



RESEARCH PAPER

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Human-Wildlife Conflict assessment along the River Satluj, Pakistan

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Abstract

The present study was designed to assess a crop damage and status of HWC along two important wetland of river Sultuj; Islam Headworks and Panjnad Headworks. Selected sites along the river Satluj from Head Islam to Head Panjand, of four districts, Bahawalnagar, Bahawalpur, Vehari and Muzaffargarh, Pakistan were surveyed to know the extent of Human-Wildlife Conflict. Most of the study area of Islam Headworks and Panjnad Barrage is pond area and wetland. The inhabitants, linked mainly on agriculture were unaware about the role of wild species in our ecosystem; certain respondents showed their disliking towards the species present in the area. The collected data showed that 33 percent people said that Wild boar was harmful than others while 42 % respondents said about the Asiatic jackal, 16% said that porcupine, 9% said that others including rats, squirrels, crows and sparrows were damaging the crops. It is recommended that in future, the extensive survey spanning multiple years is indeed required to assess additional factors that might influence conflict risk. There is dire need of the public participation to reduce the cases of Human Wildlife Conflict.

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Introduction

Human Wildlife Conflict normally rises when wildlife needs intermingle with those of humans (Eniang *et al.*, 2011, Datiko and Bekel, 2013). This type of conflict develops with the people and the wildlife near the areas declared as protected (Whitesell *et al.*, 2002; Shibia, 2010; Gandiwa *et al.*, 2013). Result is in the form of damage to crops, loss of domesticated animals and killing of people by the wildlife (Treves *et al.*, 2011). In some cases this conflict occurs when local community wants to kill the wild organisms (Ashenafi and Williams, 2005).

The one common reason in this conflict is the increasing tendency over utilization of the natural resources between people and wildlife (DeFrie *et al.*, 2010; Merns, 1997). Human-wildlife conflict is more frequent in third world countries where rustic people mostly depend on farm animals goods and agriculture for their livelihoods and returns (Eniang *et al.*, 2011). Human Wildlife conflict reduction is a priority conservation measures in of high density areas (Eniang *et al.*, 2011). Accepting the factors connected with conflict and where they are expected to happen is significant for conservation and conflicts (Mateo *et al.*, 2012).

The present study was designed to assess a crop damage and status of HWC along two important wetland of river Sultuj; Islam Headworks and Panjnad Headworks. As per our knowledge, there is no available literature present regarding human wildlife conflict at selected study area. This work is premier in a way that it will help the relevant stakeholders for future studies by providing the baseline information.

Materials and methods

Freshwater resources of Pakistan are predominantly dominated by Indus basin which itself serves as drainage for Himalayas. The Indus starts from western Tibet and touches Pakistan through Baltistan. It is considered Pakistan retains the largest irrigation system of the world, which comprises of dams, barrages and small water channels.

In Punjab and Sindh besides others mainly three dams are largest (Tarbela, Mangla and Hub) which serve not only in Hydropower production but also for irrigation purposes. Several link canals have been made to transfer the water of one rive to other. This irrigation system is supported by several barrages to control the water discharge. Among them, Chashma, Taunsa, Suleimanki, Qadirabad, Panjnad and Sukker Barrages (CBD, 1997).

Study Area

Islam Headworks is large water reservoir made on the river Satluj in 1920-1930. It was constructed under Indus Valley Project by the then princely state of Bahawalpur with the help of British Government. It is located nearly 12 km away from the Hasilpur city (A Tehsil of Bahawalpur District). This wetland supports the large wintering avian diversity along with the resident and passage migrants.

Panjnad Headworks is located near the city of Ali Pur Tehsil, District Muzaffargarh. It was also constructed in the same Indus Valley Project between 1920-1930. River Satluj enters here slightly before the upstream with river Chinab.

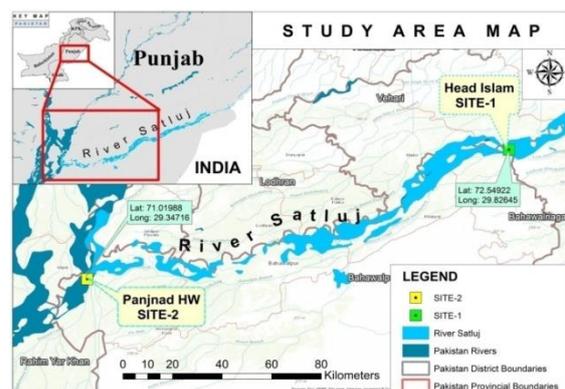


Fig. 1. Map Showing the study area.

