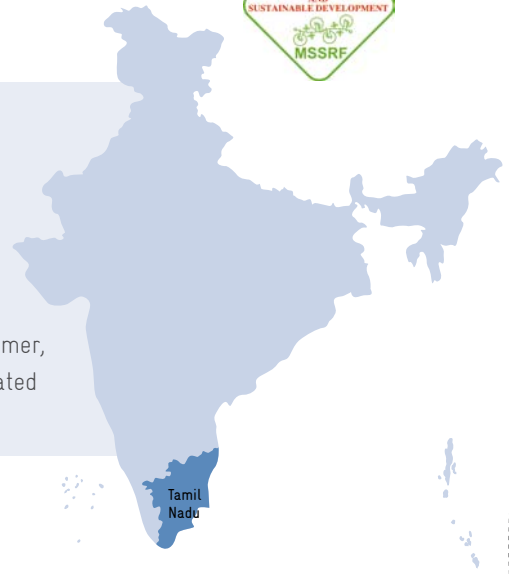


Integrated Mangrove Fishery Farming Systems



State:	Tamil Nadu
Location:	Two villages in Cuddalore district
Project duration:	December 2011 – December 2013
Project implementation:	M S Swaminathan Research Foundation (MSSRF)
Geographic features:	Vellar-Coleroon delta with saline soils
Climate stress:	Erratic rainfall, temperature increase in summer, increasing intensity of storm surges, anticipated sea level rise in future



Project context and need for adaptation

Coastal zones in Tamil Nadu are important habitats for biodiversity and provide a livelihood for thousands of artisanal fishermen and -women. Communities here are feeling the effects of climate change. With erratic rainfall and summer temperatures rising, the number of crops grown annually has diminished, so that incomes are no longer stable. Storm surges occur more frequently, and rises in sea level will further affect coastal zones: the resulting salinization of land and ground water will exacerbate the situation in the near future. These factors, together with overexploitation of resources and coastal erosion, are leading to lower agricultural yields and lower incomes in many areas. People have had to

migrate to other villages or urban areas or to borrow from money lenders at unfavourable rates.

The project responds to this crucial situation by establishing 'integrated mangrove fishery farming systems'. The idea is to convert saline areas that cannot be used for aquaculture or other livelihoods into productive land once more. Saline tolerant plants, including mangroves, can be planted on some of the land, and commercially significant brackish-water fish can be farmed in other areas. In this way integrated mangrove fishery farming can generate income immediately yet sustainably. In the long run, mangroves also provide protection against cyclones and storm surges.



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Vulnerability assessment

A socio-economic survey, conducted with community participation, is currently assessing the vulnerability of communities to climatic stresses. Geographic information systems will be used as well to prepare land use and land cover maps that indicate vulnerable zones, e.g. areas affected by salinity or sea level rise.

Adaptation hypothesis

Integrated mangrove fishery farming helps make coastal communities less vulnerable to the impacts of climate change by promoting fish farming as an alternative source of income. Mangroves protect the coastline from storm surges and cyclones.



Project activities

The project began by analysing the circumstances of local people using social vulnerability assessments and geographical analysis of the project area. The next step was to join with communities to design and construct ponds for integrated mangrove fishery farming, including the planting of mangroves and halophytes in the *bunds* (dams) within the farming area and the breeding of fish in the farm ponds for periodic harvesting. The project also focuses on building capacities and conducting training sessions for affected communities and other stakeholders. The active participation of women in discussions and decision making is ensured, for example, by establishing village-level institutions in which half of the representatives are women.

All activities will be monitored and evaluated in close cooperation with local communities and local governments.

The project is a joint undertaking of the project Climate Change Adaptation in Rural Areas of India (CCA RAI) and the M S Swaminathan Research Foundation (MSSRF).

CCA RAI is an Indo-German development project that aims to strengthen the efforts of rural communities in India to cope with climate variability and change. CCA RAI is implemented by the Indian Ministry of Environment and Forests and the German development organisation GIZ. It is financed by the German Federal Ministry for Economic Cooperation and Development. Tamil Nadu is one of CCA RAI's four partner states in India. The main responsibilities of CCA RAI in this project are financing, technical support, and institutional capacity building.

MSSRF established in 1988, is an Indian non-profit research organisation. MSSRF develops livelihoods through appropriate eco-technology and knowledge empowerment and pursues a pro-nature, pro-poor and pro-women approach. MSSRF's main responsibility in this project is implementation.

All CCA RAI demonstration projects conform to a participatory process of structured, self-evaluative learning called systematisation. By documenting experiences, all CCA RAI projects showcase what adaptation means on the ground.

Further information:

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