Private Sector Commitment to Biodiversity Conservation:
A Case Study – 'Song Saa' Marine Reserve, Cambodia

Introduction

Marine Reserves play a crucial role in biodiversity conservation and fish stock replenishment. The main obstacle in successful management is weak human resources and insufficient financial resources for infrastructure, education, and training. The Cambodian government recognizes similar problems leading to adverse environmental impact of the overall marine biodiversity and especially economic social welfare of coastal communities.

External impacts

Main anthropogenic threats in Cambodia are:
- Over fishing / illegal fishing
- Habitat destruction
- Pollution
- Uncontrolled coastal development

Enforcement challenges

The enforcement of the fisheries law and regulations is insufficient due to underdeveloped infrastructure, which is not able to monitor offshore poaching. Because the majority of islands are isolated and relatively distant from the shore, consistent enforcement of the Cambodian Fisheries Law has been difficult. As a response the national government prepared a Sub-decree on community management of marine resources, however due to poverty amongst local island communities positive action on destructive fisheries is limited.

While coastal communities and national authorities keep struggling in effectively protecting and managing the marine environment, the private sector provides alternatives.

Song Saa

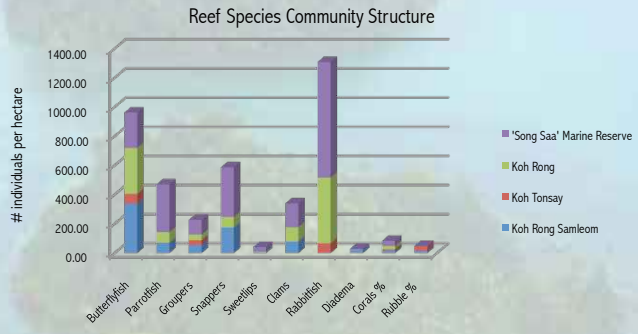
In late 2007, through long-term lease of the islands Koh Ouen (Koh Phhoonne in some literature) and Koh Bong, the Song Saa Private Island offered ideal conditions for small-scale protection and declared the first private marine reserve in Cambodia. This is part of their strong emphasis on social and environmental responsibility.

The Shelter

The Marine Reserve surrounds the two small adjacent islands Koh Ouen and Koh Bong – 'Song Saa'. They are part of the Koh Rong Archipelago, a group of 5 islands approximately 30 km off the West coast of Preah Sihanouk town in Cambodia.

Assessing the area

In 2010, nearly 3 years after the inception of the 'Song Saa' Marine Reserve (SSMR), biologists conducted reef monitoring inside the Reserve to assess the status and abundance of fish, corals and other invertebrates. Data was compared with other similar coral areas in the region, specifically the islands Koh Tonsay, Koh Rong, and Koh Rong Samleom.



- The SSMR harbors larger densities of fish compared to identical reefs in the region.
- Fish communities of predatory fish are higher.
- The fish communities with high biomass are dominated by herbivores such as parrotfish (Scaridae) and rabbitfish (Siganidae).
- Individual body length of Grouper and Parrotfish is larger; ≥50cm.
- Occasional sightings of larger pelagic fish such as jacks, barracuda, spotted eagle ray
- Large densities of juvenile fish, squid, octopus, and seahorse.

Extending 200 meters from the outer edge of the reefs around the islands, the reserve has a coral coverage of approximately 11 ha.
- The reserve is a no-take zone.
- Fringing and patchy reefs with; hard corals (*Acropora, Favites, Pavona, Porites*), soft corals (*Sarcophyton, Ellisella*), sea anemones (*Actinaria*).
- Terrestrial life; Stork-billed Kingfisher, Brahminy Kite, Brown Fish Owl, White Bellied Sea Eagle, Flying Fox.
- Endangered species; Seahorses (*Hippocampus. kuda, H. spinossisimus*), Horseshoe crabs (*Carcinoscorpius rotundicauda*), Green turtles (*Chelonia* mydas).

Active management

Protection and eliminating fisheries inside a proposed reserve is simply not sufficient. Successful management of the SSMR involves:
- Partnership with Department of Fisheries Conservation (FiA)
- Participation of local communities
- Patrolling and surveillance of the area in close cooperation with the local communities' environmental committee
- Education and training of staff
- Raising local awareness
- Releasing protected or non edible species
- Promoting sustainable fisheries
- Frequent underwater clean up (Song Saa has been cleaning the reefs and island shores since 2006)

Effectiveness

Despite the relatively small surface area of the SSMR, the results clearly show the positive effect of the Reserve contributing to the preservation and healthy dense populations of marine fauna and flora in Cambodia with in particular endangered species.

Furthermore it shows the significant role of the private sector in preserving the natural resources. Because the current protection of marine biodiversity in Cambodia is weak due to lack of resources processes to establish protected reserves may take years.

Through island lease, the Song Saa Private Island has been able to take immediate action. Subsequently they can bring in revenues for management generated from ecotourism. Especially in Cambodia that has already many species at the brink of extinction this could help a conservation success without being a financial burden to the government or the donor community.

Broader impact

This case study is an effective example of a restored marine ecosystem through cooperation between government, local communities and the private sector. Involved local communities will see the immediate results and long-term livelihood benefits. Whilst information is disseminated from community to community the impact is broadened.

Based on the initiative of the Song Saa Private island and with support of the national conservation plans for coral reef and sea grass protection this case study is a supportive tool for a future Marine Protected Area. The SSMR as a test case provides a core area around which larger parks could be developed.

Further steps have been undertaken to expand the existing marine reserve to the proposed MPA within the Koh Rong Archipelago together with several stakeholders to increase its impact on the preservation of this rich marine ecosystem. It is obvious that without immediate action further loss of the marine ecosystem in Cambodia will be inevitable.