

ECOSYSTEM APPROACH TO FISHERIES



The Ecosystem Approach to Fisheries (EAF) is an important initiative that complements the existing fisheries management approaches.

EAF requires fisheries managers to:

- have better understanding of the complex ecological and socio-economic environments in which fish and fisheries exist, the effects of fisheries management on the ecosystem, and the effects that changes in the ecosystem will have on fisheries
- perceive the interactions of target fish stocks with predators, competitors, and prey species; the effects of weather and climate on fisheries biology and ecology; the complex interaction between fishes and their habitats; and the effects of fishing on fish stocks and the habitats.

Although the concept of EAF is newly promoted in the Southeast Asian region, SEAFDEC in collaboration with the Member Countries had been implementing several activities in line with the principles articulated under the concept of the EAF.

• *Responsible Fishing Technologies and Practices*

The promotion of by-catch reduction technologies and practices, e.g. use of Juvenile and Trash Excluder Devices (JTEDs) and relevant awareness building activities, which TD implements in collaboration with several countries in the region, resulted in:

- the recognition of JTEDs as effective device for reducing by-catch in shrimp trawls
- some countries are now adopting the compulsory use of JTEDs in trawl fishing operations to ensure the sustainable contribution of fisheries to food security

TD also investigates the interaction between fishing activities and threatened species of international concerns as well as the ecosystems, by promoting the use of selective devices, e.g. turtle excluder devices (TEDs) and circle hooks, to reduce sea turtle mortalities from fishing operations.





• ***Set-net for Eco-system Based Resource Management***

Results of pilot projects on the promotion of set-net conducted by TD demonstrated that:

- set-net is an environment-friendly gear that could improve close cooperation among local small-scale fishers engaged in the fishing operations
- set-net enhances the fisheries resources in coastal fishing grounds since the installation fosters environmental protection and safeguard the biodiversity in the areas.

• ***Resource Enhancement and Habitat Improvement***

SEAFDEC undertakes initiatives to promote the conservation of important fishery habitats, e.g. through the establishment of fishery *refugia*, Marine Protected Areas and Artificial Reefs, to enhance the fishery resources in the region.

TD also undertakes activities aimed at modifying the permanent Fish Aggregating Devices (FADs) into the so-called "Fish Enhancing Devices (FEDs)".

The impact of FEDs has been monitored using underwater video-photography, which showed that marine organisms and fish are gathering around the FEDs, indicating the successful contribution of FEDs to the rehabilitation of fisheries resources and habitats/fishing grounds.

