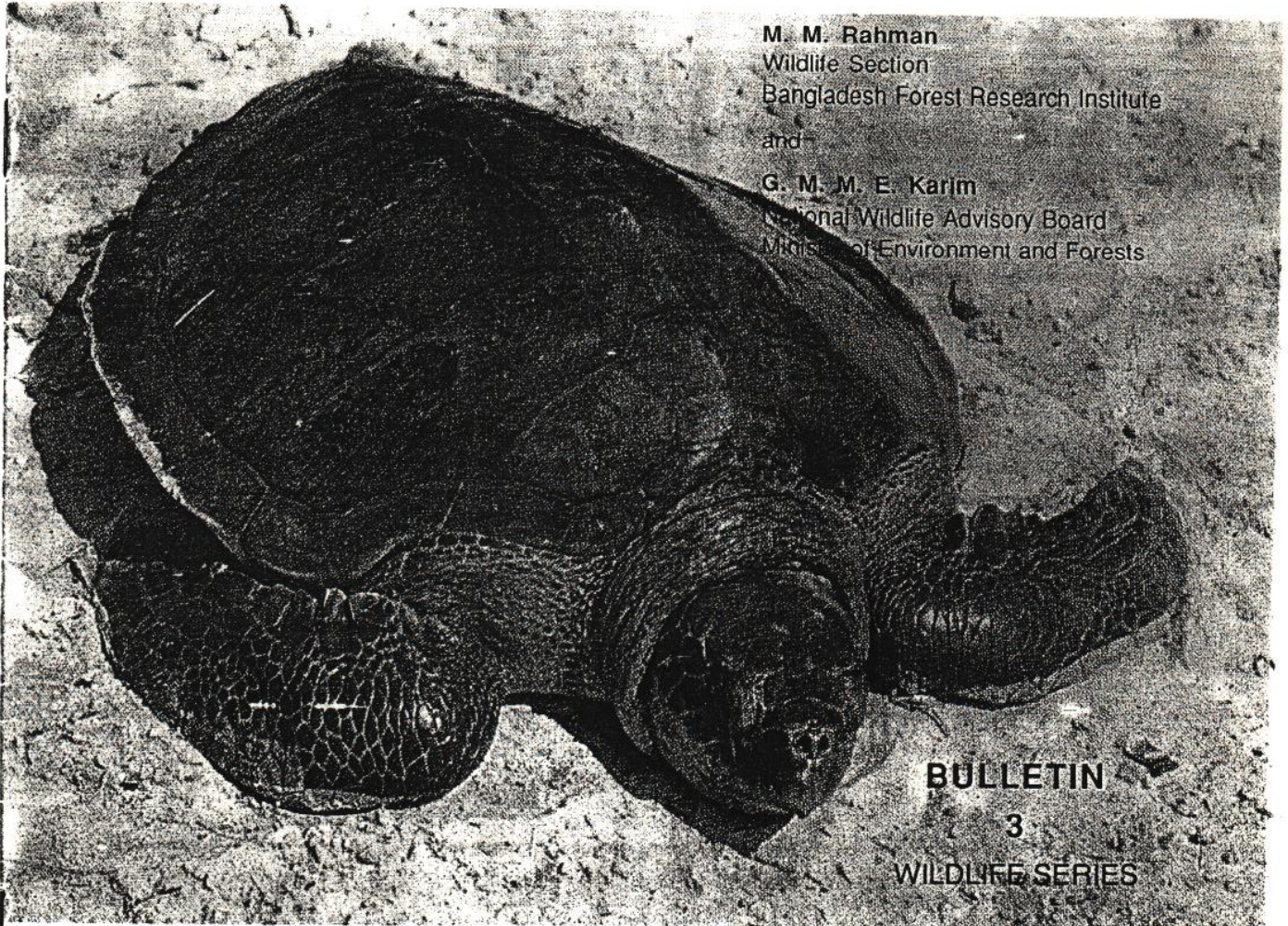


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NESTING GROUND OF SEA TURTLES AT A BEACH OF BANGLADESH

64

olive ridley turtle



M. M. Rahman
Wildlife Section
Bangladesh Forest Research Institute
and

G. M. M. E. Karim
National Wildlife Advisory Board
Ministry of Environment and Forests

BULLETIN

3

WILDLIFE SERIES

CENTRE FOR HERPETOLOGY
MADRAS CROCODILE BANK
POST BAG No. 4
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T.N., S. INDIA



GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
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*With the Compliments of
The Director,
Forest Research Institute
Govt of Bangladesh
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M. M. RAHMAN
G. M. M. E. KARIM

ABSTRACT

A survey was conducted in the Cox's Bazar Forest Division from Matamuhuri Forest Range (Alikadam) to Teknaf Forest Range to determine the status of wildlife in the area with a special attention to the reptilian resources.

The survey reveals that about 17 km long beach from Inoni Forest Range to Shaplapur Forest Beat (Monkhali) of the Whykeong Forest Range has been found to be a nesting ground for the sea turtles. The survey shows the degree of destruction of the nests, eggs and lives of sea turtles by human beings and other predatory animals. It also suggests necessary measures for conservation and protection of these reptilian resources in Bangladesh.

Preamble :

Bangladesh is a small country having numerous species of wildlife fauna in the forested and even in the non-forested areas. It is situated 20°34' to 26°38' North latitude and 88°01' to 92°40' East longitude. The country supports 124 species of reptiles including 25 species of turtles and tortoises (Khan, 1982). Among the population of turtles and tortoises, five species of sea-turtles have been identified in the country (Khan, 1987). They are found in the coastal

area of the Bay of Bengal along the southern boundary of Bangladesh (Table 1). The Bay of Bengal, lying roughly between 5° to 22° N latitude and 80° to 95° E longitude forms a relatively shallow embayment of the north-eastern Indian Ocean. It is bounded by Sri Lanka and Indian peninsula on the west. The east is limited by the Andaman Nicobar ridge and Burma peninsula.

Table 1: Fauna of Sea Turtles in Bangladesh

Sl. No.	English Name (Bengali Name)	Scientific name	Status*	Order (Family)
1.	Green Turtle (Shobuj Shamodrik Kasim)	<i>Chelonia mydas</i>	Common	
2.	Hawksbill Turtle/ Pacific Hawksbill (Hawksbill Turtle)	<i>Eretmochelys imbricata</i>	Uncommon	
3.	Olive Ridley Turtle/ Pacific Ridley/Olive Loggerhead. (Jalpairanga Kasim/ Ridley Shamodrik Kashim)	<i>Lepidochelys olivacea</i>	Uncommon	Chelonia (Cheloniidae)
4.	Loggerhead Turtle/ Brown Red Loggerhead Turtle. (Loggerhead Turtle)	<i>Caretta caretta</i>	Uncommon	
5.	Leatherback Turtle/ Leathery Turtle. (Loggerhead Turtle)	<i>Dermochelys coriacea</i>	Uncommon	Chelonia (Dermochelyidae)

* Khan 1982 (Source)

Three species of cheloniidae : the green turtles, the olive ridley and the hawksbill are listed in the IUCN Red Data Book, 1975, as endangered (Ginsberg, 1981). Khan (1982) mentioned that all the four species of cheloniidae which includes No. 5 are listed in the IUCN Red Data Book as endangered. Khan (1982) also mentioned that except the loggerhead turtle, all the four species have been included in the CITES (convention on International Trade in Endangered Species of Wild Fauna and Flora) which regulates the world wide trade in endangered species of animals and plants. However, the reptilian

fauna of Bangladesh is very poorly known. Consequently, some important species of this group have become extinct in recent years and others will certainly be lost unless the few remaining natural areas are more effectively managed.

