Dolphins of the Ganga: Few fading, fewer frolicking

Gangetic Dolphins have been crowned as India's National Aquatic Animal. But, looking at the condition of our 'National' River Ganga, this is not very reassuring news. Fates of creatures like Dolphins, which are at the apex of the food chain, and the ecosystem in which they thrive are inseparable. Only a healthy river will support dolphins and frolicking dolphins will always point towards a healthy river. Here is a brief report on the status of the iconic specie in an iconic river system.

The Gangetic river dolphin is one of the four freshwater dolphin species found in the world. They fall under Schedule I of the Indian Wildlife (Protection) Act and have been declared an endangered species by the International Union for Conservation of Nature (IUCN). This species found in India, Bangladesh and Nepal - is blind and finds its way and prey in the river waters through 'echoes'. There are only about 2,000 Gangetic river dolphins left in the Ganga Brahmaputra system, down from tens of thousands just a few decades ago. According to the World Wide Fund for Nature (WWF), in the 1980s, there were around 3,500 dolphins in the Ganga delta region alone. Main reason for the decline in population is habitat destruction through dams and barrages, pollution, and poaching.

Education & Awareness Dolphin Camp at VGDS, Bhagalpur: School students & Teachers of West Bengal, U. P. & Bihar ready to go into the River to see the dolphins **Photo:** Dr. Sunil Chaudhary

Despite being a scheduled I endangered species, the mammal faces grave threats. Dams are being planned on rivers like Lohit, Dibang and Siang irrespective of the fact that there is a well documented population of Dolphins in the Brahmaputra river basin, which has been presented to the authorities a number of times. If the presence of Dolphins does not lead to wise decisions or voluntary restrictions, what is the point in giving them fancy titles like National Aquatic Animal?

In the recent past, Dolphins have played an important role in notifying 164 kms stretch of Ganga from Bijnor Barrage to Narora Barrage as a Ramsar site in 2005, mainly through initiatives taken by WWF. Fishing and poaching is banned in this stretch, though it continues to receive polluted effluents. Narora barrage has a fish pass, but it cannot be used by bigger species like Dolphins and this Ramsar stretch is more or less like a long enclosure.

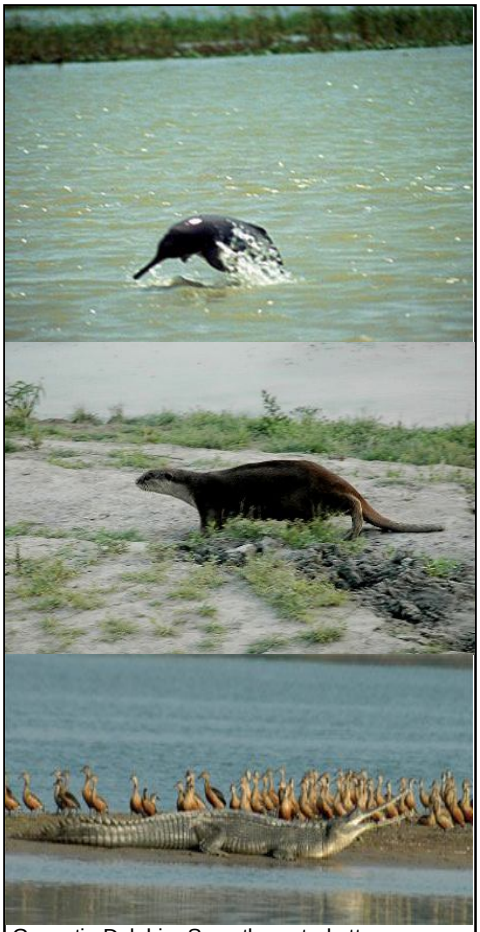
Apart from Upper Ganga Ramsar site, Gangetic Dolphins find refuge in the National Chambal Sanctuary on the Chambal River and also the Vikramshila Gangetic Dolphin Sanctuary on Ganga in Bihar.

