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INDUS RIVER DOLPHIN CONSERVATION PROJECT

Phase - II

Conserving the endangered Indus River Dolphin, a unique, endemic species of Pakistan, through research and assessment of its habitat and prey species, reducing mortalities, improving farming practices and raising awareness

Phase II of the Indus River Dolphin Conservation Project (IRDCP) has been developed in accordance with the experience and lessons learned during the execution of phase I activities. Phase II of IRDCP is basically the continuation of Phase I activities with better understanding and a more rigorous approach. The main focus is the conservation of the Indus River Dolphin (*Platanista gangetica minor*) - an endangered species unique to Pakistan.

This species is so far being conserved:

- by protecting the natural biodiversity of the Lower Indus River Ecosystem.
- by facilitating the implementation of Better Mangement Practices (BMPs) in agriculture.
- by reducing the stranding of Indus River Dolphin through rescue operations in canals.
- by community awareness through the Indus River Dolphin Conservation Center and the media.

In phase II, additional activities such as enhancing fishermen communities' livelihood and alternate income generation through promotion of ecotourism & vocational training are also included.

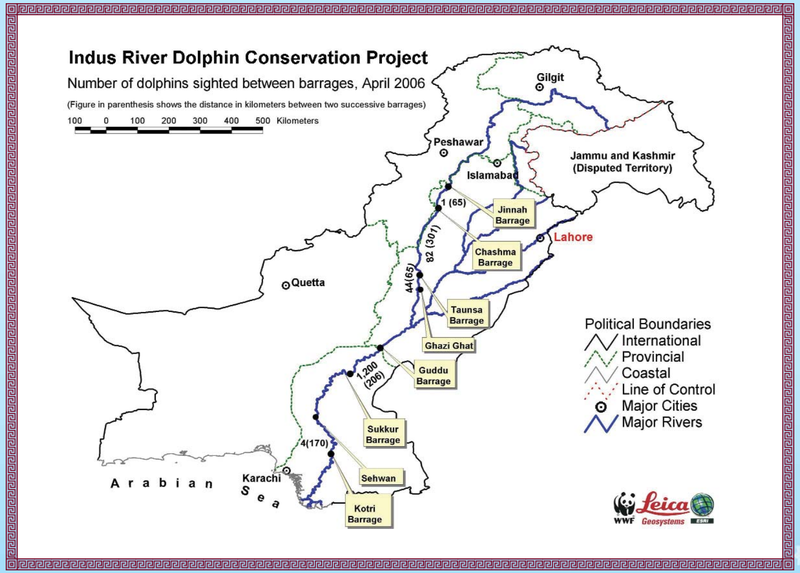
Project Objectives

Overall Objective:
Conserve the viable population of the Indus River Dolphin by;

- Protecting the innate biodiversity of the Lower Indus River Basin Eco-system.
- Ensuring the sustainable use of riverine biodiversity.
- Promoting actions to mitigate pollution and the wasteful extraction of riverine resources.

Specific Objectives:

1. Farmer and fisher communities adopt sustainable use of natural resources
2. Improved understanding of the Indus River Dolphin biology and habitat
3. Awareness raising through the Indus Dolphin Conservation Center and media
4. Alternate income generation by promotion of eco-tourism and vocational training



Introduction

The Indus River Dolphin Conservation Project (IRDCP) was developed to conserve a viable population of the Indus River Dolphin (*Platanista gangetica minor*), an endangered species endemic to the Indus River system in Pakistan.It is one of the only four extant freshwater dolphin species in the world. The habitat of this species has been reduced to one fifth of its historical range. The remaining habitat is being further degraded primarily due to shortage of water caused by its diversion to meet growing agricultural needs. In addition, these diversions also reduce the flow of water in the river, thus increasing the incidence of pollutant accumulation.
The population of the Indus River Dolphin is divided in sub-populations because of the six barrages constructed on the River Indus. Moreover, Canal strandings, contamination due to industrial waste and agro-chemicals, unsustainable fishing and net entanglements also contribute to the species'endangerment.

