally benign coffee agroforestry.

LEGISLATION ISSUES

Hutan Kamasyarakatan (HKm) regulations.

MONITORING

Conservation: The land concession agreement includes a commitment from participants to enforce the protection of the remaining forest. Monitoring done through community groups who learn how to trap and use sediments (RiverCare). A financial reward scheme provides some funds upfront and then pays additional specified amounts based on effects achieved: during the commitment period, RiverCare group will receive US\$1,000 for a reduction of 30 percent or more, US\$700 for a 20 to 30 percent reduction, US\$500 for a 10 to 20 percent reduction, and US\$250 for a less than 10 percent reduction.

Hydrological impacts: A Water Forum has been established to facilitate communication between the various stakeholders such as farmer communities, government agencies, and NGOs. Six initial community "water watch" groups have been established in Sumber Jaya and have conducted action-learning in measuring water quality of their water resources for daily use. Guidelines to conduct this water quality monitoring have been produced outlining simple methods in measuring physical, chemical and biological aspects of water quality (Suyanto et al. 2005). Through this activity RUPES expects the community to become more aware of water quality and its relationship to watershed management and their health conditions.

Lack of monitoring capacity and weak incentives for compliance: So far, the government forest department has not been able to monitor the compliance of the HKm groups and so none of them have had their contracts extended so far. This was to happen in 2005, extending the contracts for another 25 years. Given the lack of monitoring capacity, and the long-term contracts once renewed, the incentive to comply with commitments seems to be weak. A possibility put forward by Chip Faye, ICRAF (cited in Kerr 2006) would be for the government to set up a development fund for each HKm village, against which farmers could be fined (by having part of the budget withheld) if they do not comply with their commitments. It is unclear what sanctions are to be applied to non-compliant individuals within an HKm group, but it appears that groups generate their own internal rules to deal with these situations.



MAIN CONSTRAINTS

Main constraints in applying this policy, according to (Suyanto et al 2005, Arufin 2006 and Kerr, 2004):

- (i) limited human and financial resources in the forestry department to deal with the HKm, particularly in terms of information and facilitation to access the programme.
- (i) Lack of information about the HKm policy from credible sources, to support the group's formation and progress.
- (ii) long and costly application process. Although the application process is not complicated on paper, in practice it takes time.
 - a. participatory mapping of the area to be managed by group. Kerr (2004) argues that the application process with the requirements for georeferenced mapping of the area is beyond the capabilities of most villages (it costs about Rp2 million, approx. US\$125). Farmers depend on technical support from the Forestry Department or ICRAF, but it is unclear whose responsibility it is to help farmers comply with this requirement (Kerr, 2006).
 - b. establishment of the group rules and a five-year plan for the development of the forest land in question (Arufin, 2006). All these decisions require extensive negotiation between the members of the group and considerable effort and costs: "Some members have to spend a day-long for a trip from their residences up in the forest area and have to pay a very expensive transportation cost by rented motorcycle because of bad quality of rural roads."

MAIN POLICY LESSONS

The role of intermediaries, such as NGOs, is very important to implement the negotiation support system and develop a multi-stakeholders strategy to reduce transaction costs, especially to ensure conflict resolutions, improve trust and shared responsibility to achieve more sustainable resource management (Arifin, 2006).

Trade-offs between environmental goals and poverty reduction

RUPES's studies in Sumber Jaya have shown that soil conservation efforts could be much more cost effective if efforts were channeled to privately owned lowland riparian areas instead of the upper slopes where the HKm operates. However, the lowland areas are inhabited by wealthier landowners, in contrast to the poorer groups, living higher up in the forest (Kerr, 2004).

Targeting the scheme to the riparian providers would increase the environmental benefits delivered, but undermine the opportunity for poorer groups upstream to improve their situation by being granted access to "protection forest" in return for environmental services provided by their soil conservation commitments. This is a common trade-off found in Payment for Environmental Services (PES)-type initiatives that must be made clear to all parties, particularly those contributing to the scheme and expecting the delivery of the service for which they are paying.

OTHER INFORMATION

RUPES is also testing three additional reward mechanisms and has assessed willingness to pay for watershed functions, for a local water quality scheme, in the Simpang Sari (8,500 inhabitants) where this kind of agreement had once existed. No information available on their progress there.

The creation of a reward scheme, from the hydropower company (PLTA Sumberjaya), is also being negotiated by the farmers, through the NGO Watala and RUPES; so far there has not been much progress. Kerr (2005) describes costs of sedimentation and plant growth in the reservoir that include a



team of 10 workers to clear plants (water hyacinth) away from intake channels and replacement costs of parts damaged by sediment to be about US\$8,000 per year. The author does not consider these costs high. In addition, the plant only operates at full capacity during the wet season. In the dry season, production remains at about 25 per cent. It is not expected that land use changes will raise water availability enough to justify investment in a PES-type agreement with upstream landowners.

