

Status and Threats of Asiatic Black bear in Gais Valley of Diامر District, Gilgit-Baltistan, Pakistan

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Abstract- The team conducted informal interviews of the shepherds, farmers, teachers, religious, political leaders and elites of Gais valley District Diامر Gilgit-Baltistan of Pakistan to determine threats to Himalayan black bear (*Ursus thibetanus*) from October 29 to November 6, 2013. Based on our interviews and discussions, we evaluated the existence of Black bear in the valley and one other adjacent valley of the district. During the visit we conducted interviews in Banga, Gumbas, Katrochung, Changa, Shang, Sonologah and proper Gais village. Eleven (11) numbers of bears have been reported by the local in the valley which they have seen in the year 2013. The shepherds told that they have seen the species mostly in night and very rare in day time, while damaging fruits of mulberry. Some of the old hunters and community members told that the species has been sighted during the month of January in the valley. Due to harvesting of forest in adjacent valleys, the Black bear shifted to Gais valley forest. According to the respondents the species damage with an estimated figure of 4 mounds crop/fruits per household with a market value of Rs.3000-4000/- per household and per year and damage Fifteen (15) livestock (Cow, goat and sheep) annually in the pastures, of the valley with a market value of Rs 450000/- in Pak Rupees. Mostly, the Black bear attacks on crop filed of Maize, grapes, apricot, walnut, mulberry fruits during night time. The fruits were usually damage in late evening and especially, when the people shifts from lower villages to upper villages. 85% of the population told about the damages of their crops and fruits. The agriculture field near to forest is most affected by the bear.

The species usually attack livestock in in night and very rare in day time in pastures. Only one time the Black bear entered in cattle shed and killed one goat. There is no any compensation mechanism on losses of the livestock. Due to revenge of these losses the farmers killed 6 bears in the valley since last 10 years. The species attacked on six (6) human and only wounded by him, and no any death case of human being is reported by bears in the valley.

The populations of Black bears are decreasing in the district due to increased human activities, like human settlements, habitat destruction, livestock grazing in bear habitat, agricultural extension, leisure hunting and retaliatory killing against depredation of livestock and crops.

The objective of the study was to know the status and threats of Himalayan Black bear through conducting structural and unstructured interviews. Our intent was that this information be used to determine the threats, losses of livestock, crops and fruits

and also seeks the views of local communities to protection of the species, its habitat along with other associated wildlife in the valley and other parts of the Black bear habitat in the district.

During travelling on the way, Bear digs holes and drag stone and eat ant. Some hunters follow this to kill the animal.

Index Terms- Asiatic Black bear, status, threats, indigenous interviews, Gais valley, Pakistan

I. INTRODUCTION

Eight species of Bears are reported to be in the world; among only 2 species, Himalayan brown bear and Himalayan black bear can be sighted in the Pakistan. According to T.J Robert (1977) the Himalayan black bear is mainly confined to Himalayan moist forests of Pakistan and occur in Neelum valley of A&JK, Kagan valley in Hazara District and in Chitral. In Gilgit-Baltistan it occurs in Diامر district extending southward into Indus Kohistan. The status of Black bear is in IUCN Red List is vulnerable (A2cd+3d+4d); CITES Appendix I. (Garshelis & Steinmetz (2008). The range of the Black bear may be used to extend continuously southward from the northern mountains, through the Khyber Pukhtoon Khawa Province and the Suleiman Range; into Baluchistan Province, and on westward into the Iranian Baluchistan. Both the northern and Baluchistan bear populations are suffering the effects of persecution and habitat disturbance, but the former is the more acutely threatened. The species preferred to live in broad leaved and coniferous forests to an elevation of above 5000m. The Asiatic black bear has a hair of smooth black and can be famous by a V of white fur on its front site.

The Himalayan Black bear has been identified in southern and eastern Asia from westward through Pakistan and Afghanistan to Baluchistan Province Pakistan; east to Indo-China through much of China, Korea, Japan and some numbers in Taiwan (Servheen 1990, Sathyakumar 2001). Schaller (1977).

According to the survey conducting in 2005 by Sathyakumar and Choudhury, in press) the population status of Black bear in state of Jammu and Kashmir is properly common. The survey is conducted in 16 Pas and 20FDs, RFs and FVs of the state and reported Black bear in different National Parks, Wildlife Sanctuary and five Conservation Reserves viz. The Black bear is also reported in 20 other sites, these includes FDs in Lidder (Pahalgam), Sindh, Wangat, Anantnag and Reserved Forests etc. some other FDs of Marwa, , Doda, Badhruwa, Kistwar, Jammu

Poonch, Nowshera, Reasa, Mahor, and Rajouri the species has been sighted.