Methodology

Social Surveys and Informal Meetings with Local Community

We conducted the structured and open ended surveys to the localities of the study area. During these surveys, it was made possible to touch the layman of the area and convince him to share his experiences

about HWC cases in the recent past. Maximum effort was done in order to respond the specified questions related to HWC of past.

Results and discussion

Although Human-Wildlife Conflict is not a new issue in the area of wildlife conservation but the methods of management animals-related problems (carnivores) stay unique and discrete for each species relying on resources.

Selected sites along the river Satluj from Head Islam to Head Panjand, of four districts, Bahawalnagar, Bahawalpur, Vehari and Muzaffargarh, Pakistan were surveyed to know the extent of human-wildlife conflict. Most of the study area of Islam Headworks and Panjnad Barrage is pond area and wetland.

The inhabitants, linked mainly on agriculture were unaware about the role of wild species in our ecosystem; certain respondents showed their disliking towards the species present in the area. The collected data showed that 33 percent people said that Wild boar was harmful than others while 42 % respondents said about the Asiatic jackal, 16% said that porcupine, 9% said that others including rats, squirrels, crows and sparrows were damaging the crops.

Table 1. Showing an assessment of loss occurred due to HWC in Study Site.

No	Animals	Loss due to Human Wildlife Conflict (Agricultural, Mortality etc)
1	Wild Boar	33 %
2	Asiatic Jackal	42 %
3	Porcupine	16 %
4	Others (small mammals, Birds)	9 %

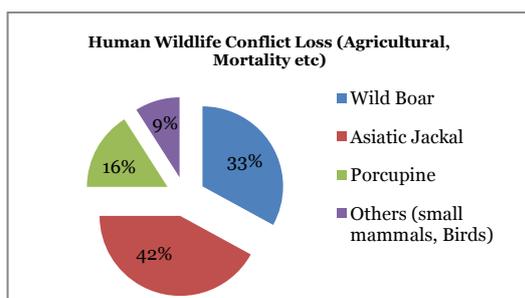


Fig. 1. Showing an assessment of loss occurred due to HWC in study site.

Human-Wildlife Conflict (HWC) is now considered a stern threat for many endangered species. The different studies all over the world exhibit the severity of the conflict and propose that greater in depth analysis of the conflict. Preferably, an affected community would administer HWC itself by sustainably. In truth, many conflicts happen at the borders of PA or engage endangered species, which may fall under the control of wildlife authorities (Bangs *et al.*, 1998; KWS, 2000).

Managing Human-Wildlife Conflict (HWC) may then require collaboration. Definitely, effective management depends on Technical and financial inputs that may exceed the training and capacity of rural wildlife managers (Osborn and Parker, 2003).

Conflict between people and wildlife is one of the main threats to the continued survival of many species in different part of the world, and is also a significant threat to local human populations. If serious solutions to conflicts are not adequate, local support for conservation also declines.

Anthropogenic activities like increasing human settlements are also constricting the migration corridors for many large carnivores. It is well settled thought that being large carnivores; need wide-ranging home. Habitat destruction is forcing animals to move through human settlements.

1. In some cases large carnivores are being found in populated areas. People are advised not to kill or harm them.
2. Whenever an Animal is killed by Humans, the chance of conflict is to be increased as the vacant space of carnivore soon be filled by another organism.
3. The focus should be on long-term solutions.
4. It is required farmers should be aware about proper light in their livestock sheds, this practice may helpful in reducing the conflict.
5. Local Shepherds always keep with their trained dogs to provide shelter from other carnivores

This study has provided a platform to the local inhabitants about the awareness of human wildlife issues. It has come to our knowledge that local community retains negative impact towards wild organisms. This might be due to loss in their livestock and crop.

Conclusion

Managing human wildlife conflict without causing the harm to wildlife and human is so delicate that sometimes one has to suffer less or more. This study has some constraints: survey base short period of span. It is recommended that in future, the extensive survey spanning multiple years is indeed required to assess additional factors that might influence conflict risk. There is dire need of the public participation to reduce the cases of Human Wildlife Conflict.

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