

IMPACTS OF UNSUSTAINABLE HUNTING AND POACHING PRACTICES ON THE HEALTH OF RIVER KABUL AND ITS FAUNAL DIVERSITY, DISTRICT CHARSADE, KHYBER PAKHTUNKHWA

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ABSTRACT

River Kabul is not only home to a variety of aquatic species but also a source of irrigation for agricultural lands of Peshawar and Charsadda districts. Various plant species, native to the area, are found on the river banks. As far as its significance is concerned, conservation is the need of the hour for various threatened species such as fish fauna, freshwater turtles, migratory birds and otters. Illegal hunting and trade along with many harmful human activities are posing a serious danger to the River Kabul ecosystem. This study quantifies the ongoing unsustainable hunting and poaching practices in River Kabul and suggests proper conservation measures to secure the remaining species by providing incentives to the local community and hunters. Alternative livelihood opportunities including vocational training centers, establishment of fish ponds and community based watch and ward mechanisms can be a better option for conservation. We conclude that awareness campaigns and environmental education are principally required to promote useful knowledge in the conservation of River Kabul ecosystem.

Key words: River Kabul; Hunting; Poaching; Fish species; Migratory Birds; Freshwater turtles

INTRODUCTION

District Charsadda remains an important part of the province Khyber Pakhtunkhwa (KP) for all the movements that took place at the time of independence in the Sub-Continent. It was one of the Tehsils of District Peshawar till 1st July 1998. It is situated 28 km north of Peshawar along western margin of KP, bounded by Malakand in the north and districts of Nowshera and Mardan in the east. Charsadda can be truly called the land of rivers.

District Charsadda features a semi-arid climate with very hot summers and mild winters. District Charsadda is traversed by three rivers i.e., Jindi, Kabul and Swat. The main sources of irrigation are these three rivers in the area. These rivers provide a habitat for the fish fauna and other aquatic species and are also a passage way for the migratory birds. In Pakistan 100 plant species are reported to be endemic and about 90% of these occur in Khyber Pakhtunkhwa, mostly along the Kabul River and its tributaries (Sarhad Conservation Strategy, 1996). River Kabul is also known for its diverse fauna. A large number of fish species, freshwater turtles, snakes and iguanas have been reported in Charsadda.

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Migratory birds visit the Green Route each year making River Kabul ecologically significant. Almost 47 fish species have been identified out of which 30 are known to be common (Ali, 2009).

The main objective of the study is to assess the ecological significance of the area in relation to the issues affecting the health of River Kabul such as assessment of unsustainable practices of local fishermen and community, highlight issues such as illegal hunting and fishing, account for different migratory bird species, turtles, fish fauna and otters if any, provide insight into the management gaps of the main stakeholders, and examine the impacts of pesticides and insecticides on aquatic habitat.

METHODOLOGY

The data were collected through primary and secondary data sources.

Reconnaissance

An initial survey to the study area was conducted in order to find out the hot spots for hunting and angling.

Primary Data Collection

Interviews

Interviews were held with officials of main stake holders such as Fisheries Department and Wildlife Department, Khyber Pakhtunkhwa.

Questionnaire Survey

A questionnaire survey was carried out in order to find out the unsustainable practices of the local fishermen community.

Participatory Ruler Appraisal (PRA)

Another tool to investigate the ongoing unsustainable practices was PRA. The community members were questioned and a thorough study was pursued through this methodology.

Field Survey

Visits to the proposed study area were carried out for personal observation and data collection. Pictures of the exploited area were collected to have a better understanding and a record of the current unsound practices.

Secondary Data Collection

Secondary data were collected through desk study. Literature review was carried out through previous researches on the said topic, research papers, articles, newspapers, reports and libraries etc.

RESULTS AND DISCUSSION

Fishermen Community

The fishermen community of District Charsadda basically resides in Dheri Zardad where 300-400 families live. These people are not professional anglers but have adopted fishing as their occupation. Despite lack of proper fishing skills, this community through an experience of many years has learnt the skill and completely relies on fishing as their monthly source of income.

