

Singkarak

linking rewards and governance to effects of land use on environmental services at the scale of the lake



1

Culture and institutions: the traditional design of houses reflects the cultural tradition; the Nagari system of local government was reinstated as part of the Decentralization policy and has effective say in local resource use, local bylaws and balancing environment and development.

2



Paddy ricefields provide the main food and depend on an abundance of water.

3



Coconut is important component of West Sumatran food; domesticated pig-tailed monkeys ('Beruk') are trained to pick only the ripe fruits.

4



Small-scale fishing on ikan bilih is an important source of livelihoods and increased during the monetary crisis when urban employment was reduced; destructive forms of 'bomb fishing' are prohibited but still in use.

5



The clean streams that feed the lake provide breeding grounds for the fish and are protected by local community rules. The main river feeding the lake, however, passes by intensive agriculture area and a big town it bring a lot of pollution to the lake.



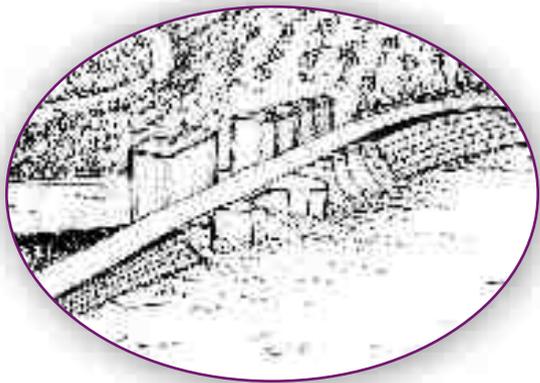
6

Only on the hilltops can we still find natural forest that has not been disturbed by logging or conversion; most of the other slopes have lost their protective cover of trees.



7

A hydropower facility takes in water from the lake into a huge pipe and releases the water 300 m lower, with turbines generating electricity.



8

The natural outflow of the lake into the river is now regulated and used only as overflow, while a small 'sanitary' flow is maintained to keep the river alive and meet demands of people living in the valley.



9

Reforestation efforts have been modified from a focus on plantations of fast growing trees, towards mixed agroforestry systems that support local livelihoods.

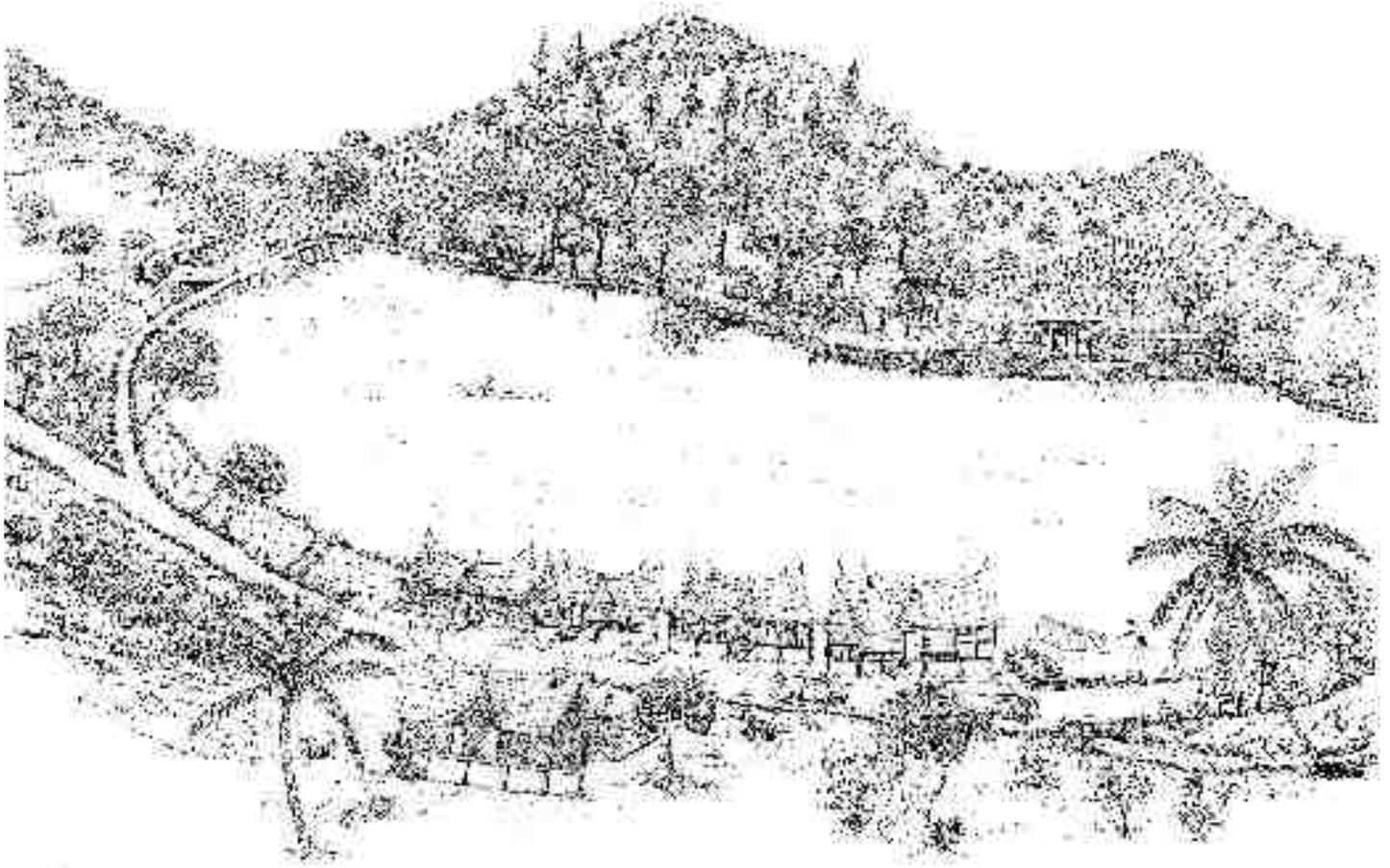


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Rewards for environmental services are linked to group efforts to improve the environment for local benefits as well as sustainability of the lake for all stakeholders.

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The presence of a natural lake that collects water from many streams provides many opportunities for local livelihoods, but also means that coordination is needed to secure environmental health. The RUPES-Singkarak team has made progress in:

- channeling the local component of royalty payments by the hydropower company to the local communities for support of environment-friendly development,
- clarifying the relationships between land use, the lake and watershed functions of importance
- development of local institutions that can be an effective intermediary between 'buyer' and 'seller' of environmental services.

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



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