



CAMBODIA

Introduction

Cambodia covers an area of 181,035 km², including inland waters. Fisheries are divided into freshwater and marine sectors. Both sectors play a very important role for the economy and food security of rural people. However, the Cambodian Sea is considered as one of the most diversified coastal ecosystem in the sub-equatorial climatic region, which is dominated by rainy and dry seasons. The sea area has an average depth of 50 meters with different habitats in both inshore and offshore zones. Several rivers and streams originating from the Elephant and Cardamom Mountains flow into the estuaries along the coastline, where both volume and nutrient levels are much increased during the wet season (Sereywath, 2003).

The Cambodian Sea is described by the jurisdictional Exclusive Economic Zone (EEZ), which was formally claimed in January 1978 (Tana, 2000). The total area of the EEZ claimed by Cambodia is 56,600 km² (Nelson, 1999). The coastline has a length of 435 km located in the northeastern part of the semi-enclosed sea, the Gulf of Thailand. The coastal area extends between latitudes 8° to 12° N and longitudes 101° to 104° E from the Thai border in the north to the Vietnamese border in the south (Sereywath, 2003).

Along the coastline, there are four provinces or municipalities, namely Koh Kong, Sihanoukville, Kampot and Kep. After the end of the civil war in Cambodia, and up to 1997, the Department of Fisheries (DOF), the Ministry of Agriculture, Forestry and Fisheries (MAFF) and most Non-Governmental Organizations (NGOs) focused only on inland fisheries. After 1997, several NGOs and government agencies, particularly the DOF, changed their direction and policy to give more attention to the marine fisheries (Sereywath, 2003).

In the past, the absence of clear policy on natural resources and lack of updated laws and legislation on environmental protection and natural resource conservation, have led to poor enforcement and collusion among state bureaucracy and authorities. This has encouraged rampant anarchistic natural resource exploitation, affecting the natural environment with serious deterioration (Sereywath, 2003).

However, in the past few years, the DOF tried to draft new laws, decrees, sub-decrees and declarations with other government agencies in order to protect existing natural marine resources for future generations. Furthermore, the DOF also tried to persuade donors and NGOs to be further involved in conservation and management of marine biodiversity. To ensure long-term sustainability of marine animals in Cambodia will require marine protected areas (MPAs), research and survey activities on endangered species (Sereywath, 2003).

Five species of sea turtle have been recorded in Cambodia, namely olive ridley (*Lepidochelys olivacea*), loggerhead (*Caretta caretta*), green (*Chelonia mydas*), hawksbill (*Eretmochelys imbricata*) and leatherback (*Dermochelys coriacea*). Recently, only three species have been found in Cambodia,

namely loggerhead, green and hawksbill turtles. Hawksbill and green turtles are commonly found but loggerhead is rare (Try, 1999 and Try, 2000).

Green turtles can be seen at Koh Khteas, Koh Dong, Kilodapi, Kbal Romeas of Kampot Prvince, eastern part of Koh Karang of Kep municipality and Thmar Rieng, Thmar Kandal and Tmar Anteas Banh of Koh Kong Province. As for hawksbill, it can be found at Koh Dong, Kbal Romeas, Phoum Ta Ang of Kampot Province, west of Koh Angkrang and south of Koh Karang municipality and Thmar Kandal and Thmar Anteas Banh of Koh Kong Province. Loggerheads are rarely seen, but have been reported at Kilodapi of Kampot Province and South of Koh Tbal, East of Koh Karang of Kep resort city (Longdy, 2003).

In order to sustainably use the natural resources and for the conservation and management of the endangered species, the Department of Fisheries has tried to draft new laws, sub-decrees and declarations for future generations. DOF has carried out many activities on sea turtle conservation and management in collaboration with both government and non-government agencies to create national regulations relating to threats and trade of natural resources, including sea turtles (Try et al., 2003a). The Department of Fisheries (DOF) has also proposed an action plan for research and management in order to ensure long-term sustainability of sea turtle populations (Try et al., 2003b).

