BANGLADESH
1. INTRODUCTION:
1.1 Bangladesh is situated in the northeastern part of the South Asia. It lies between 20°34' and 26°36' North longitudes and 88°01' and 92°41' East latitudes. The country is bounded by India on the West, North and North-East latitudes. The Bay of Bengal is situated on the southern frontier of the country. The total landmass of the country is about 1,44,400 sq. km. with the population of the 119.90 million.

1.2 Bangladesh is occupying a unique geographical location in the South Asia. Bangladesh is virtually the only drainage outlet for a vast complex river basin made up of the Ganges, Brahmaputra and Meghna river and their network of tributaries. There are three broad physiographic regions in the country. The floodplains occupy about 80 percent, terrace about 8 percent and hills about 12 percent of the land area. Moreover, it is a country dominated by wetland having more than 50 percent of its territory under true wetlands that is estuaries, mangroves namely the Sundarbans, freshwater marshes, swamps and rivers.

2. HABITAT:
2.1 The wetlands are the important habitat of migratory waterbird population. There are about 628 bird species in Bangladesh, out of which 240 are migratory (among them 150 are waterfowls), and 90 are migratory waterbirds. IUCN, Bangladesh has prepared a report called "The Red Book of Threatened Birds of Bangladesh 2000", where eight species of resident waterbirds were identified as threatened bird. On the other hand, "The Asia-Pacific Migratory Waterbird Conservation Strategy" from the year 2001-2005 identified 50 species of migratory waterbirds as threatened bird, out of which 14 species occur in Bangladesh. The important threatened species are Masked Finfoot (Heliopais personata), Indian Skimmer (Rhynchops albicollis), Black-headed Ibis (Treskeornis melanocephala), Greater Adjutant (L. dubius), Lesser Adjutant, Baikal Teal (Anas formosa), Baer's Pochard (Aythya baeri), Ferruginous Pochard (Aythya ferina), Wood snipe (Gallinago nemoricola), Norman's Green shank (Tringa guttifer), Spoon-billed Sandpiper (Eurynorhynchus pygmeus).

2.2 In Bangladesh there are three major zones, which are the habitat of the migratory birds. These are:
A. Coastal Zone
a) Meghna Estuary
b) Shabazpur Channel and adjoining mudflats
c) Karnaphuly, Matahmuhari and Naaf river and estuary
B. Brahmaputra and Meghna River Basin

a) Haor Basin of Sunamganj district
b) Haor Basin of Moulavi Bazar and Sylhet district

C. Padma-Jamuna river Basin

a) Padma Char land (newly accreted areas) and floodplains
b) Jamuna Char lands and floodplains

2.3 The coastal wetlands are basically dominated by the shorebirds. These are Lesser Sand Plover, Greater Sand Plover, Kenfish Plover, Ringed plover, Little Stint, Green Sandpiper, Marsh Sandpiper, Terek Sandpiper, Curlew Sandpiper, Black tailed Godwit, Bar-tailed Godwit, Spoon billed Sandpiper, Broad-billed Sandpiper, Crab Plover, Great Stone Plover Spotted red Shank.

2.4 The Meghna estuary before meeting the Bay of Bengal gives rise hundreds of low lying areas of various sizes. These places are the abode of waders. Sand Plovers are observed at the upper edge of the mudflats where the mud is thicker and thin algal mat covers the mud. Bottom feeders like Curlew, Sand Piper, Red Shank, Green Shank follows the next step down the surface feeder. The Godwits, Eurasian Curlew, Avocets do feeding very close to the low water mark.

3. MOVEMENT

3.1 Usually, migratory waterbirds fly in north-south direction. This is same in the AsiaPacific Region also. As a whole, five flyways of migratory waterbirds have been recognized in the Asia-Pacific Region. However, long-distance migrant especially migratory shorebirds have been found to follow three flyways: Central Asian-Indian Flyway (CAI), East Asian-Australasian Flyway (EAA) and West Pacific Flyway (WP). The other two flyways extending over the region are East Africa-Eurasian Flyway (EAE) and Pacific Flyway (Americas). A total of 36 countries are covered by these flyways and Bangladesh is located in the path of two flyway e. g. Central Asian-Indian Flyway and East Asian -Austral asi an Flyway.