Project Area

This project will cover the Indus Dolphin Reserve, covering an area of 200 km between Guddu and Sukkur barrages in the province of Sindh. Some extensions of the project cover the Punjab Province in the river section between the Taunsa and Guddu barrages, considered to be home to the second largest sub-population of the species.

Project Approach

The Indus River Dolphin is an important flagship species for the Indus River; an increase of numbers of dolphins can be indicative of the improved health of the Indus River basin ecosystem.The Indus River Dolphin Conservation Project focuses on the root causes of biodiversity loss by linking the protection of the Indus River Dolphin with measures in the agricultural and fisheries sectors.
WWF demonstrates, together with partners and local communities, that changing current agricultural and fishing practices can significantly contribute to a more sustainable use of natural resources and to the protection of the dolphin. Knowledge and experience gained is widely disseminated by the media and through special events for schools and concerned stakeholders.
In addition, ecotourism is being promoted, with the introduction of dolphin watching tours and through the Indus Dolphin Conservation Centre in Sukkur, built during the first phase of the project. Hence, the project combines conservation work with initiatives to improve the livelihood of local communities.

Our Mission

WWF aims to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable.
- promoting the reduction of pollution and wasteful consumption

Join Us

Everyday the burden on our environment grows heavier. Increasing pollution, decreasing natural resources and habitat destruction affect the quality of life for all living beings. Become a part of the solution by becoming a Corporate or Individual member of WWF - Pakistan. Members are regularly updated on conservation issues and have access to WWF resources and activities.

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Stakeholders

- WWF-Pakistan
- Sindh Wildlife Department (SWD)
- Agriculture Extension Department, Sindh (AED)
- Sindh Environmental Protection Agency (SEPA)
- Sindh Fisheries Department (SFD)
- HEJ Research Institute of Chemistry, Karachi
- City District Governments of Sukkur and Ghotiki
- Indus Farmers Welfare Association (IFWA)
- Sindh Tourism Development Corporation (STDC)
- Local communities (fishermen & farmers)

Interesting Facts about the Indus River Dolphin

- The Indus River Dolphin is only found in Pakistan.
- The eyes of the Indus River Dolphin can only differentiate between light and dark, therefore they use echolocation to navigate. Sound pulses, emitted by the dolphins, reflect off objects in the water and are then received by sonar receptors in the head and lower jaw. This highly developed Bio-sonar system is used to navigate, locate prey and communicate with other dolphins.
- Indus Dolphin has a side-swimming behavior; they feel the bottom of the river with the help of nerve endings at the edges of their flippers.
- From January 2000 to January 2005, around 70 trapped dolphins were rescued from the irrigation canals.
- According to a legend, the Indus River Dolphin was once a woman who was cursed to become a dolphin and to live in the River forever.

Project Sponsors

- WWF-Switzerland
- Swedish International Development Agency (SIDA)
- Engro-foods Limited, Pakistan.

Project's Main Activities

Since 2000, WWF-Pakistan has been working in collaboration with the Sindh Wildlife Department on the conservation of the Indus River Dolphins. It has played an effective role in the rescue of stranded Dolphins and has worked to raise awareness among the local communities about species conservation. WWF-Pakistan will continue its work on conservation of the Indus River Dolphin in collaboration with the other stakeholders during Phase-II of the project.

Formal partnerships will be developed with the Agriculture Department, NGOs/CBOs and local authorities to enhance sustainable use of natural resources and protection of environment.

Working in collaboration with the HEJ Institute of Chemistry, analysis of water samples and fish for bioaccumulation of toxic compounds present in the water will be done. This research work and its findings will be shared with the Sindh Environmental Protection Agency for necessary management of water resources. Sustainable use of natural resources among farmer and fishermen communities will be encouraged by validating Best Management Practices (BMPs), by disseminating information about BMPs among local farmers and engaging large farmers for BMPs. BMPs include rationalizing tillage operations, improved irrigation, reduced use of fertilizers, pesticides and water. Furthermore, Women Open Schools will be established for the local women and children in order to mitigate the health risks associated with pesticide use.

