

# FISHERIES RESOURCES ENHANCEMENT IN SOUTHEAST ASIAN REGION



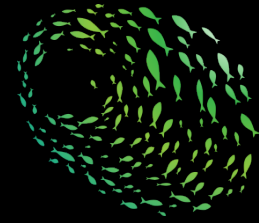
- ❖ Southeast Asia are blessed with high productivity of fisheries resources because of ecology enrichment. About one-third of the world's coral reefs and a quarter of world's mangroves are found in the region
- ❖ In 2015, the contribution from the Southeast Asian region to the world's total fisheries production was approximately 22.0%.
- ❖ However, fisheries in Southeast Asian countries have mostly exceeded their point of sustainability for several years. Some commercially-important fishery resources and habitat in the region were degraded due to many factors *e.g.* overfishing, illegal fishing. If this trend continue, the fisheries will possibly collapsed soon.
- ❖ Several projects have been applied to enhance fishery resources at local, national and regional levels *e.g.* regulating fishing effort, restoring degraded nurseries and spawning habitats or through the juvenile releasing program.

# Resources Enhancement Project Outcome

- To increase population/production of some selected species
- To conserve and increase endemic and endangered species resources
- To restore degraded natural habitats due to human activities and natural disasters
- To protect spawning, nursery and feeding grounds
- To increase fish sanctuaries area
- To increase income of fishers in coastal waters



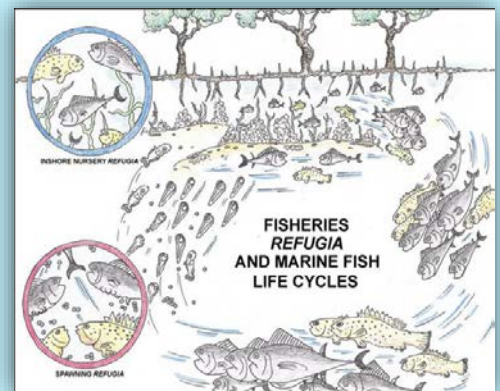
# Enchantment Project in Southeast Asian Countries



Several projects which could be grouped into five (5) protocols have been applied in Southeast Asian region as following:

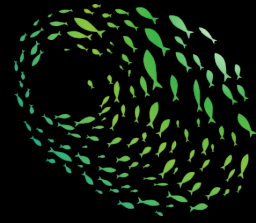
**Catch Management Area:** This protocol could be solution to consider marine areas in which specific management measures are applied to improve the productivity of habitat to sustain resources recruitment. Commonly, it relate to fishing prohibiting scheme such as Marine Protected Area (fishing gears are permanently prohibited), Close Season area (Some fishing gears, mostly commercial scale, are prohibited in the certain period) and Fisheries *refugia* (prohibiting catch during the critical stage of life cycle of target species), *etc.*

**Project examples:** Philippines establish a Closed Season policy for the conservation of Sardines in East Sulu Sea, Basilan Strait and Sibuguey Bay. Vietnam is ongoing to establish Fisheries *refugia* from 2020.



Source: [refugia.unepscs.org](http://refugia.unepscs.org)

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**Habitat Rehabilitation:** It is clear that there is the positive correlation between the total spawn-nursery area and abundance resources. Over the past decades, the number of degraded coastal habitat in Southeast Asia was significantly increased. With this regards, habitat rehabilitation projects have been implemented throughout Southeast Asia countries. It has been proven to be effective tool to drastic address the problem of degraded ecosystem, particularly in coral reefs, seagrasses and mangrove in the region.

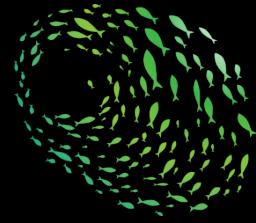
**Project examples:** Habitat restoration in Malaysia have initiated to restore degraded habitat especially the coral reef ecosystem since 2011. The projects of coral transplantation have implemented in 4 central provinces in Viet Nam since marine life disaster in 2016.



Source: Suthirat Yoovidhya Foundation



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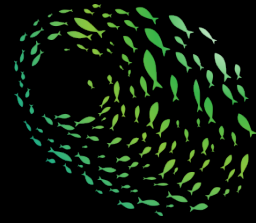


**Artificial Reef Employment:** There are manmade underwater structures which employed to serve as shelter and habitat, source of food, breeding area and shoreline protection. These projects are implemented in various construction designs and materials with specific proposes e.g. square-shaped concrete structures, Fish enhancing devices (FEDs), shipwrecks and concession expire oil rig. ARs have been employed since late 1970s. Nowadays, The effective of use of FEDs were tested all over Southeast Asian countries.

**Project examples:** Rig to reef project implemented in Brunei and Malaysia. The restocking of lobster by using cement artificial reef in Indonesia. DoF Thailand supporting the fishing communities to increase the fish habitat by constructing coconut leave FEDs.



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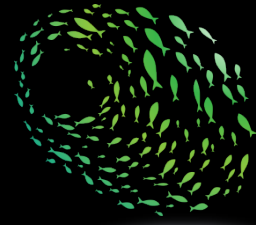


**Releasing Marine Life:** This program usually refers to enhance fisheries resources by releasing early life stage to wild. The key success depends on knowing enough about the ecology of the species, its nursery habitat and the survival of released life in the wild. All the Southeast Asian countries have their own releasing program. However, the capacity to produce and release life from aquaculture facilities is limited.

**Project examples:** Indonesia, in 2015, about 4,327 seed of lobster were stocked in Pangandaran coastal Area. 2,794 seed of lobster with average of Carapace Length (CL) 46.02 mm and weight 97.69 gram were released in Prigi Bay. Crab and cuttlefish bank have been implementing in Thailand and Cambodia.



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## New Policies for Fisheries:

This has been used to counteract the situation of high fishing pressure. Event though, it is difficult decisions to born new measure because it impact a wide range of communities. New fisheries policies are continuously notified in Southeast Asian countries due to its powerful management to significantly improve populations and ensure healthy and abundant of fisheries resources.

## New policy examples:

- Applied EAFM concepts and principles for participatory community engagement
- Implement Electric Monitoring System, AIS, VMS
- 38 mm codend mesh size of trawl net (on going study in Malaysia)
- Control of catch size of mackerel fish (*Rastrelliger brachysoma* and *Rastrelliger kanagurta*) by Malaysia purse seiner
- Fishing quota by limit number of fishing day in Thailand