4. STATUS

4.1 Birds ecologically dependent on wetlands are broadly called waterbirds under the Ramsar Convention, and twenty families of waterbirds are covered by this definition. At present, 50 species of migratory waterbirds are threatened in the Asia-Pacific Region and a list of these species is included in the Migratory Waterbird Conservation Strategy: 2001-2005. Other migratory species or groups of species include Gangetic Dolphin (*Platanista gangetica*), Dugong (*Dugong dugon*), Whales (*Balaenoptera physalus*), Gharial (*Gavialis gangeticus*), Estuarine crocodile (*Crocodylus porosus*), and five species of marine turtles of which Olive Ridley (*Lepidochelys olivacea*) occur in Bangladesh.
4.2 The major threats linked to the conservation of waterbirds or migratory waterbirds are habitat loss, habitat degradation, and introduction of exotic species, harvesting of resident and migratory waterbirds, effects of climate change. Due to continued human population growth, the above mentioned threats are very prominent in the wetlands particularly in the inland freshwater wetlands of Bangladesh. Bird hunting practice prevails in the wetland areas of the country, where every winter seasonal hunters and trappers target waterbirds - mainly migratory species. Hunting, Shooting and trapping is banned under the Bangladesh Wildlife Preservation (Amendment) Act 1974. The main species targeted every year for hunting are ducks such as Garganey, Gadwall, Fulvous Whistling Duck, Coot and Swamphen.

5. RESEARCH AND MONITORING
5.1 In the Asia-Pacific Region, the Asia-Pacific Migratory Waterbird Conservation Strategy launched in the year 1996, provides framework for the conservation of migratory waterbirds in the region. Highlights of the strategy implemented during 1996-2000 include:

- Increased awareness for conserving waterbirds and their habitats.
- Development and implementation of regional conservation action plans.
- Establishment of networks of internationally important sites.
- Implementation of numerous actions at network sites.
- Organization of international and national meetings, workshops and conferences.
- Publication of technical and non-technical information.
- Development of websites.

5.2 Based on the successes of the Strategy 1996-2000, the second strategy for 2001-2005 has been prepared by Asia-Pacific Migratory Waterbird Committee with support from Environment Australia, Wetlands International and Ministry of Environment, Japan. There are ten bilateral agreements/treaties, which deal with the conservation of migratory waterbirds in the Asia-Pacific region. These agreements are useful and found effective in the promotion of actions at bilateral and international level for the conservation of migratory waterbirds. Australia, China, India, Japan, Korea (D.P.R.), Korea (R), Russia and USA are the countries involved with the agreement.

5.3 The Strategy 2001-2005 gave priority to develop migratory waterbird networks and to build greater cooperation between sites and flyways. The major areas of activity include- Action plans for species-groups and action plans for globally threatened species.

5.4 The key elements of the strategy (2001-2005) are:

- Action plans for threatened species and species groups.
- Management of network of sites that are internationally important for migratory waterbirds.
• Capacity building of government agencies and non-government organizations.
• Awareness creation particularly on waterbirds and their link to wetland values and functions.
• Development of knowledge and information exchange.
• Harmonization of national and state policies and legislation.