The survey :

A survey on wildlife status in the Cox's Bazar Forest Division was conducted by Mr. GMME Karim and Mr. Mokhlesur Rahman of BFRI to determine, among others, also the breeding status and habitat of the sea turtles at beach areas in

February, 1991. The authors visited the different areas from Mathamohuri range (Alikadam) to Teknaf range. Most of the time was spent in the coast of the Bay of Bengal. Visits were made both during day and night with the help of foresters at Inoni beach area. A camera, video camera, Bionocular, car, search light, etc. were used in the visit. Some times the authors were accompanied by a team of forester with arms. A breeding ground of sea turtles was observed opposite the beach near Inoni Forest Range Office, about 20 km away along the sea beach from Cox's Bazar. Survey also reveals, with the informations of previous year's visit, that most of the reptilian fauna, specially the lizards of Cox's Bazar Forest Division are disappearing at an alarming rate causing imbalance to the ecosystem of the country. However, the situation of sea turtles in Bangladesh may be indicative of the world-wide diminishing trend. This study having the document stressed that conservation measures should immediately be taken to protect sea turtles from extinction (appendix 1).

Current Bangladesh report on the status of the Olive Ridley Turtle :

Current Bangladesh report on the status of the Olive Ridley Turtle which is classified as follows :-

Class : Reptilia
Order : Chelonia
Family : Cheloniidae
Genus : Lepidochelys olivacea Eschscholtz
Sex : Female
Length of the Shell : 28 inch/70 cm
(excluding head)
Diameter of body : 52 inches/130 cm
Weight of the turtle : 25 Kg (estimated).

The specimen has been preserved with the Forest Beat Officer of Inoni Forest

Station under Cox's Bazar Forest Division with the request to send it to the Wildlife Section of Bangladesh Forest Research Institute after drying it under the sun. On receiving the dried specimen, further study will be conducted.

The previous reports :

During the non-breeding period sea turtles are usually found in the deeper part of the sea and during breeding season most of them are concentrated along coastal area from the only coral Island of St. Martin to the Sundarbans (Sarker, 1982). The population of the species has been declining in the country for a long time. It is due to poor management practices. In addition, very little is known about the population of the sea turtles in Bangladesh. However, some taxonomical works have been done on the species which are inadequate to meet the scientific demand (Allen, 1977; Amor, 1979; Ginsberg, 1981; Salm, 1982; Vijaya, 1962; Jayewardene, 1982; Bhaskar, 1984 and Benazir, 1986). The authors mainly focussed the necessity for conservation and protection of the sea turtles immediately due to its disappearing, depending on many factors in their habitat. Khan (1983) reported that Olive Ridley turtle used to St. Martin's Island as breeding ground from October to December. He also mentioned about the degree of destructive of its eggs by the Islanders. However, Benazir (1986) identified the same place as a breeding ground of Olive Ridley turtle and located the nesting area for the first time in Bangladesh at Saint Martin's Island while undertaking a study the breeding biology, mainly the egg laying behaviour of the species. He located three spots as the breeding ground in the Island for the species. He also noted that the total number of its eggs in one nest ranged

from 84-143. However, the St. Martin's Island has an area of about six sq. km with a human population of about 3000 (Khan, 1981). The Island is situated on the 20.35°N latitude and 92.22°E longitude. Benazir (1986) did not indicate of any other breeding ground of the sea turtles in Bangladesh while we found a new one at Inoni beach where the animals are being destroyed since a long time (Appendixes 2).

How a new breeding ground was found :

During the field trip to the coastal area of the Bay of Bengal under Cox's Bazar Forest Division, it has been found that a large variety of sea turtles are abundant during the breeding period in the winter season. We observed a breeding ground at Inoni beach and located several breeding spots with the help of local people who were engaged mainly in fishing on the Bay of Bengal (beach extending from Inoni to Teknaf approx 40 km). It was also suspected that sea turtles had been laying their eggs within 17 km beach area towards Teknaf from Inoni beach since a long time (appendix 3). So, it is a new record for the breeding ground of the sea turtles in Bangladesh. The turtles were observed to come out of the water at mid-night darkness in search of a safety place for laying eggs. An Olive Ridley Turtle came out of the water on 14.2.91 and laid about 200 eggs in her nest at Inoni beach according to the local men who collected the eggs. During the visit its nest was also located. It was about 40 meters from the waters edge where the Olive Ridley Turtle (female) was found dead. Perhaps a jackel (Canis aureus) killed the turtle on its return journey to the sea after laying her eggs. Three domestic dogs participated before sunrise to eat the flesh of

this turtle. The eggs were also collected from the nest by the local people before sunrise (according to the fisherman).

