



## **RUPES SUMBERJAYA**

**Healthy Landscape Mosaics and Clean Water for Hydro-electricity**

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In Sumberjaya, hydropower producers and government officials learn that with the proper incentives, upland people can deliver clean water for increased electrical output. Rupes has been working in Sumberjaya since 2004, to test rewards mechanism for upland poor farmers. We identify two promising reward mechanisms:

1. Conditional land tenure such as HKm (community forestry) can be used as a reward to achieve healthy landscape and farmer's welfare. Under the program, groups of people are given individual rights on state protection forest land as long as they promise to plant multistrata coffee, conserve soil and water, and protect remaining natural forest areas.
2. Conditional payments move from theory to practice: Rivercare program RUPES Sumberjaya has developed a simple procedure for establishing an agreed upon sediment baseline and a method to assess the effects of RiverCare actions. With this method, RiverCare can monitor its success at sediment control and take an needed corrective action. By the end of the contract period, RiverCare should have a proven product to offer the hydroelectricity company one that improves the environment, lessens threats of electrical crisis and enhances community welfare.

Please note that our diagram contains realistic elements, but in a schematic way.



1

### DAM :

Electricity generation at the Way Besay hydropower dam started in 2001, with a maximum capacity of 90 MW. On average this dam contributes 15% of the electricity for southern Sumatra and 60 % for the Province of Lampung. The peak sediment load in the Way Besay can be as high as  $3 \text{ kg/m}^3$ , largely caused by land slides bank collapse and erosion.



### RiverCare groups activities:

Simple check dams to reduce sediment load and flow velocity. Some of the water is used for micro hydropower station that allows farmers to have bumps in their homes.



2



3

### Coffee multistrata:

Research by ICRAF shows that multistrata coffee farms provide a livelihood to people with few other options. They can also control erosion similarly to natural forest. The multistrata system provides a complex canopy that protects the soil surface from heavy raindrops that cause erosion and creates tree litter on the garden floor that weaken the erosive force of water and acts as filter.



4

**Farmer's nursery:**

Improving skill of farmers nursery for HKm group is important to provide good tree planting material. HKm farmers are required to plant 400 trees/ha (timber and fruit trees other than coffee) under the HKm agreement.



5

**Sediment pits:**

A soil conservation technique that commonly is practiced by HKm farmers. They enhance infiltration of water and provide better conditions for coffee growth.



6

**Policy dialogues:**

Policy dialogues at different level from site level to national level are important for successful payments for environmental services program as it intersects with existing rules at many scales.

7

**Remaining natural forest:**  
Need to be protected by HKm groups.



**RUPES Program**

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