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Indus River Dolphin Conservation Project

Conserving the flagship, endangered and endemic species of Pakistan, the Indus River Dolphin, through habitat and its prey species assessment, research, reducing mortalities, improving farming practices and raising awareness. This will be achieved by integrating Government, NGOs, mohanas (fishermen), mallahs (boatmen) and farmer communities

This project has been developed to conserve the viable population of the Indus River Dolphin (*Platanista gangetica minor*) by protecting the innate biodiversity of the Lower Indus River Basin Ecosystem, and reducing the losses of Indus River Dolphins by canal strandings through rescue operations and community awareness. The project has two major components; the first directly involves working with the Indus River Dolphin, while the second component deals with its habitat assessment and agriculture practices improvement.

Goal

The goal of this project is to enhance the *in-situ* (in the natural environment) survival of the Indus River Dolphin by conserving a viable population.

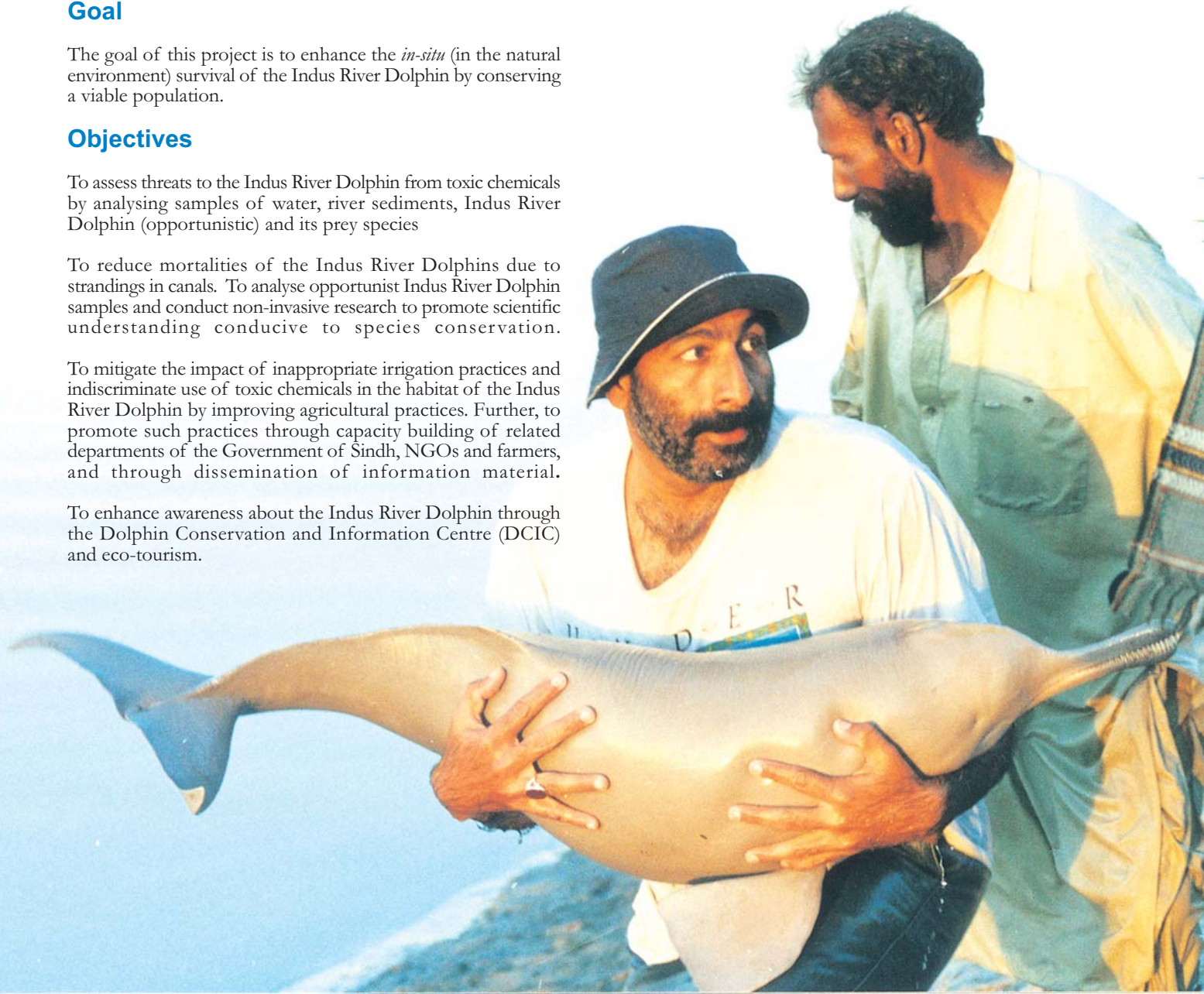
Objectives

To assess threats to the Indus River Dolphin from toxic chemicals by analysing samples of water, river sediments, Indus River Dolphin (opportunistic) and its prey species

To reduce mortalities of the Indus River Dolphins due to strandings in canals. To analyse opportunist Indus River Dolphin samples and conduct non-invasive research to promote scientific understanding conducive to species conservation.

To mitigate the impact of inappropriate irrigation practices and indiscriminate use of toxic chemicals in the habitat of the Indus River Dolphin by improving agricultural practices. Further, to promote such practices through capacity building of related departments of the Government of Sindh, NGOs and farmers, and through dissemination of information material.

To enhance awareness about the Indus River Dolphin through the Dolphin Conservation and Information Centre (DCIC) and eco-tourism.