Socio-economic Status of Fishermen, Anglers and Hunters

Majority of the fishermen community of Charsadda constitutes an illiterate class except a few literate ones. Due to lack of education and job opportunities, this community has made fishing their sole source of income. This practice brings them not more than 8,000-10,000 PKR per month which does not suffice their basic needs. Apart from fishing, this community has also switched to hunting migratory birds and turtles for the tourists who pay them an attractive amount.

On the other hand the hunters which form a class of Syeds, Khans and elites of Charsadda and nearby areas despite being educated and belonging from a well-off background, still continue their ruthless hunting and poaching practices.

Fish Species of River Kabul

The local community reported a large and diverse fish habitat of River Kabul. Many fish species were named by different fishermen as mentioned by Nazia & Sarwat 2006. These are; Rohu (*Labeo rohita*), Mahasheer (*Tor putitora*), Malli (*Wallago attu*), Singala (*Sperata sarwari*), China fish (*Cyprinus carpio*), Shermahi (*Clupisoma garua*).

Other than these Kagaya, Torkay, Mujahid, Murakya and Salmon fish have also been observed in these freshwaters.

Fishing Practices

In the past, fishing was carried out using fishing rods and nets but this study found out that many fishermen and anglers now induce an electric shock in

the water body by employing a generator. Similar fatal practices are the use of dynamite explosions and pesticides which persist upto 3-4 km strip of water body. Such practices not only threat the fish species but the aquatic life on the whole.

Threats to Fish Fauna

The foremost threat to fish fauna is the loss of its population due to aforementioned devastating practices. Fishing through net causes fish by catch which reduces the fish population by killing its larvae and immature fish. On the other hand electric shock, dynamite explosions and pesticides are fatal enough to cause a decrease in fish fauna.

Fishing and angling in the odd months is yet another threat. Despite the laws imposed by the Fisheries Department, the fishermen and anglers flagrantly disregard these regulations and continue to fish in the odd months. This hampers the reproduction cycle of fish species.

In the recent years a considerable decline has been observed. The famous delicacy of River Kabul-Mahasheer which is endangered according to IUCN, is no more seen flourishing here. Extensive fishing and illegal practices have staked fish fauna on the whole.

Table1. An Account of Fish Species and their IUCN Status

S.No	Common Name	Scientific Name	IUCN Status
1	Rohu	<i>Labeo rohita</i>	Least concern
2	Mahasheer	<i>Tor putitora</i>	Endangered
3	Malli	<i>Wallago attu</i>	Near threatened
4	Singara	<i>Sperata sarwari</i>	Least concern
5	China fish	<i>Cyprinus carpio</i>	Vulnerable
6	Shermahi	<i>Clupisoma garua</i>	Least concern

Migratory Birds

River Kabul is significant in terms of the Green Route or International Flyway. Birds from Siberia visit this flyway every year in the months of September to May. But due to illegal hunting and poaching in the whole stretch of River Kabul an 80% of population decline in migratory birds has been observed. The main hunting spots are Khulai, Jindi, Wadaan, Shabara and Babara. These spots are known as the birds' permanent roosting grounds where they land for a part of their journey. Hunters from all over the area and some tourists as well camp here seasonally and delight in hunting. Different equipments such as mojos, decoys, duck calls and whistles and camouflage nets are used to entice

these birds. A group of 3-4 hunters camp in the peak season and fetch 10-12 birds per day making 70-75 birds per season. This is a significant amount of bird hunting. Some hunters are licensed while the rest are involved in illegal poaching. Despite the directives of the Wildlife Department, hunters continue to shoot more than their legal bag limits. They at times also pay the local fishermen to catch them a good meal. Besides being a delicacy, these beautiful birds are also stuffed and preserved. These are the threats which have led to a major concern for conservation of these birds and such unsustainable practices are much needed to be addressed.

