

## Abstract

### **Building and maintaining the capacity for biological monitoring.**

By

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When the Boxing Day tsunami hit the Andaman Sea coast of Thailand millions of tonnes of sand were picked up from the ocean floor and deposited on coastal land. Satellite images taken shortly afterwards also showed that vast quantities of mud from the seafloor had been raised into suspension. The impact on the biota of the seafloor must have been massive but nobody has been able to quantify the extent of the damage as there are no comparative data available from earlier years. There was some pre-tsunami biological information from coral reefs and a little for mangrove and seagrass but data from the subtidal sediments that dominate the impacted coast did not exist.

The situation following the tsunami is symptomatic of a lack of basic information that strongly limits the region's ability to track the biological effects of climate change and undertake routine monitoring of the condition of the sea. Much of the coastal biota of South East Asia is poorly studied; there are comparatively few specialists and the limited amount of information that has been collected is not widely available. It is pressing to address this shortcoming.

The current authors have undertaken a series collaborative projects aimed at building capacity within Thailand to undertake biological surveys of the coastal benthic fauna as a basic building block in developing the capacity for marine survey and monitoring. As a consequence of our studies and of the regional interactions that were linked to them it is possible to reach a series of conclusions on the way in which a capacity to use biological monitoring tools can be developed.

- A political will to monitor and manage the region's seas must be fostered. Unless the need to collect new information is seen as a regional or (more likely) national priority progress will be slow.
- Specialist information must be shared both nationally and regionally. Regional exchange of data and know-how will be vital if a critical mass of knowledge is to be accumulated.
- Areas of expertise must be identified in which regional specialist capacity must be built and maintained. Ideally, capacity development activities should be coordinated within the region.
- Dissemination of information should proceed along a diversity of routes. While we have found on-line data bases a useful way in which to make findings from a particular project visible, we encountered considerable reluctance in many quarters to add to the information in them.
- If regional databases are to be established a considerable effort will be needed to populate them, control their quality and keep them updated.
- Traditional methods of information exchange, particularly common format reference books translated into local languages should not be overlooked.
- A considerable effort must be made to maintain the employment and job description of specialists once they are trained.