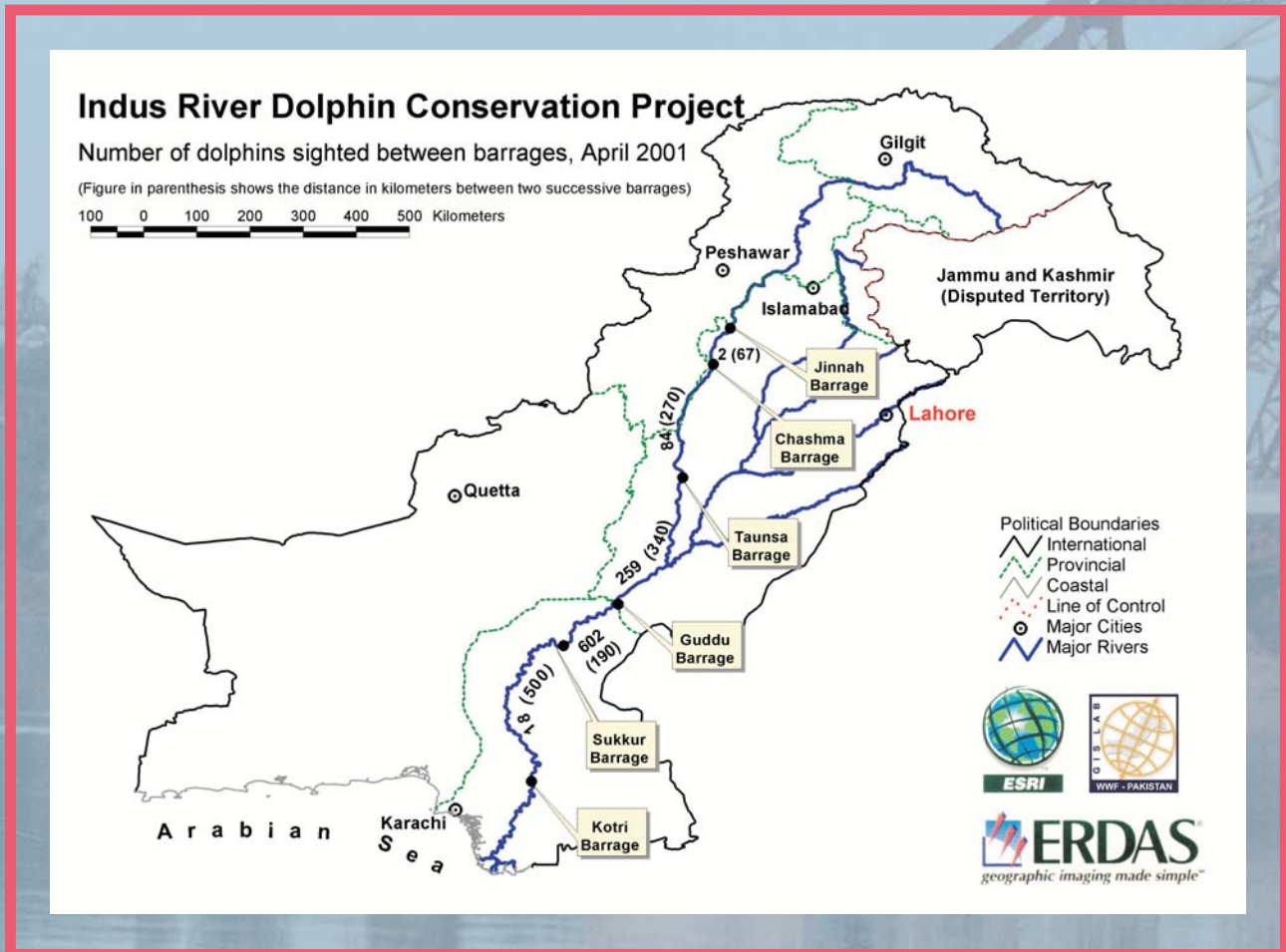


Introduction

The Indus River Dolphin is one of the four surviving species that has evolved as and remain obligate freshwater species.

When the species was first described in the 1870s, the Indus River Dolphin's home range extended to the limits of the lower *Indus River Basin*, including the mainstem

the most critical of all threats facing this species. Construction of dams and barrages, intensive agricultural practices and poor water management all have had adverse affects on the habitat of the Indus River Dolphin. Unsustainable fishing practices offer a potential threat to the Indus River Dolphin; furthermore some dolphins are lost due to entanglements in fishing nets. Highly toxic industrial effluent, contaminated agriculture run-off and municipal sewage are major sources of pollution in the



of the Indus River itself, and all four of its major eastern tributaries, Sutlej, Ravi, Chenab and Jhelum. By the turn of the 20th Century, however, human development, principally over-extraction of water for irrigation purposes and other negative anthropogenic influences, had reduced the species' home range by an estimated 80% (Reeves, *et al.*, 1991). The species currently occurs exclusively in the Indus River between Jinnah and Kotri barrages.