Table 2. An Account of Migratory Birds Visiting the Indus Flyway and their IUCN status

S.No	Common Name	Local Name	Scientific Name	IUCN Status
1	Teal	Churak	<i>Anas crecca</i>	Least concern
2	Pintail	Luckymar	<i>Anas acuta</i>	Least concern
3	Wigeon	P.A elay	<i>Anas penelope</i>	Least concern
4	Gadwal	Yarga	<i>Anas strepera</i>	Least concern
5	Shoveller	Shabler	<i>Anas clypeata</i>	Least concern
6	Garganey	Karkari	<i>Anas querquedula</i>	Least concern
7	Black Winged Stilt	Waskatay	<i>Himantopus himantopus</i>	Least concern
8	Curlew	Sarhy	<i>Numenius arquata</i>	Near Threatened
9	Ruddy Shelduck	Surkhhab	<i>Tadorna ferruginea</i>	Least concern
10	Mallard	ShenSar	<i>Anas platyrhynchos</i>	Least concern
11	Snipe	Chakha/Landak	<i>Rostratula benghalensis</i>	Least concern
12	Tufted Duck	Zundimar	<i>Aythya fuligula</i>	Least concern
13	Red Crested Pochard	Zyarsar	<i>Netta rufina</i>	Least concern
14	Russian Dove	KanraKamtara	<i>Streptopelia turtur</i>	Least concern
15	Sind Starling	Sarkhaky	<i>Sturnus vulgaris</i>	Least concern
16	Common Pochard	Sursar	<i>Aythya ferina</i>	Least concern
17	White Spoonbill	Rash Pelaka	<i>Platalea leucorodia</i>	Least concern
18	Herring Gull	Babozey	<i>Larus argentatus</i>	Least concern
19	Quail	Marz	<i>Coturnix coturnix</i>	Least concern
20	Common Coot	Bakokar	<i>Fulica atra</i>	Least concern
21	Crane	Koonjh	<i>Anthropoides virgo</i>	Least concern

Turtles

Freshwater turtles are yet another peculiarity of River Kabul. Starting from Warsak to Khairabad the whole stretch of River Kabul serves its best to biodiversity. Turtles are known as the scavengers of freshwaters as they at times feed on dead and keep the water clean. They spend a part of their life in water and a part on land showing amphibious nature while some show strictly aquatic nature and yet some are purely land dwellers. Four different turtle species have been observed in River Kabul. *Lissemys punctataandersoni* (Indus Mud-Turtle or

Indian Flap-shell Turtle), *Aspideretes gangeticus* (Indian Soft Shell Turtle) (Muntaha & Sab-e-reen, 2011), *Chitra indica* (Narrow head turtle) and *Nilssoniahurum* (Peacock turtle) (Survey by Wildlife Department, July 2012).

The major threat to turtle habitat is its illegal trade by the poachers. A study conducted in 2011 by WWF-P reported an 80% decline in its population. The lower part of a turtle’s body (plastron) serves as a medicine extract, Guilinggao commonly known as “turtle jelly or tortoise jelly”. China and Taiwan are its major importers and they believe that this drug helps healing many diseases. Extracts from turtles are also used in cosmetics (Maneka, 2008). Each turtle weighing 7-8kg is sold for PKR 1,600/kg which makes 12,800/- PRK per turtle equivalent to US\$137. This amount has been increasing over the years and indicates an increase in its demand. The ruthless killing of turtles has left them on the brink of extinction with only 309 turtles reported by the Wildlife Department in July 2012. The main hunting hubs are Kashmalo, Raheema, Dub, Jindi, Shabara, Babara and Hisara.

Table 3. An Account of Turtle Species Extant in River Kabul in Respective Areas

S.No	Location	Species			
		Indian Soft-shell	Peacock	Narrow-head	Indus Mud
1	HISARA	32	32	-	-
2	JINDI	41	54	14	36
3	KASHMALO	16	25	14	-
4	DUB	13	18	14	-
	Total (309)	102	129	42	36

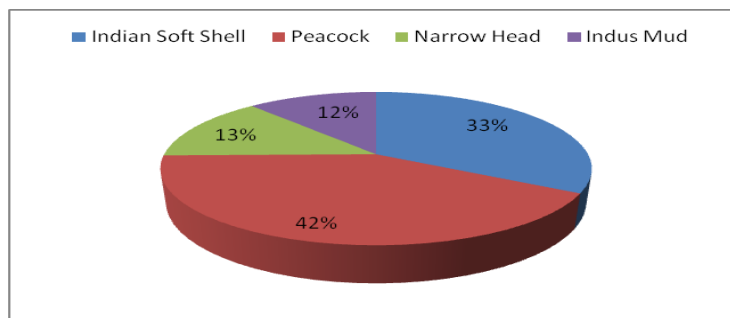


Fig.1. Pie Chart Showing Turtle Population Otters

Not commonly known by the people, otters were once a habitat indicator of River Kabul. Two otter species identified in River Kabul are Eurasian Otters (*Lutralutra*) (Melisch & Rietschel, 1996) and the Smooth Otters (*Lutrogaleperspicillata*) both of the family Mustelidae (Turley, 1991). Otters feed usually