Fishermen Sustainability Schools (FSS) will also be established in collaboration with the Sindh Fisheries Department to educate fishermen communities regarding better and sustainable fishing practices.

Greater emphasis will be placed on an improved understanding of the Indus River Dolphin biology and habitat in order to help develop better dolphin conservation practices. A couple of dolphins will be trans-located upstream to Guddu Barrage and tagged with a satellite or radio tracking device in order to assess the possibilities of movement across the barrage.

A Disaster Management Plan (DMP) will also be developed through research and consultation with the government as well as the industrial sector, and its implementation will be lobbied for.

Raising public awareness and promotion of eco-tourism through the Indus River Dolphin Conservation Centre will continue as in Phase I.

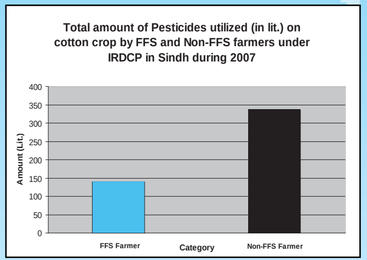
Farmers, boatmen and fishermen communities, considered as an integral part of this project, have, therefore, been included in it since its inception. The project will help the local communities by providing them with developing alternate income sources through vocational training and eco-tourism initiatives.

Achievements of Phase I
A Success Story

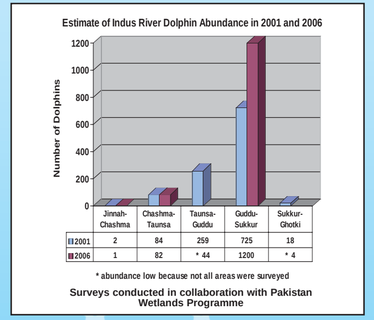
- The project has provided technical and financial support to the Sindh Wildlife Department in order to strengthen the dolphin rescue unit at Sukkur.
- Rescued more than 70 Indus Dolphins from possible mortalities since 2000, saving about 7% of the population from likely death.

- The project developed community awareness posters in local languages to enhance awareness about Indus River Dolphins and to improve reporting of canal stranding.
- Effective partnerships were developed among local communities, NGOs and government departments regarding capacity building activities. Activities carried out during this project have set a precedent for inter-provincial conservation initiatives.
- Publication of a rescue manual, a survey report, education material, brochures, etc.
- Habitat quality monitoring, water and sediment samples and analyses of the Indus dolphin and its prey species were done. All together, over 600 samples were collected from ten different sites during 6 collection trips.
- The Indus River Dolphin conservation interventions have contributed towards a scientific understanding of the species.
- Development and promotion of Better Management Practices (BMP) in agriculture.
- A total of 94 FFS were organized in Sukkur and Ghotki districts. Out of these 50 were on cotton crop, 8 on rice crop, 22 on wheat crop, 10 on Okra and 4 on onion crop. These FFS were attended by around 2000 farmers.

- Under BMPs maximum cost-benefit was achieved where FFS farmers made crop management dicisions which led to upto 16% reduction in terms of tillage operations, 50-75% in pesticide use, 25% in irrigation water and 29% in synthetic fertilizers.



- Ecotourism and schools outreach through the Indus River Dolphin Conservation Centre at Sukkur. Free availability of educational material to participating students (English and Sindhi) .
- An illustrative manual for rescuing stranded Indus Dolphins has been prepared to improve rescue techniques.
- The informative material such as posters and brochures on environmentally acceptable pest control, fertilizer use and irrigation techniques were developed and distributed among farmers.
- Swedish television developed a documentary on freshwater issues in Pakistan. The UNDP, Pakistan also developed a documentary on the rescue operation.



The population of Indus Dolphin has increase by 22% by 2001-indicating a huge success of the project