A comprehensive survey of the current home range of the species conducted by WWF-Pakistan in collaboration with the Sindh & Punjab Wildlife departments and the Zoological Survey Department of Pakistan in March and April, 2001, revealed that fewer than 1,100 Indus River Dolphins were left. The entire population was found to be confined to a 1,375km stretch of the Indus River.

The Indus River Dolphin is an endangered species, facing serious threats. A decrease in the water level is perhaps

River that are threatening its biodiversity, in particular, the Indus River Dolphin as it is at the top of the food chain.

Stakeholders

- WWF - Pakistan
- Sindh Wildlife Department
- Agriculture Extension Department, Sindh
- Sindh Environmental Protection Agency
- HEJ Reserch Institute of Chemistry, Karachi
- Adventure Foundation Pakistan
- Centre of Agriculture and Biosciences International (CABI)
- Lahore Zoo
- Local communities (fishermen, boatmen and farmers)

Interesting facts about the Indus River Dolphin

- ❑ The Indus River Dolphin is only found in Pakistan
- ❑ The eyes of the Indus Dolphin can only differentiate between light and dark, therefore dolphins use echolocation. Sounds, after hitting objects in the water, bounce back and are received in the head and lower jaw. This highly developed system is used to navigate, locate prey and communicate with other dolphins.
- ❑ Indus Dolphin has a side-swimming behaviour; they feel the bottom of the River by the help of nerve endings at the edges of their flippers.
- ❑ From January 2000 to Jan 2005, 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.

Vital statistics

(Maximum, based on the data of rescued dolphins from the Sindh Wildlife Department)

Weight: 120 kg

Length: 2.75 m

Project Approach

WWF – Pakistan has been working with the Sindh Wildlife Department on Indus River Dolphin conservation since 2000 and has played a technical role in the rescue of stranded dolphins and awareness raising in the local communities. This affiliation has been further strengthened with the signing of a memorandum of understanding with the Sindh Wildlife Department for a long-term partnership.

WWF – Pakistan is also working in collaboration with the Sindh Environmental Protection Agency to assess the quality of water and sediments of the Indus River. This will determine toxic chemicals in Indus River Dolphins and their prey species. These samples will be analysed by HEJ Institute of Chemistry, Karachi.

Post-mortem and sample preservation protocol was developed and training was provided to the staff of the Sindh Wildlife Department. Furthermore, an illustrative manual for rescuing stranded dolphins is being prepared to improve rescue techniques.

WWF – Pakistan is working with the Centre for

Agriculture and Bioscience International (CABI) and the Agriculture Extension Department, Sindh, on conducting facilitators' courses for agricultural field officers to enhance their technical skills for the



development and promotion of Better Management Practices (BMPs) through participatory approach. This also involves experimental and control field sites to demonstrate the impact of BMPs on crops. In these trainings, participants are also facilitated to organise and conduct Farmer Field Schools (FFS) in their respective areas. The project plans to disseminate BMPs to farmers of Sukkur District through farmer field days, seminars and information material.

The project has also established a partnership with the Adventure Foundation Pakistan (AFP) to promote eco-tourism and awareness in Sukkur area. A Dolphin Conservation and Information Centre is being planned with Sindh Wildlife Department and AFP to enhance awareness about the Indus River Dolphin in the area through eco-tourism and informal education and to support scientific research.

Farmers, boatmen and fishermen communities are an integral part of this project and, thus, have been involved since its inception. Fishermen are not only involved in the rescues of dolphins, but, in future their CBO will be established for eco-tourism initiatives at Sukkur with AFP. It is planned that farmers will also be organised in CBOs, with the help of agricultural field officers, for successful integration of BMPs in their current agricultural practices.



Benefits

- The project has provided technical support to the Sindh Wildlife Department and Lahore Zoo and has rescued 70 Indus Dolphins so far (till Jan



2005), saving 6.8% 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 strandings.
- Developed partnerships between local communities, NGOs and Government departments involving capacity building activities. Activities carried out through this project have set a precedent for inter-provincial conservation initiatives.
- The Indus River Dolphin conservation interventions have contributed towards scientific understanding of the species, while future activities will also help in assessing habitat quality.
- During 2004 the project trained 26 facilitators (eight from Sindh Agriculture Extension and 18 progressive farmers representing local NGOs involved in agriculture related issues). Additionally, 275 farmers have been trained for the adoption of BMPs.

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Photo credits

Uzma Khan
WWF- Pakistan / EDRC
Map: WWF / GIS Lab

For further information contact

Uzma Khan
Project Coordinator
e-mail: ukhan@wwf.org.pk

WWF – Pakistan
Head Office
P.O. Box 5180, Ferozpur Road, Lahore.
Tel: +92 42 111 – WWFPAK (993725)
Fax: +92 42 5862358

Project Office
B 24 Sindh House, Professors Society
Shikarpur Road, Sukkur
Tel: +92 71 5632253
e-mail: wwf_sukkuoffice@yahoo.com

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