Damning the Dolphins *Gangetic Dolphin, found in the Ganga-Brahmaputra system in India and Bangladesh, lives in one of the most densely populated areas of the world. It is threatened primarily by the* ***damming of rivers for irrigation and electricity generation****, which degrades habitat, isolates populations and prevents seasonal migration.*

More than twenty barrages (low, gated diversion dams) and eighteen high dams have been constructed in the Ganges-Brahmaputra-Megna and Karnaphuli-Sangu river systems alone since 1956, ***and in the northern Ganges tributaries at least three of six subpopulations that were isolated by barrages have recently disappeared.***

Many individuals swim downstream through barrage gates during the wet season, but are unable to return in the dry season due to strong downstream hydraulic forces at the gates. Further declines are expected as more barrages are planned and are under construction throughout the species' range. The large number of hydropower projects under construction and planned in various tributaries of the Ganga also threaten the species. The proposed Ganges-Brahmaptura inter-link canal and dam project will undoubtedly result in further habitat loss and degradation, population fragmentation, and an increase in dolphin stranding. (www.edgeofexistence.org/mammals/species_info.php?id=65)

Rare good news from Vikramshila Dolphin Sanctuary The population of the endangered Gangetic river dolphin has grown to 223 from about 175 last year at the Vikramshila Gangetic Dolphin Sanctuary, India's only dolphin sanctuary located in Bihar. This was revealed in a census conducted recently by the Vikramshila Biodiversity Research and Education Centre (VBREC) of Tilka Manjhi Bhagalpur University (TMBU). Set up in 1991, Vikramshila Dolphin Sanctuary is spread over 50 km along the Ganges River in Bhagalpur district of Bihar.



Gangetic Dolphin, Smooth-coated otter and Gharial: endangered Wildlife of Vikramshila

Dr. Sunil Chaudhary, coordinator of VBREC told SANDRP that Vikramshila example highlights the fact that conservation is possible in most difficult circumstances, through people's participation. He stressed that Vikramshila has been able to achieve a thriving population of Dolphins because of VBREC's focus (which is now joined by Bihar Forest Department) on participation, awareness generation and education of local communities living near the 50 km long stretch of Ganga about the importance of the mammal.

According to Dr. Chaudhary "VBREC did not preach, but through innovative methods like street plays and open discussions highlighted the fate of the animal and the holy Ganga. People of the region have a very spiritual relation with the river and though impoverished, they are ready to give up on some of their privileges for the river". This is the place where the Ganga Mukti Abhiyaan of the 1980s started, when local fishermen agitated against leasing 80 kms of Ganga to rich landlords.

Fishing has been stopped on the Vikramshila Sanctuary river stretch and conflicts with fishermen are rare. However, Dr. Chaudhary notes that this need not be so and that long term conservation of specie in isolation is not possible. "To conserve riverine species, we first need to conserve the river and its ecosystem, which includes its people. ***I believe that traditional fishermen of Vikramshila stretch should assert their fishing rights in the river. Sustainable fishing is possible with some restrictions on the fishing gear used and identifying riverine stretches which are not frequented by Dolphins. This will go a long way in Dolphin conservation and also equity***."

According to Dr. Choudhary, isolation of community from their ecosystems is not a good idea in the long run. He pointed out to the utter failure of plans like the Ganga Action Plan to bring about any form of change, in the absence of local participation and leadership.

Vikramshila Sanctuary has been managed effectively by VBREC since 1995. It is approximately 300 kms upstream of Farakka Barrage and more than 450 kms downstream of the Narora Barrage. Absence of dams in the vicinity is a crucial reason for the health and teeming biodiversity in the river. Ganga here supports 76 fish species, turtles, Gharials and smooth coated otters (both are Schedule I protected species). However dams as distant as the Farakka Barrage have affected the ecological balance of this stretch. Hilsa fish which used to migrate right upto Bhagalpur before the barrage are now locally extinct.

On the other hand, fate of Dolphins and Gharials in the National Chambal Sanctuary seems unclear. In May 2011, the National Board for Wildlife, under the Chairmanship of Jairam Ramesh, the then Minister of State of Environment and Forests, gave permissions to the 330 MW Dholpur gas-based combined cycle thermal power project stage-II for drawing water from National Chambal Sanctuary. The study report on the water intake requirement of different projects from the Chambal River by the Director of the Wildlife Institute of India had recommended that no new projects could be allowed for taking water from the Chambal River as the present flow was inadequate and declining at 3 per cent every year.

According to the only dissenter to the NBWL decision, Prerna Bindra, "The Chambal River harbours 85 per cent of the entire population of the critically endangered gharial and a high density of the national aquatic animal, the Gangetic dolphin per river km. The 'Assessment of minimum water flow requirements of Chambal river in the context of gharial (*Gavialis gangeticus*) and Gangetic dolphin (*Platanista gangetica*) conservation' conducted by the Wildlife Institute of India categorically states that ***any further withdrawal of water from Chambal river will seriously affect the gharial, the wildlife and other ecosystem service values of the river***." (Writetokill 280511) Unfortunately, with regulating bodies like the NBWL, one exception to the rule will spur the next. All in all, fate of Gangetic Dolphins in India is worrisome, despite a few remarkable success stories.

In downstream **Bangladesh, three areas in the southern Sundarbans mangrove forest have been declared as dolphin sanctuaries** to protect Gangetic Dolphins. Sunderban mangrove forest is the only place in the world where both Gangetic and Irrawaddy dolphins are found. Both are endangered and have been declining sharply due to fragmentation of their habitat through multiple dams and barrages. In Bangladesh, an added threat is rising salinity level and reducing freshwater flows in rivers, which are attributed to upstream dams.

Wildlife Conservation Society's Bangladesh Cetacean Diversity Project (BCDP) has selected areas of Dhangmari, Chandpai and Dudhmukhi areas of eastern Sundarbans for protection as dolphin sanctuaries. It has been reported that an official notification on establishing the sanctuaries will be issued by the ministry of environment soon.

According to officials from Forest Department, "waterways in these areas will be clearly demarcated and there will be signposting for local fishermen to avoid this area. Declining freshwater supplies and rising sea levels due to global climate change are affecting the dolphin population."

It is unclear what will this protection order mean in terms of freshwater inflows from upstream, which is an important factor in the distribution of this species. It has been documented that the outfalls of the Ganga Brahmaputra basin have been decreasing, following upstream dams and water diversions. (Times of India 031111)

Meanwhile, the fate of ***Indus River Dolphins*** **in India and Pakistan** hangs on a string due to the excessively dammed and dry Indus. The Indus River dolphin is generally found alone or in small groups in the deepest channel of the Indus River. Its range has drastically decreased over the past century as a result of the construction of irrigation barrages (low, gated diversion dams), which have fragmented the population, and reduced available habitat by depleting the volume of water flowing downstream. Concerted conservation action is needed if this species is to survive. (www.edgeofexistence.org)

The species formerly ranged throughout the 3,500 km Indus river system in Pakistan. Today the majority of the dolphins are restricted to less than 700 km of river. Now, the majority of the remaining population is found in the mainstream between the Sukkur and Guddu barrages in Sind Province. The most significant threat to dolphins in the Indus has been the construction of at least 25 dams and barrages (including irrigation barrages at Sukkur in 1932, at Kotri in 1955, and at Guddu in 1969) that have severely fragmented the population and reduced the volume of water, particularly downstream of the Sukkur Barrage, causing the dolphins' dry-season range to shrink. Subpopulations on either side of barrages are now isolated and thus are more vulnerable to extinction due to hunting or environmental change. Like in the case of Gangetic Dolphins, Indus Dolphins are also supposed to swim downstream through barrage gates during the wet season or during canal closure, but are unable to return. Since the mid 1990s, there have been increasing reports of dolphins trapped in irrigation canals near Sukkur Barrage, many of which die when the canals are drained for annual de-silting and maintenance. (http://www.edgeofexistence.org/mammals/species_info.php?id=66)

Recently, a population of Indus Dolphins has also been discovered in the Harike Wildlife Sanctuary at the confluence of Beas and Sutlej rivers. It is estimated that Beas, Ravi and Sutlej may have about 20 Indus Dolphins. (Times of India 031011)

Two more Indus Dolphins were found dead in the Indus River near Sukkur Barrage, putting the number of dead dolphins found in Sukkur to 28 in six months. (The News Tribe 131111)

Conclusion Conservation of critically endangered species like Dolphins, Gharials or otters call for holistic, in situ conservation solutions which aim at protecting the entire ecosystem. Such ecosystem protection has many spill-over benefits like protection of allied species and improvement in ecological goods and services to the community. Unfortunately, we have been viewing conservation in an extremely myopic way. Dams and hydropower projects like the ones in North East, Himachal and Uttarakhand have been destroying habitats and migration routes of endangered fish like Dolphins and Golden Mahseer. Environment Impact Assessments and Environment Management Plans are looking at fish farms and restocking reservoirs with fingerlings as the only solutions, without even considering ecological options. Fish ladders have not been looked at seriously in India and neighbouring countries and it is high time that the various fish ladders which have been prescribed in recent the environmental clearances are checked and monitored with community participation.

Fish ladder could certainly a solution in case of barrages and low dams. In places where functioning fish ladders exist (as we saw during a trip to the Narora barrage earlier in November 2011, here the fish ladder is in existence since 1960s!), a credible assessment of the effectiveness of the fish ladder for the various relevant species is urgently required. The Narora fish ladder size is clearly not adequate for dolphins, for example.

All in all, it looks like the fate of riverine biodiversity and dependent communities rests on a few wise actions. We have the blue prints and the lessons learned. What we need is the will and the wisdom to put it in practice.

Compiled by Parineeta Dandekar