6. Legal Issues
6.1 Since 1999, Wetland International - Oceania is in contact with the Ministry of Environment and Forests and Forest Department, Bangladesh to facilitate the implementation of migratory waterbird strategy in Bangladesh particularly in two issues. (a) inclusion of a wetland site in the net work of sites of the Strategy (b) capacity building in Bangladesh in respect of waterbird and their habitat conservation. Two official of the Wetland International- Oceania made a visit to Bangladesh in September, 2001. They met the Chief Conservator of Forests and concerned official of the Ministry of Environment and Forest, and discussed issues relating to the implementation of the Strategy. They expressed their intention to organize training in Bangladesh on conservation of migratory waterbird. It was also agreed during discussion with the Chief Conservator of Forests that Nijhum Dweep in the district of Noakhali (located at the south-east of the country) included would be included in the network of sites. Nijhum Dweep now has been declared a National Park under the Bangladesh Wildlife Preservation Order, 1973 (amended in 1974). The National Park of the Nijhum Dweep extends over 40,000 acres of land and water. In this respect this is to mention that, 15 Protected Areas have so far been declared as reserved forest of Bangladesh under the Bangladesh Wildlife (Preservation) Order, 1973, and five of them are situated in the wetlands (Sundarbans and coastal forests including Nijhum Dweep). Besides, the Ministry of Environment and Forest have declared seven Ecologically Critical Area (ECA) in the main wetland sites of the country under the Environment Protection Act, 1995. Moreover, Sundarbans Reserved Forest and Tanguar Haor was declared as Ramsar sites.

6.2 Bangladesh is actively working for the conservation of waterbirds since 1987. It participated in the preparation of the Directory of Asian Wetlands Inventory, and has been participating and contributing in the waterfowl census, a routine annual activity of the Wetland International - Oceania. Very interesting information on some populations of globally threatened species of migratory waterbirds have been generated through this census. As for example, a very significant number of individuals of the entire populations of the globally threatened Spoon-billed Sandpiper visit in the estuaries of Noakhali and Chittagong area every winter. Besides these , quite a large population of the Indian Skimmer is found to occur in the same area particularly in the estuaries of Noakhali.
6.3 The relevant inter-governmental conventions for conservation of migratory waterbird are
- Ramsar Convention on wetlands
- Convention on Biological Diversity (CBD)
- Convention on the Conservation of Migratory Species of Wild Animals (CMS)

6.4 Bangladesh became Party to the Ramsar Convention in 1992 and ratified CBD in 1994. Bangladesh is yet to be Party to the CMS. It has not signed any convention of migratory wild animal.

6.5 Some international NGOs are directly involved in the conservation of migratory waterbird in the Asia-Pacific Region, and these are
- Bird life International
- International Crane Foundation
- Wetlands International
- World Conservation Union (IUCN)
- World wide Fund for Nature (WWF)

7. PROPOSED COUNTRY PROGRAMMES

7.1 Creation of a national wetland site network based on available information. The sites should cover or should represent wetlands of both flyways in Bangladesh. The site selection may also be on the basis of broad wetland ecosystem areas in the country. Apparently, coastal areas from Saint Martin's Island to Sundarbans; Haor Basin including Tanguar Haor, Hakaluki Haor and Hail Haor; and the Padma-Brahmaputra-Jamuna river systems are the best wetlands for conservation of waterfowls and migratory waterbirds. Therefore, 6 to 10 places of these wetlands could be included in the proposed national network of wetland sites.

- Preparation of an authentic list of migratory waterbirds and other waterfowls of the country including their habitat requirements and migration pattern,
- Capacity building of official and staff of government and Non Government Organizations on conservation and management of waterbirds and their habitats.
- Local community organization in the proposed network of wetland sites towards participatory conservation of waterbirds and wetlands.
- Awareness building program among people at all levels as well stakeholders.
7.2 Expressing its intention to participate in bilateral/multilateral agreements for management of wetland sites now exist or to be included in the Asia-Pacific Migratory Waterbird Conservation Strategy, Bangladesh proposes for

i) a Bird Ringing project/programme to study the migration of waterbirds in the Asia-Pacific Region, and

ii) organizing an international meeting for adoption of an intergovernmental agreement for conservation of migratory waterbird in the Asia-Pacific Region.

8. CONCLUSION
8.1 Bangladesh is yet to be a Party to the CMS. However, as per provisions of the CMS, being non-Party Country, Bangladesh is in a position to contribute in achieving the objectives of the CMS by signing convention and agreement(s) for conservation of migratory species of wild animals. In this preview, Bangladesh has decided to sign the agreement on the Memorandum of Understanding (MOU) on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia.