STATUS AND HABITAT UTILIZATION OF WESTERN TRAGOPAN IN KAGHAN VALLEY, PAKISTAN
(Final Report)

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Figure 1. Abdul Haseeb during the data collection
Summary

In Pakistan, Western Tragopan occupies dense forest on steep slopes in the transition zone between moist and dry temperate zones (Johnsgard 1986). Mirza et al. (1978) found them at Machiara in thick Quercus forest at 2825 m. They only found birds in 'undisturbed' areas. Islam summarizes the habitat of the Western Tragopan in the Neelum valley as being between 2500 and 3600 m in summer, in forests of spruce Picea smithiana, deodar Cedrus deodar and brown oak Quercus semicarpifolia, at the upper edge of the tree line. In winter, they inhabit dense coniferous or mixed forests between 2000 and 2800 m (Islam, 1983).

Current project was undertaken to find out the current state of habitat, population status and its distribution and survey was conducted in the month May 2014 in Bhunja valley, a sub valley of Kaghan Valley, Pakistan. During the surveys it is found the habitat of the Tragopan is under high human disturbance and is declining day by day. We established 12 survey plots in total but no call of the Tragopan has been recorded during the surveys. During earlier surveys, It is also reported from some areas of kaghan, especially in the Bichla and Bhunja, Nawaz et al (1998). Nawaz found only one pair of Tragopan in whole bichla valley, where its population is declining due to habitat decline, hunting, timber harvesting, and grazing of livestock. Bhunja valley is dominated by moist temperate forest above which there are extensive alpine pastures. Extensive surveys along with long term conservation measures have been recommended to protect the habitat and local extinction of the Species.
Acknowledgment

I am really thankful to Mr. James Goodhart and the Oriental Birds Club for granting me the donation to conduct surveys of Tragopan population in Kaghan Valley. My special thanks are due to Mr. Francis Buner and Mr. Muhammad Naeem Awan for the continue guidance they provided throughout the project period. Thanks are also due to Officials and field staff of the Wildlife department of KPK, for all the support they provided. Thanks are also to Akbar Shah, Research Associate at Himalayan Nature Conservation Foundation for his company and support during the surveys.
Introduction

Study Area

The Kaghan Valley lies in the north-east of Mansehra District of the Khyber-Pakhtunkhwa Province of Pakistan. Starts from the city of Balakot gate way of Kaghan valley and ends at Babusar pass (13690ft) that border the Gilgit Baltistan.

The valley has been traditionally home of variety and plenty from faunastic point of view but due to expansion of agricultural activities the habitats of the wild animals had affected. The main avian fauna includes Kalij Pheasant (*Lophura leucmelon*), Koklas Pheasant (*Pucrasia macrolopha*), Monal Pheasant...
(Lophophorus impejanus) inhabit in valley. Common leopard (Panthera pardus), snow leopard (Panthera uncia) are endangered species. The other wild animals found in the valley are wolf (Canis lupus), Fox (Vulpes vulpes), black bears (Ursus thibetanus), Brown Bear (Solenarctos thibetanus), Musk Deer (Moschus moschiferus). (Saqib, 2010)

PROJECT AIMS OR OBJECTIVES

- To assess the presence / absence of Western Targopan in Kaghan Valley.
- To identify the potential threats to Western Targopan in study area.
- GIS based distribution and habitat mapping of the targeted species in study area.
- To find out the hunting pressure on pheasants.

Methodology

a) Literature Review

Previously conducted studies on this species, in the local and international context, was gathered and reviewed. (Nawaz et al. 1998)

b) Site Selection

Based on the literature review and reconnaissance survey, survey plot were established within the habitat and altitudinal range of the species.

c) Call count surveys

Gaston’s (1980) dawn call count technique was use to estimate the population which involved positioning observers at pre-determined points. Major plant species within the 300m radius of the survey plot was in the project area.

d) Questionnaire survey
To assess the hunting pressure on pheasants in the study area a survey was conducted within the habitat of Western Tragopan in order to find the potential threats, conservation education in local area.
Results

Calling Count Survey:

Call count surveys were conducted between May-June 2014 to find out the current status of the Western Tragopan in the Bhuja Valley. During the surveys from 12 survey plots, call of Tragopan has not been detected from any survey point whereas Himalayan Monal and Koklass pheasants has been recorded and sighted from different survey plots as mentioned in the Table.1.

