

Coastal Management Research Issues

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Background

Some of the negative impacts of shrimp farming in Thailand have been mangrove destruction, saltwater intrusion, water quality impairments, and discharge and disposal of pond sediments. The clearing of mangrove and coconut habitats may have amplified the effects of the discharge of sludge into the coastal zone. Also, the depletion of the coastal resources has led to the 'boom-bust' cycles that have occurred in areas of Thailand as well as elsewhere. Consequently, it is critical that we evaluate shrimp farming practices.

Coastal Zone Management and Research

Coastal zone management (CZM) is really common property management. That is, shrimp farmers need to be protected from harmful environmental changes, and likewise, other coastal users need to be protected from impacts of shrimp farming.

CZM requires the integration of disciplines and cooperation of many government and non-government agencies. In some cases, this may require that local institutions assist local people in a participatory approach. For example, in order to meet the water needs and expectations of local communities, an integrated participatory approach could be used to treat wastewater management—a single, small-scale farm may be unable to treat its waste water, but with the support of the community and the resolve of all nearby farmers, an effective plan for treating the col-

lected waste waters from these farms could be developed.

We should start research projects with the question: "Do we know enough?" If the answer is "no", then research needs to be carried out. The results should flow to technology and then to management. For example, sludge and water quality issues need to be tackled by researchers. Some questions could be: Can sludge be treated? Can a value-added product be manufactured? What types of models should be applied to the investigation of effluent (i.e. loading models, plume models etc)? What do bio-assays reveal about the toxicity of discharges?

Importantly, the goals of the research must be set and the objectives determined (e.g. enhanced capacity of the local community to manage waste water). Then linkages between the local communities and the formal institutions need to be established. The steps in the implementation of technology are: (1) training; (2) local participation; (3) integration into provincial planning; and (4) implementation and monitoring.

Tasks to assist in coastal zone management include the mapping of shrimp farming areas and natural habitats. Geographical information systems are important tools for finding spatial relationships between causes and effects.

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