Great loss in egg laying cycle habitats :

However a large percentage of eggs are lost every year, particularly to human predation. Egg collectors usually keep a vigilant watch at the sea shore by following the turtles from a reasonable distance. They collect the eggs immediately after laying and some times even kill the female turtles during their return to the sea. Khan (1982) reported that the breeding season of Olive Ridley Turtles falls between December to February, while Sarker (1982) mentioned that sea turtles usually start to lay their eggs in January and continue it up to the end of July which is more accurate according to us. Besides, human predation, there are also other predators like Canis aureus, Varanus bengalensis, Varanus salvator and even domestic dogs also eat and destroy turtle eggs and their youngs after hatching.

Smuggling of eggs to International markets:

Professional collectors usually sell the eggs in local markets at a very low price. The eggs of the sea turtles are available for sale in most of the coastal market place, viz. Whykong, Teknaf, St. Martin's Island, etc. in the Cox's Bazar area. Khan (1987) reported that eggs are sold at Tk. 25/- per hundred at St. Martin's Island while at Tk. 40/- per hundred at Teknaf market place. So a visit was also made to Teknaf market in the evening hour on 15.02.91 to collect some eggs from the sellers for documentation. Unfortunately, the mission was unsuccessful. But it was informed by the

local people that some times the eggs are sold in the Teknaf market at the rate of Tk. 70-80/- per hundred and large numbers are smuggled out even to Burma, Thailand, Hong Kong and China. A remark in the visitors book at the Teknaf Forest Rest House was noted to stop the selling of eggs. However, the matter was discussed with the Chief Conservator of Forests (CCF) at the rest house at Teknaf on 15.02.91 while he was returning from St. Martin's Island. Our Team requested the CCF for the protection of nesting ground of the sea turtles at Inoni beach area and impressed upon him to take immediate protection measures in these newly discovered breeding area.

Importance in the Aquatic Ecosystem & Export earnings :

Sea turtles are important from several aspects. Their existence is essential for keeping the aquatic ecosystem healthy, and their meat and shells have a big commercial value. Turtle flesh is considered as delicious food in certain parts of the world. Japan is the leading importer of tortoise shell. Allen (1977) reported that Japan uses Fiji, the Solomon Island, Zanzibar, Aden, Cuba and Nicaragua to get its supply of turtles. It consumes between 20,000 and 30,000 hawksbill turtles a year. The same author (1977) also mentioned that there is still a growing demand for turtle shells and baby turtles in Mexico, the Caribbean and the Far East. Bangladesh is big party to export of Turtles and can earn a considerable foreign exchange (Table 2).

Recommendations for protection & management of turtles :

Detailed studies for the conservation and management of turtles are very

essential. Creation of educational awareness about the value of marine animals among the people may play an important role to protect the sea turtles from destruction or illegal trade. All turtles except the green turtle consume crustacea which in turn feed on various micro-organisms include some species which are poisonous. When this flesh is consumed by human being it is toxic enough to cause death. Use should be made of this information as propoganda to discourage the consumption of turtle flesh. In many parts of the world, turtle eggs are being over collected or their nesting beaches are being destroyed as in Bangladesh. So establishment of a global network of sea turtle nesting sanctuaries is an important issue for the World Conservation Union, the Worldwide Fund for Nature (WWF) and an international convention like 'Ramsar' may be initiated by the relevant World Conservation Organisation.

Acknowledgement :

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Table 2: Export earnings from the turtles and tortoises during the fiscal year 1974-75 to 1981-82. (in '000' Tk.)