Table.1. Surveys plots 2014 with information on call count data.

<table>
<thead>
<tr>
<th>Point #</th>
<th>Sub valley</th>
<th>Date</th>
<th>Survey time</th>
<th>M</th>
<th>K</th>
<th>T</th>
<th>Coordinates</th>
<th>Altitude</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Dhoar</td>
<td>22/05/14</td>
<td>6:45-7:30pm</td>
<td>5(2)sight</td>
<td>0</td>
<td>0</td>
<td>N34 38.218 E073 35.592</td>
<td>3341</td>
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<tr>
<td>2</td>
<td>Bhurj</td>
<td>22/05/14</td>
<td>6:45-7:30pm</td>
<td>3(1) sight</td>
<td>0</td>
<td>0</td>
<td>N34 38.179 E073 35.339</td>
<td>3189</td>
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<tr>
<td>3</td>
<td>Kadirgali</td>
<td>23/05/14</td>
<td>4:30-5:15am</td>
<td>1</td>
<td>3</td>
<td>0</td>
<td>N34 38.276 E073 35.027</td>
<td>3214</td>
</tr>
<tr>
<td>4</td>
<td>Agligalli</td>
<td>23/05/14</td>
<td>4:30-5:15am</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>N34 38.218 E073 34.526</td>
<td>3200</td>
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<tr>
<td>5</td>
<td>Bagganala</td>
<td>23/05/14</td>
<td>6:45-7:30pm</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>N34 37.913 E073 35.479</td>
<td>2898</td>
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<tr>
<td>6</td>
<td>Ornia</td>
<td>24/05/14</td>
<td>4:30-5:15am</td>
<td>1sight</td>
<td>3{1 nest}</td>
<td>0</td>
<td>N34 37.962 E073 34.824</td>
<td>2816</td>
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<tr>
<td>7</td>
<td>Sarma1</td>
<td>24/05/14</td>
<td>4:30-5:15am</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>N34 37.913 E073 34.147</td>
<td>3015</td>
</tr>
<tr>
<td>8</td>
<td>Nar galli</td>
<td>24/05/14</td>
<td>6:45-7:30pm</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>N34 37.931 E073 33.385</td>
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<tr>
<td>9</td>
<td>Shongnigatti</td>
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<td>6:45-7:30pm</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>N34 38.150 E073 33.300</td>
<td>2684</td>
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<td>Dhanna</td>
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<td>2</td>
<td>0</td>
<td>N34 38.378 E073 32.777</td>
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<td>3</td>
<td>0</td>
<td>N34 38.500 E073 34.888</td>
<td>3124</td>
</tr>
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</table>

Plants Recorded from the survey plots

*Cedrus deodara*, *Pinus wallichiana*, *Abies pindrow*, *Picea smithiana*, *Acer caesium*, *Aesculus indica*, *Betula utilis*, *Viburnum nervosum*
Figure 2. Survey plots for Western Tragopan in Bhuja valley, a side valley of the Khagan valley.

Assessment of Hunting Pressure on Pheasants

To get maximum information about hunting pressure on pheasants and threats to Western Tragopan in the study area, a questionnaire was developed. The information collected through this questionnaire survey as detailed below:

INFORMATION ABOUT HUNTERS

Interest in hunting of pheasants

![Graph showing interest in hunting pheasants](image)

Explanation:
The above graph shows that during the interview, 90% of people take interest
in hunting while 10% claimed that they don’t take hunting interest in hunting.

**Group ages involved in hunting:**

![Age Classes Graph]

**Explanation:**
The above graph shows that 100 percent of the people involved in hunting were between 20–40 years age.

**Who are mostly involved in hunting?**

![Who are mostly involved in Hunting Graph]

**Explanation:**
The above graph shows that during the interview, 90% of people were involved in hunting from different professions like business man and govt. servants, 5% students and 5% farmer were involved in hunting.
**Hunter’s education:**

![Graph showing literacy rates among hunters.]

**Explanation:**

The above graph shows that 75% of the people were uneducated while 25% percent were educated.

**Hunters job:**

![Graph showing employment rates among hunters.]

**Explanation:**

The above graph shows that during the survey, 85% of the people were unemployed, 15% were employed in different sectors.

**Information about pheasants:**

**Population of pheasants:**
Explanation:
The above graph shows that during the interview from locals, 40% inhabitants claimed that population of pheasant is increasing, while 60% inhabitants stated that population of pheasants is decreasing in the local area.

Bird which is mostly hunted:

Explanation:
The above graph shows that during the interview from the local people expressed that monal pheasant and koklas pheasant are most hunted in the
Western Tragopan in Kaghan Valley, Pakistan

Purpose of shooting:

The above graph shows that during the survey, 100% of the people in the local area shoot pheasants for the purpose of food.

1. Hunting permit:

The above graph shows that during survey, 100% of the people have no hunting permit.
Information about hunting season:

**Hunting Month:**

![Graph showing hunting months]

**Explanation:**

The above graph shows that during the interview, 50% of the people do hunting in the month May, June, July though 50% people do hunting in September, October, November.

**Hunting season:**

![Graph showing hunting seasons]
**Explanation:**

The above graph shows that during the interview, 50% of the people do hunting in summer while other 50% people do hunting winter.

**Hunting days of the week:**

During assessment of hunting pressure on local pheasants survey most of the people expressed that hunting is mostly practice on holidays i.e. Sunday and Friday.

**Information about breeding season of pheasants:**

![Graph showing percentage of people who know about the breeding season of pheasants](image)

**Explanation:**

The above graph shows that during the interview, 80% of the local people don’t know the breeding season whereas 20% people know about the breeding season of pheasants.

**Information about conservation:**

**Importance of the bird in our eco system:**
**Explanation:**

The above graph shows that during the interview, 100% people don’t know the importance of birds in our eco system.

**Individual in the village having information about bird:**

**Explanation:**

The above graph shows that during the interview, 75% people don’t have knowledge about birds while 25% people have information about birds.
Discussion

Before starting spring survey in 2014 we collected different reports and visited wildlife office in Mansehra to collect more information about status and distribution western Tragopan in kaghan valley.

Further we visited the study area along with local guides and wildlife staff to get more information about western Tragopan. We met Mr. Faiz Alam Deputy Ranger wildlife who caught western Tragopan in sarmai in 2013. He claimed that in bhunja valley Western Tragopan still exist but in very small population. We surveyed in the study area in September with Faiz Alam where we evidences of Western Tragopan at tarkana during reconnaissance survey. We saw one Tragopan which flew in front of our team while searching evidences and also we observed some faecal pellets and feathers of Tragopan from the study area in September.

During May 2014, we start our survey. We established 12 survey plots within the altitudinal range of Western Tragopan. We surveyed the whole area with north and north east aspect but no calls were heard during dawn and dusk time in the study Area. During survey we observe different threats to the habitat of Western Tragopan, such as grazing of livestock, medicinal plants collection by local people, illegal cutting of forest trees, similarly forest fire, hunting, deforestation. A large number of nomads came to Bhunja valley during summer for grazing of livestock which results in destruction of the

Figure 3. Nest and Eggs of Koklass found during the surveys
wildlife habitat. Similarly there is huge pressure on hunting of pheasants in the study area.

In April 1971, Wayre visited the Kaghan Valley, Hazara Division NWFP, to try and ascertain the status and distribution of the Western Tragopan there (Wayre 1971). He searched five different areas, listening for calling birds at dawn, without success. Local villagers and shikaris (hunters) seemed to confirm the absence of the species from most of these areas, but indicated that it survived in small numbers in the Bichla and Bhunja valleys. These are close to the watershed with Machiara, Azad Kashmir, where Tragopans were known to exist.

