



Deutscher Tropentag, October 8-10, 2003, Göttingen

“Technological and Institutional Innovations
for Sustainable Rural Development”

Sericulture — Innovative Technology and Adapted Institutions for Income Generation Among Small Farmers in Indonesia and East Timor

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Abstract

Sericulture, the production and processing of natural silk from silkworms feeding on mulberry leaves has its origin in China, but has spread to many other regions. Neither land nor labour are in direct competition with the cultivation of staple crops. Sericulture is therefore seen as a potential source of additional income for small farmers in the tropics. The production technology, however, is sensitive and the demands on the organisational and institutional environment are considerable.

Attempts at developing sericulture in the Indonesian Archipelago date back to the 18th century. In the 20th century cocoon production reached its highest level between 1962 and 1966, but collapsed in the 1970's due to the spread of the pebrine disease. From the 1990's rising cocoon prices lead to a production increase. Development efforts were now concentrated on smallholder areas. A first organisational structure was created in Central Java (Banyumas Sutera Alam/BSA) in 1997, under whose umbrella over 200 hectares in five surrounding Mayoralities were planted to mulberry. A first 3-day live-in training program was attended by 700 farmers. In 1999 sericulture was initiated in the Triloka village of the Baucau region, East Timor. A pilot project was commenced with two hectares of mulberry, which has now expanded to 15 hectares with a total of 30 farmers participating in training programs. As in Java initial positive response could not be sustained without additional efforts. Problems were identified on the farm and on the project level, and could partly be rectified. A more in-depth research and monitoring program was instituted on both projects concerning performance in production and institutional organisation. Data were collected from 40 harvest operations (1999–2002) of 150 farmers in the Indonesian and 12 harvest operations of 30 farmers in the East Timor. Investment analyses for different farm size categories were carried out. The institutional performance was subjected to a SWOT-Analysis.

Emerging conclusions are presented with a view to their future application to the two projects as well as to their generalisability for the introduction of innovative technology within new institutional frameworks.

Keywords: East Timor, Indonesia, innovative technology, sericulture, small farmers