Sea Turtles Conservation and Enhancement

Traditional Beliefs as Conservation Encouragement

In general, most fishermen are not targeting for sea turtles because they believe that they will get bad luck when they see or catch them. In the past, Cambodian people have always released the sea turtles for their happiness and luck, but the activity still remains for the rich people and strong believers. They buy the accidentally caught live sea turtle to release for their happiness and write on the carapace their name and the sentence “please release my turtle if you find it.”

Several activities were conducted in collaboration with local communities, concerned agencies and NGOs as well as local private companies.



Plate 33. Releasing of Accidentally Captured of Green Turtle by Local Community in Cambodia

Concerned Legal Agencies

In response to the need for monitoring and enforcing legal protection of wildlife, the Ministry of Agriculture, Forestry and Fisheries (MAFF) has authorized two departments, of which the Department of Fisheries is responsible for aquatic fauna and flora, and the Department of Forestry and Wildlife (DOFW) is responsible for terrestrial fauna and flora (Try and Sereywath, 2004).

National Regulations

So far Cambodia has a law prohibiting the serving of wild meat in restaurants. If such food is found, the restaurant's owner will be punished or heavily fined according to national proclamations, declaration and letter. Those regulations are:

- Proclamation No. 359 of the Ministry of Agriculture, Forestry and Fisheries on the identification list of the nationally-threatened wildlife species for which shooting is prohibited. This proclamation was signed and came into force on 1 August 1994.
- Proclamation No. 1563/533 of the Co-Ministry of Agriculture, Forestry and Fisheries and the Ministry of Environment on prevention and protection of all wildlife in Cambodia. This proclamation was signed by the Minister of Agriculture, Forestry and Fisheries and the Minister of Environment and came into force on 20 September 1996.
- Declaration No. 3837 of the Ministry of Agriculture, Forestry and Fisheries on prohibited trade of wildlife in Cambodia. This declaration was signed on 14 August 2001.
- Letter No. 033 of the Department of Fisheries and Cambodian CITES Scientific Authority for fisheries and aquatic animals to the CITES Management Authority for Cambodia on prohibition of the reptile trade in Cambodia. This letter was signed on 14 November 2000.

In order to strengthen the conservation and enhancement of sea turtles, DOF/MAFF has listed 28 marine species in the new fisheries law reform as endangered species in Chapter No. 5 (Fisheries Protection and Conservation), article 22. Among these 28 species, five species of sea turtles, which have been observed in Cambodia, were included (Try and Sereywath, 2004).

Hatcheries

There is no turtle hatchery at present in Cambodia, but efforts are being made to build at least one operational hatchery in the future.

Protected Areas/Sea Turtle Sanctuaries

There are no sanctuaries/protected areas yet in Cambodia. Recently, the DOF drafted a Royal Decree on the setting up of two marine fisheries sanctuaries, namely Group of Koh Sdach and Group of Koh Rong, to conserve and enhance marine fisheries resources, including nesting and feeding grounds for sea turtles and other endangered marine animals.

Education/Public Awareness

In September 2002, the DOF conducted an international workshop on sea turtle research, biology and conservation in Cambodia. This workshop was funded by the World Wildlife Fund Indochina (WWF-Indochina). It was attended by concerned institutions, fishermen representatives, NGOs

and international experts. As a result, all participants became aware of the importance of conserving sea turtles and other endangered species. Moreover, during the discussion of the workshop, participants requested the government to put the sea turtle issue into the primary educational program. In collaboration with fishermen, sea turtle landings are now being reported to the local fisheries authorities for tagging purposes. Furthermore, DOF has been sending several officers to participate and attend workshops, training and regional meeting/consultation on management and conservation of sea turtles in Malaysia, Thailand and Vietnam (Try and Sereywath, 2004).