on fish and are the top predators of freshwaters (IOSF, 1996). The locals reported that otters were extensively sighted almost a decade ago and since after the colossal flood of 2010, they have not been seen in the area. The most obvious cause of specie disappearance is illegal hunting and trade. Local sources said that this species too was hunted for medicinal extracts. Further investigation is needed to make an account of otter species but it can be rightly said that this predator species is extinct in River Kabul.

Use of Pesticides and Insecticides

The local fishermen reported that the anglers along with using dynamites also use pesticides and insecticides to kill fish fauna. When the water stand still in winters, these harmful poisons are sprayed into the water body which remain persistent for quite some time consequently killing a large number of fish and sabotaging other aquatic organisms as well. Chemicals such as chlorinated organic compounds most importantly PCB (Polychlorinated Biphenyl) and dichlorodiphenyl, dichloroethene, mirex, dieldrin and trace amounts of metals such as lead and mercury are a serious danger to the fish fauna. Some pesticides as organochlorine, organophosphates and carbamates cause morphological disorders of the fish reproductive organs (Khan & Law, 2005). Long term presence of these chemicals in the water can accumulate in the fish body ultimately disrupting the food chain on the whole. A further identification of the brands being sold in the market is required to halt the current lethal practices.

Role of Line Agencies in Natural Resource Management

Divisional Forest Officer (DFO) Wildlife Department, KP said that there are various factors responsible for the exploitation of wetlands of River Kabul. He said that a considerable decrease in migratory birds' population has been observed in the recent past. He attributed this to illicit hunting and poaching practices which have increased tremendously. Due to lack of staff and security reasons these stake holders are unable to overcome such devastating practices. Recently about 2000 cases have been filed by the Wildlife Department against illegal hunting and trade. Four courts in Peshawar-KP are dealing with such cases. Despite stringent penalties, hunters continue violating the law. Likewise is the case of turtles of River Kabul whose habitat is threatened and are at the verge of extinction. Turtle trade has prolonged over time and has left an insignificant number of these species. Due to the involvement of locals besides hunters, it has become too difficult to have a full control on turtle hunting.

The DFO also suggested that if a little flexibility is shown in hunting game birds, it can generate revenue of 200-300 millions PKR per annum. This will allow built strong liaisons between the hunters and wildlife watchers which will ultimately help in conserving the wildlife from extinction.

CONCLUSION

River Kabul homes a diverse life. Not only a source of water for irrigation and power supply, it serves a healthy habitat to fish species, migratory birds, freshwater turtles and otters. The recently amplified human intervention and unsustainable practices has burdened the carrying capacity of River Kabul. A large number of endemic fish species has declined; the most important of which is Mahasheer. All this is due to the unhealthy over fishing practices by the fishermen and anglers. The use of explosives, electric shocks and poisons like pesticides and insecticides are a major threat not only to the fish fauna but other aquatic inhabitants too. Due to lack of consideration on fishing directives and abundant water pollution, the fish habitat of these wetlands has deteriorated immensely. Similar is the case with migratory birds. An 80% decline has been reported by the locals and the experts. These roosting grounds have been highly exploited in the recent past due to illicit hunting.

Freshwater turtles too are struggling for life. A total of 309 turtles are left in River Kabul which needs immediate attention and conservation. This refers to an 80% decline in turtle population. Turtle trade needs to be banned and regularly checked by the higher authorities. If mitigative measures are not taken in due time, turtles too will be an extinct species as is the case with otters. Eurasian and Smooth otters of River Kabul are not sighted anymore owing to water pollution, fish habitat degradation and hunting. Further investigation is needed to identify and conserve these threatened species, if any.

The laws imposed by the Fisheries and Wildlife Departments are determinedly violated and serious measures are needed to halt this violation. The main stakeholders; the local community, Fisheries and Wildlife Department needs to collaborate in order to sustain life in River Kabul.

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