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REFERENCES

Arifin, B. 2006. Transaction Cost Analysis of Upstream-Downstream Relations in Watershed Services: Lessons from Community-Based Forestry Management in Sumatra, Indonesia. Contributed paper prepared for presentation at the International Association of Agricultural Economists Conference, Gold Coast, Australia, August 12-18, 2006.

<http://www.worldagroforestry.org/sea/Networks/RUPES/download/Presentations/bustanulpaper.pdf>.

Kerr, J. 2004. Trip Report: Property Rights, Environmental Services and Poverty in Indonesia.

<http://www.basis.wisc.edu/live/Indonesia/tripkerr0411.pdf>.

Kerr, J. 2005. personal communication.

Kerr, J. 2006. Trip Report: Property Rights, Environmental Services and Poverty in Indonesia.

http://www.basis.wisc.edu/live/Indonesia/trip_kerr0606.pdf.

Kerr, J. 2006. Trip Report: Property Rights, Environmental Services and Poverty in Indonesia. Internal document.

Kerr, J. Meinzen-Dick R. Pender J. Suyanto S. Swallow B. and van Noordwijk M. 2005. Property rights, environmental services and poverty in Indonesia. University of Wisconsin-Madison. Basis Brief- Collaborative Research Support Group nr 29.

<http://www.basis.wisc.edu/live/Indonesia/tripkerr0411.pdf>.

Leimona, B. 22-3-2006. Local Action, Sumberjaya Watershed, New Models for Financing Local Water Initiatives. Local Actions. Mexico City, March 16-22, 2006, 4th World Water Forum.

http://www.worldwaterforum4.org.mx/home/detalle_lact.asp?cve_local=1798&lan=.

Noordwijk, M. van and Agus F. 2004. Dam-busting forest, water 'myth-understandings'. Opinion, The Jakarta Post, 8-12-2004. <http://www.worldagroforestry.org/sea/W-New/OpinionJktPost-ASBForestWater.pdf>.

Operation Wallacea. Information on website.

<http://www.opwall.com/2006%20Indonesia/Forest/2006%20Lambusango%20legal%20basis.htm>.

RUPES. RUPES 2004 Annual Progress Report. RUPES. 2003. Sumberjaya: what watershed function should be rewarded- Proposal for RUPES Action Research- April 2003. RUPES- World Agroforestry Centre. RUPES website Indonesia. <http://www.worldagroforestry.org/sea/networks/rupes/>.

RUPES. 2005. RUPES Annual Report 2005. RUPES- World Agroforestry Centre.

http://www.worldagroforestrycentre.org/sea/Networks/RUPES/download/Annual_Reports/2005.pdf

Suyanto, S. 30-6-2005. personal communication.

Suyanto. 2010. Site Profile: RUPES Sumberjaya. ICRAF, Bogor.

Suyanto, S., Beria Leimona Rizki Pandu Permana and Fiona Chandler. 2005. Review of the development of environmental services markets in Indonesia. Bogor-Indonesia, World Agroforestry



Centre (ICRAF). RUPES Working Papers.

http://www.worldagroforestry.org/sea/Networks/RUPES/download/Working%20Paper/ReviewMarketESIndonesia_Final.pdf.

van Noordwijk, M. and Haines, R. 2005. The impact of changing agroforestry mosaics on catchment water yield and quality in Southeast Asia, Project ID: FST/1999/035. Project Progress Reports. Australian Centre for International Agricultural Research. <http://www.aciar.gov.au/web.nsf/doc/ACIA-6SEW24>.

Verbist, B. van Noordwijk M. Agus F. Widiyanto HartoWidodo R. and Purnomosidhi P. 2006. Not seeing the trees for the forest? From eviction to negotiation in Sumberjaya, Lampung, Sumatra, Indonesia. ETFRN- European Tropical Forest Research Network Newsletter Forests, Water and Livelihoods [45-46 Winter 2005/06]. <http://www.etfrn.org/etfrn/newsletter/news4546/index.html>

LINKS

RUPES Newsletter. Several issues, ICRAF World Agroforestry Centre:
<http://www.worldagroforestry.org/sea/networks/rupes/newsletters.htm>

RUPES website: <http://www.worldagroforestry.org/sea/networks/rupes/>

Indonesian sites: http://www.worldagroforestry.org/sea/Networks/RUPES/mapsite_indonesia.htm