Conservation through Public Awareness Programs

To increase the public awareness on the importance to conserve the sea turtles, notebooks, pamphlets with information and posters, were designed and published. These materials along with videos have been distributed to various groups who are living along the coastline, such as children at primary school, fishermen, navy, police and all concerned agencies. These awareness materials mainly explain and present the concepts relating to the conservation of sea turtles and other marine life. The poster shows an outline of the life cycle of sea turtles and also educates people of the need to conserve the sea turtle eggs. The pamphlets provided basic information and concepts relating to sea turtle species in Cambodia and the importance of conservation and enhancement of sea turtles. The students' notebooks included photos of sea turtles and other marine mammals for identification and conservation purposes.



Plate 34. Increasing of Public Awareness to Conserve Sea Turtles in Cambodia through Distribution of Posters

The DOF as the main government agency involved in sea turtles conservation activities in Cambodia, planned to increase education about national and international regulations, legislation/laws, information on the importance of sea turtle conservation, etc. This will be done by distributing awareness materials to local communities/authorities, fishermen, children in primary schools, students and concerned agencies in two provinces and two municipalities along the coastline. Other organizations and private sector companies involved in conservation activities are the Ford Motor Company, University of Kyoto and WWF-Indochina (Try and Sereywath, 2004).

Tagging and Satellite Telemetry Tracking Activities

Tagging

Tagging activities started in 2002 after receiving 1,000 inconel tags from SEAFDEC/MFRDMD. Most of the turtles that have been tagged were accidentally caught by the fishermen (Longdy and Try, 2004). Fishermen will inform the fisheries officers when sea turtles are accidentally caught by them. If

the turtles are caught in the remote areas, the officers will ask the fishermen to release the turtles without being tagged because the areas are inaccessible.

The fishermen have been asked to provide information about the sea turtles tagged with inconel tags with code numbers but, so far, the DOF has not received any information of those released turtles. Thus, no information has been gathered about the growth rate, reproduction, and migration pattern of the turtles

(Longdy and Try, 2004). Although information about sea turtles tagged in Cambodia has not yet been obtained, it is hoped that more turtles will be tagged.



Plate 35. Tagging of Accidentally Captured Green Turtle by Provincial Fishery Authority Before Releasing

Satellite Telemetry Tracking Activities

In 2002, the DOF organized a training/workshop on “Sea Turtle Research, Biology and Conservation in Cambodia” which was held from 2 to 4 September 2002 in Sihanoukville, Cambodia. This activity was funded by the WWF-Indochina. During the workshop, SEASTAR2000 provided one platform terminal transmitter (PTT) to study the post-nesting migration of a green turtle nesting in Cambodian waters. The female green turtle that was attached with a PTT was named Angkor Sdach. The PTT was attached on her carapace and released at Koh Rong Sanleom during the end of the workshop on 4 September 2002. The data indicated that she migrated around the islands of Koh Rong, Koh Rong



Plate 36. Satellite Telemetry Tracking of a Green Turtle in Cambodia in Collaboration with SEASTAR2000 Project

Sanleom and Koh Tang during the study period. During the monitoring period from 4 September to 14 October 2002, she stayed at sea and did not nest. In order to gather more information concerning the migration of sea turtles, more PTTs are needed in the future (Longdy and Try, 2004).

International/Regional Cooperation

Cambodia became a full member of ASEAN, and had signed the Convention on Biological Diversity (CBD), ASEAN's MoU on Sea Turtle Conservation, Ramsar Convention and Protection and a party of CITES. Collaboration with NGOs, universities and other organizations will be strengthened to ensure a successful development of the conservation programs. An awareness program has been encouraged by the International Union for the Conservation of Nature and Natural Resources (IUCN), which published a turtle photographic guide in Khmer and English. In terms of capacity building, Cambodian officers have attended many training courses and workshops on sea turtle conservation and management, such as sponsored by SEAFDEC/MFRDMD among others (Try and Sereywath, 2004).

Research Activities

At present, no research is being done in Cambodia due to lack of financial support. However, the scientific information on sea turtles are already disseminated to users in all level through an awareness program and publication of awareness materials. For long-term program, a research plan on nesting and breeding ground, tagging and also the establishment of a hatchery at a protected nesting beach are planned for the future.

Key persons who are actively involve in sea turtles issues in Cambodia are listed as follows:

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