

Project Summary

Projekt Background

In the framework of a public-private partnership (PPP) project for overcoming energy poverty, the German Technical Cooperation jointly with the e8 group (coalition of electric utilities from G8 countries) and Électricité de Madagascar (EdM) intends to prove exemplarily how renewable energy could foster the development of rural areas. Therefore the feasibility of a 4 MW hydropower station including transmission lines and associated activities to supply two rural centres as well as 30 villages in north east Madagascar was to be analysed. The power plant should supply up to 100,000 residents including about 35,000, who will have access to a modern electricity supply for the first time.

Project Objectives

As part of the feasibility the objective of the project was to collect data, to define demands, to evaluate alternatives, to assess effects, and to propose a business model for the rural electricity company as well as to develop an environmental management and community development plan for the Lokoho Small-Scale Hydro Power Project which included a series of studies (see activities).

Project Activities

- A representative baseline study for the project area (two centres and ca. 30 villages) to determine social, ecological, economic and technical indicators;
- Concept development for productive, income generating energy use (building on existing investigations);
- Power demand estimation study for the project area;
- Environmental Impact Assessment:
 - Hydro-geological investigation for the area upstream of the planned hydropower plant;
 - Analysis of the interdependence between the irrigation agriculture in the rice cultivation area and the hydropower use and development of suggestions for overall optimisation;
 - Analysis of the water catchment area with respect to suggestions for it's long-term protection;
 - Socio-economic analysis with respect to land and water use;
 - Based on the socio-economic analysis: recommendations for public stakeholder participation;
 - CDM scenario calculation;
- Development of an adapted business model for rural electricity distribution (Rural Energy Service Company - RESCO or similar);
- Concept development for participation of local labour including analysis of suitable work, deficit analysis, capacity building;
- Examination of the suitability of a glass fibre cable integrated into the electricity transmission for ICT purposes (also: e-learning, e-governance);
- Studies analysing the potentials of other renewable energy sources
 - a) Micro-Hydropower Potentials
 - b) Windpower-Potentials
 - c) Cultivation and utilisation of Jatropha

Services Provided

Conduction, coordination and quality control of feasibility study components incl.

- Baseline Survey and Demand Study
- Environmental and Social Impact Assessment
- Concept development for productive, income generating energy use
- Development of a business model for rural electricity distribution
- Concept development for participation of local labour
- IT-Assessment of integrating a fiber glass cable in the transmission network
- Wind, micro hydro power, Jatropha and CDM potential analysis

Madagascar

Lokoho Small Hydropower for Rural Development

Client

German Agency for Technical Cooperation (GTZ);
"e8" group

Duration

07/2005 - 02/2007

Personnel

- 1 internat. LTE (9 PM, energy economist, coordinator)
- 8 PM pool of internat. STE (baseline survey rural electrification)
- 12 PM pool of internat. STE (renewable energy application)

