

Mini-Series: Natural Environments of Wetlands (2)

Part 2: The Indus River in Pakistan

Five rivers originating in the Himalayas join together to form the Indus. The river, the total length of which in Pakistan reaches 2,900km, is the backbone of wetlands in the country, from the mountain ranges in the north through to the downstream delta areas. Found all along its river basin are various types of wetland environments, including lakes and swamps created by glaciers in the north, the flood plains of the Indus delta, mangrove forests at the river mouth and tidal flats. In addition, there are also other wetlands, lakes and ponds, which were formed as a result of changes in the aquatic environment following the construction of Pakistan's world-famous irrigation systems. Having recognized the importance of these wetland environments early, the Government of Pakistan has been active in initiating wetland conservation policies since the 1960s.

The area surrounding the Taunsa Barrage, totaling 6,571 ha, was recognized as a wildlife sanctuary in 1983. One of the most important wildlife species found in this sanctuary is the Indus River Dolphin which is protected under Pakistan's Wildlife Protection Act. The survival of this species is highly threatened due to habitat loss and fragmentation caused by barrages, and water shortages in the dry season resulting from the construction of dams and irrigation systems. Today the total population of the Indus River Dolphin is estimated to be fewer than 1,000. Therefore a great deal of effort is being put into the conservation of this species. It has been listed as 'Endangered' in the IUCN Red Data Book since 1976, and it is also listed in Appendix I of the Convention on International Trade in Endangered Species (CITES).

Apart from the detrimental impacts on wildlife living in the river basin, the irrigation systems also cause other damage to wetlands. Instances of this include water pollution from agricultural and industrial drainage, and negative impacts on mangrove forests due to the decrease in fresh water supply at the river mouth. Also problematic is the loss of riverine forests and their attendant biodiversity as a result of the control of regular floods. While degrading the environment in the manners just mentioned, irrigation systems can at the same time create favorable environments as well. Dams, lakes and reservoirs along the Indus play a very important role as wintering and breeding sites for rare water birds, or as resting sites for cranes.

Many bird species require several different types of wetlands, such as, for example, open tidal flats for feeding and mangrove forests for breeding. Therefore, the protection of some valuable wetland species can only be achieved by conserving the whole ecosystem. In other words, such species can be seen as environmental indicators of ecosystem conservation. At the same time, protection of the wetland ecosystem which has been created along with the development of irrigation systems in the river basin means nothing but the ultimate enrichment of human life. Thus we suggest that more efforts should be made to improve the rich ecosystem by continuously monitoring the status of the key indicator species.



Indus River Dolphin



Numerous birds