

Fisheries Fact Sheet

The terrestrial resources of food are depleting day by day. The world, therefore, is focusing on aquatic resources, which are the cheapest source of nutrients and fish are one of its main components.

About the Fish: Fish are scaled or un-scaled "cold-blooded" vertebrate animals found in aquatic environments.

Fish may be of varied shapes, sizes and colours. Some fish like eel have cylindrical bodies like snakes.

They are categorized into three main groups viz: jawless fish, cartilaginous fish and bony fish. Most fish lay eggs, while some give birth to young ones. Some fish also incubate eggs in their mouths until they hatch.

As a matter of fact, like other animals many fish species have vanished from local lakes or have become rare due to irresponsible human interaction. Natural ecosystems require our attention in order to flourish.

Introduction of non-native species of plants and animals may damage the food web, which can in turn destabilize the whole ecosystem resulting in the disappearance of some species or a population buildup of an undesired life.



KEENJHAR LAKE

Resources

Fisheries Resources of Keenjhar Lake

Keenjhar Lake in District Thatta is endowed with a wealth of natural resources consisting mainly of fish and its associated fauna and flora. Fishing has been the main source of livelihood for the dependant communities.

Keenjhar lake provides a rich habitat for a variety of fish and so far 48 species (2006) have been recorded in the lake.

Main Fish Landing Centers:

Chilya, Khambo, Hillaya, Sonhari, Khudi, Jhimpir, Chakro, Mouldi, Doulatpur.

Types of Boats used at Keenjhar Lake:

Wooden/fiber glass boats, row boats; with outboard engines and long shaft engines.

Fishing Nets/Gears used at Keenjhar:

Cast nets , Gill nets , Bhan, Hook and Line , Mattka (Metallic Pitcher Pots), Rod & Line. In the past few years, a net Pathro is being fixed in the lake which is more harmful for fish.



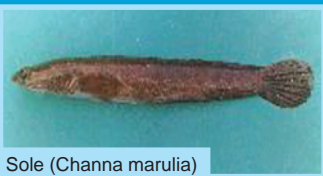
Pullo (Tenulosa ilisha)



Dahi (Labeo calbasu)



Thaila (Gibelion catla)



Sole (Channa marulius)



Goj (Mastacembelus armatus)



Gandhan (Chitala chitala)



Morakhi (Cirrhinus mrigala)



Ganer (Cirrhinus reba)



Popri (Puntius chola)



Jerki (Wallago attu)



Kago (Rita rita)



Kandar (Chanda nama)



Rohu (Labeo rohita)



Daya (Oreochromis mossambicus)



Luhr (Heteropneustes fossilis)

Fisheries and Livelihoods

There are about 80-100 large and small villages including hamlets around Keenjhar Lake. Nearly 50 villages are either fully or partially dependant on the lake. In these villages, there are about 6,000 households with an average population of 7-8 persons. Thus, around 35,000-40,000 people are dependant on the lake in one way or the other.

At the time when fisheries resources of the lake were abundant, around 80-90 per cent people living in the surrounding areas were engaged in fishing. However, due to a decline in the fish production, this engagement has now decreased to 30-40 per cent.

If the fish potential in the lake is improved, this trend may reverse, and fishing will again be a viable livelihood option for the local communities.



Contribution of Fisheries Resources to Economy of District Thatta

Keenjhar lake, River Indus, the esturine areas and fish farms are the principal sources of livelihood for rural communities in district Thatta. Of all the districts of Sindh contributing to inland fish production, Thatta's contribution is the highest. The area under fish farms is 28,200 acres (2003) and there are over 341 fish farms (2003).

Total fish production (m.tons)	Economic value (calculated @ Rs. 50/- per kg)	No. of Fishermen			No. of Boats		
		Full Time	Part Time	Total	Row	Sail	Total
22,355	Rs. 1.1 billion	10,138	628	10766	489	716	12,05

Source: Sindh Fisheries Department Report, 2005

Causes of Decline in Fish Production

Keenjhar Lake Fish Production		
Year	Total fish catch (kg)	Economic value million Rs. (@ Rs.50/- per kg)
2001-02	1,94,861	9.7
2002-03	1,78,839	8.9
2003-04	59,037	2.9
2004-05	27,351	1.3

Source: Sindh Fisheries Department Report 2005 (subsistence fishing not included)

As shown in the table, fish production in the lake has declined in recent years. Factors responsible for this decline include: non-observance of conservation measures; diversion of freshwater to bypass canal during the monsoon season when juvenile fish are abundant in the river water; unsustainable exploitation; fishing of juvenile stock; pollution; eutrophication; and introduction of alien invasive species of fish and plants.



KEENJHAR LAKE

Existing and Potential Threats to Fisheries Resources

- **Water Pollution:** Keenjhar lake is being degraded by industrial, urban and domestic effluents discharge mainly through the Kalri-Baghar Feeder canal which carries contaminants from Kotri town and the Kotri Industrial area. Seasonal streams (hill torrents) also carry untreated effluents from the Nooriabad Industrial Area. Tourists also pollute it by littering or by washing their vehicles.
- **Alien Invasive Species:** The introduction of alien species may harm other species or even result in disappearance of some species. Example of this can be taken from the introduction of Tilapia species in Keenjhar Lake during the late 1950s. This species is a frequent breeder and an omnivore. Hence, these alien species have become more abundant in the lake thereby suppressing the native species like Rohu, Thaila and Morakhi which cannot breed in confined waters.
- **Agriculture in the Catchment areas:** People grow agricultural crops in the catchment area of the lake. This may pose a threat due to the runoff of chemical fertilizers and pesticides from cultivated fields into the lake.
- **Lack of Research:** There is a need for research on various issues related to the lake including declining fish potentials, root causes of disintegration of lake's ecosystem, alternate livelihood opportunities with regard to natural resources etc.
- **How to Manage Fisheries Resources:** The absence of historical fisheries and other data makes it impossible to determine an empirical relationship between decreasing fish production and its possible causes. Declining fish resources is a complex issue and needs a holistic approach to be dealt with focusing on long as well as short term planning and research. The causes need to be studied comprehensively and the emphasis should be on studying the whole ecosystem rather than a single component. The short term measures should include intensive and regular stocking of indigenous fish, voluntary conservation and participatory management. Awareness regarding sustainable fishing needs special attention. Options for alternative livelihoods should also be explored for the communities whose livelihood depend on fisheries resources.

Indus For All Programme
WWF - Pakistan

Programme Management Unit
606-607 Fortune Centre, Block-6 P.E.C.H.S., Main Shakra-e-Faisal,
Karachi. Tel: 021-4544791-2 Fax: 021-4544790

Programme Implementation Unit
Kheenjhar Lake
House # B/112, Hashimabad Society Makli, District Thatta, Sindh.
Tel:0298-772318, 772319,610426

Design by Nida Shams



The Indus For All Programme is funded by the Royal Netherlands Embassy in Pakistan