Mirza et al. (1978) conducted censuses of five species of pheasants, including the Western Tragopan, in May and August 1977 in the Kaghan Valley and in Azad Kashmir. The methods used were listening for calling birds at dawn, and flushing, using beaters or a trained dog. They found no evidence of Western Tragopans in Kaghan, neither the Bichla nor the Bunja Valley was extensively surveyed. Mirza et al. (1978) stated that all five species of pheasants in Pakistan are 'getting rare year by year' and that their range of occurrence is shrinking.

Grimmett and Robsonin (1984) Surveyed in Kaghan Valley. This was done through dawn call count methodology with attempts to flush birds. The team found one male Tragopan in five days of survey work. A reliable source suggested that 5 pairs were present in Nuri and Nila forests (Manur Valley). The species was generally not well known and the impression gained was that it was rare in Kaghan, and may face local extinction. However, the Bichla forests (also in Manur), previously indicated as having a small population (Wayre 1971), were not visited.

Duke and Walton made a short visit to Kaghan in May 1988 (Duke 1989a). This Surveys covered approximately 16 square km of the Manur Valley including part of the Bichla forests, previously un surveyed. Five calling birds
were heard and an additional male seen, all in the Bichla forests. Not the entire available habitat within this valley was surveyed, and it is probable that more birds were present than recorded. Local information stated that anything from 10 to 40 birds may occur here, suggesting that the population may be in potentially viable numbers Recommended areas for future survey work in Kaghan included the Bhunja Valley (neighbouring Bichla), where birds had previously been reported to exist (Wayre 1971), and a more detailed survey of the Bichla Valley. In general, however, it seems clear that the extent of remaining habitat in Kaghan is small compared with District Kohistan.

In 1997 Rab Nawaz started searching for Western Tragopan in Bichla valley. He found no calls from the bichla valley, He also conducted survey kadirgalli (3 plots, some parts in bhunja valley (2 plots) and found no Tragopan. All this information along with our current surveys provide no information about the presence of Tragopan in the Bhunja valley of Kaghan.

**Threats recorded**

**Construction of roads in forest area**

Network of roads has been built in the forest area which is used to extract forests on commercial bases. These roads are providing easy way for illegal cutting of the forests by the smugglers which are leading toward the decline of the habitat of the Tragopan along with other species.
**Unsustainable extraction of medicinal plants**

Locals have been found to be involved in the extraction of the medical plants. This unsustainable extraction is leading towards the degradation of the natural resources ultimately declining in potential habitat of the Tragopan. This decline in species habitat may be leading towards the local extinction of the species.

**Nomadic Movement, grazing and Forest Fires**

A huge number of nomads along with local communities migrate to high alpine pasture and stay there for summer season. They create high level of disturbance for wildlife especially breeding habitat of Pheasants. During the surveys it has been recorded that they move with huge numbers of livestock and search the whole forest area for fodder for their livestock. They collect fodder and carry it with them for winter season. They also create fires for cooking and heating purpose and do not care about fire in the forest area which sometime spread at huge level and damage the forests and fine understory which the breeding
Western Tragopan in Kaghan Valley, Pakistan

We remain unable to collect quantitative data on different aspects of human related activities like no. of human and livestock which we are planning to collect during the implementation of our next project. This information will provide us with better understanding of the human impact on the breeding habitat of the Tragopan in Bhunja valley.

**Conclusion, Research and conservation recommendation.**

- Current surveys along with our review of previous information it is concluded that Tragopan may be locally extinct in Bhuja valley or moved to somewhere else under high human disturbance. Extensive surveys with robust techniques (Camera Trapping) should be used to conduct surveys for the Tragopan.

- Habitat of the Tragopan is also declining very fast, which needs immediate conservation and management measures.

- As locals and nomads are involve in the degradation of the habitat so a community based conservation program is the need of the time
References


Figure 4. Birch forest in study area

Figure 5. View of Bhunja Valley