Turtle or produce exported	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
Turtles & Tortoises (live)	1	-	1187	5520	6914	12948	16026	22506
Turtle shells	-	17	9	8	-	43	-	-
Turtle meat	-	-	46	-	-	63	-	-

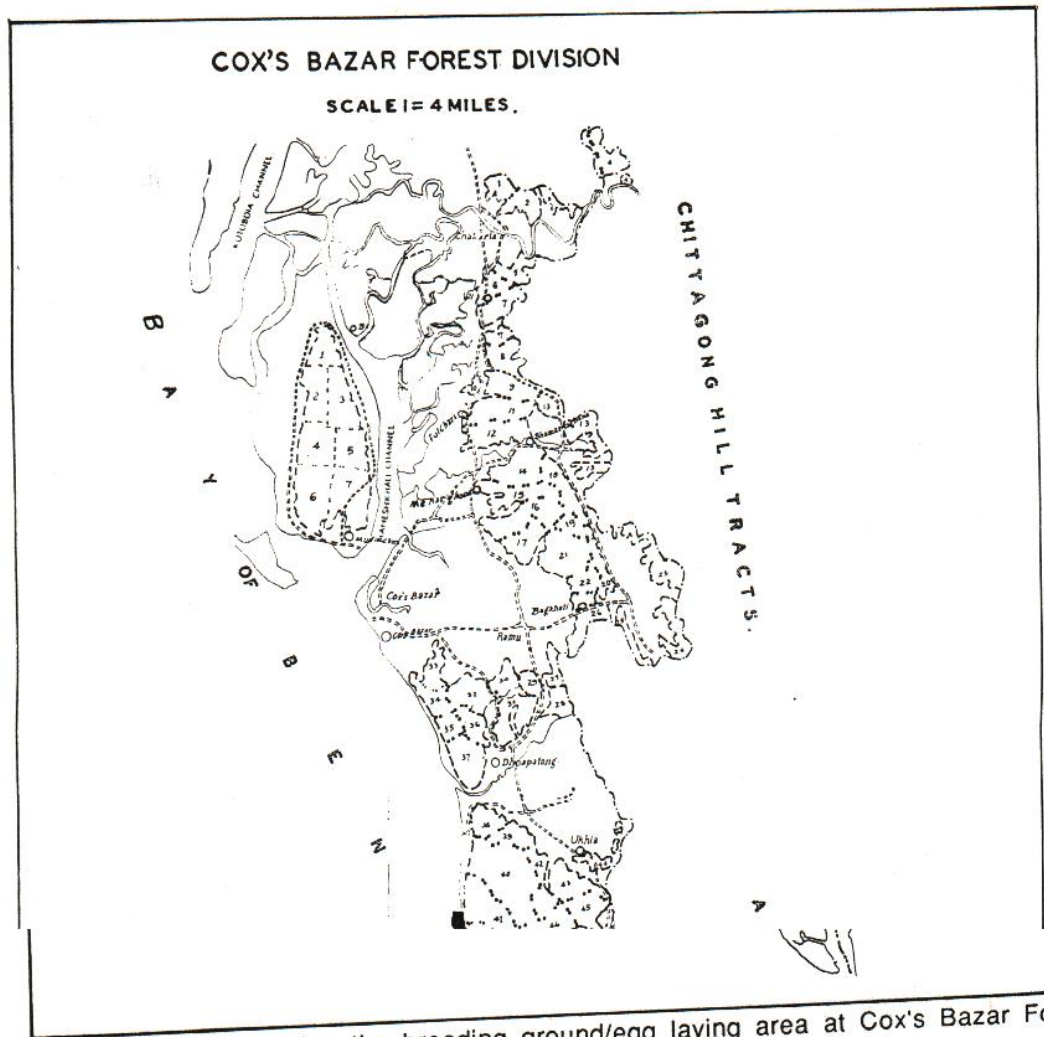
* Source : Export Promotion Bureau, Dhaka, cited in Khan (1982)



Appendix 1 : Some parts of the sea turtle are being eaten by the domestic dogs at the beach of Inoni. (Photo : Karim)



Appendix 2 : Recollected skeleton of a sea turtle from the dogs at Inoni beach (Photo : Karim)



Appendix 3 : Map showing the breeding ground/egg laying area at Cox's Bazar Forest Division for the sea turtles.