In southern part of Indian range degradation of habitat is one of the biggest severe. The species is <10% range is inside the Protected Areas and due to extraction of fuel wood and collection of fodder it is different (Sathyakumar 2006). While in Bangladesh, Black bears live only in small leftover covers in the east adjacent to Myanmar border where forest cover is now <7% of the land area. Myanmar, although still well forested (nearly 50%), is fourth in the world in the annual rate of loss of forested area. (FAO 2006). Thailand occupied forest cover (<30%), and its lasting forests are inside the Protected Areas and about half of these are occupied by Black bears (Vinitpornawan et al. (Garshelis, 2013) al. 2006).

Commercial trade of body parts and gall bladders is the major threat to Black bears in China and Southeast Asia. In 1984 China introduced saleable bear farming to fulfill the demand for bile by experts of Traditional Chinese Medicine (TCM; and also Traditional Korean Medicine, TKM). Several small-scale bile farms have been underway in Viet Nam, which were supplied by numerous thousand bears detached from the wild and as well as from neighboring countries of Viet Nam. (J. Robinson and G. Cochrane, Animals Asia Foundation pers. com).

The maximum favorable conservation steps for Black bears would be to significantly decrease the request for bear products, and thus decrease hunting and trade. The Baluchistan bear, a subspecies (*U. thibetanus gedrosianus*) living in the arid thorn forest in the Baluchistan region of southern Pakistan and Iran, was listed as Critically Endangered (B1+2abc, C2a) in the 1996 IUCN Red List, and is nationally listed as critically endangered in Pakistan. The government has suggested a protected area to support in the recovery of the isolated population (Sheikh 2006)

There is no any demanding population approximate present for Black bears. Previously Japan evaluated of 8–14,000 bears on Honshu Island, but the figure is not been considered valid. According to Russian experts the population is about 5–6,000, but the dependability of this is uncertain (Aramilev 2006). Similarly, in India Sathyakumar 2006 the bears are 7-9000 and Pakistan is 1000: Sheikh 2006. Asiatic black bears in China, ranging from 15–46,000 (summarized by Garshelis 2002, Gong and Harris 2006), with an official government estimate (in 2003) of about 28,000; none of these assessments have been validated.

Thailand has lower forest cover (<30%), but most of the forests are present in the Protected Areas, where about half part of the forests black bears are present (Vinitpornawan et al. 2006). These forest areas have been increasing in Viet Nam, but much of the existing forest is highly felled from both legal and illegal (Nguyen Xuan Dang 2006).

The Baluchistan black bear (*Ursus thibetanus gedrosianus*) locally known as "Mum" was once widely distributed in most of Baluchistan. According to T.J. Roberts, this species has been reported in the Sulaiman Range, Ziarat, Harnai, Khuzdar, Kharan and the Lasbela Hills, but now it is considered extinct in most of the areas. Two surveys have been conducted one by WWF-Pakistan in 1993-96 and the other by the Himalayan Jungle Project in 1994 and both confirmed the presence of the species in the Pub area. The population status is not certain, but local hunters report 8-10 animals still survive in the area. A WWF survey team has also reported scats and footprints of the Black

Bear in the Suleiman range in 1998. (<http://wildlifeofpakistan.com/wildbears.html>)

Asiatic Black Bears prayed have once been present in both Europe and Asia. In France and Germany the species have been revealed with fossil records, but have more recently been narrowed to regions in Central and Southern Asia from Afghanistan to Japan and south to Thailand with a minority of populations also found as far north as Russia. The habitats depend on the geographical region where they are found although Asiatic Black Bears prefer deciduous forests and brush land at lower altitudes. The extension of agricultural land by human caused in the remaining populations of Asiatic Black Bears compel to come in small patches of vegetation at higher altitudes (<http://a-z-animals.com/animals/asian-black-bear/>)

Asiatic Black Bears are listed by the IUCN's Red List as a species, populations is decreasing by as much as 49% over the past 30 years alone and although no official estimates have been made, it is extensively supposed that there are fewer than 50,000 left in the wild today. The ban of hunting in their natural habitat with the exclusion of Japan where it population is increasing, Asiatic Black Bears is still severely threatened by hunting, habitat loss and capture as pets, leisure hunting (<http://a-z-animals.com/animals/asian-black-bear/>)

Survey was conducted in 1992-3 to ascertain the population status of Black Bears by Wildlife Department N.W.F.P. According the results the estimated figure was up to 234. The survey report presenting that in Kohistan there were 98 Black bears (survey reports of wildlife department Kohistan in 1998)

Black bears and Sun bears are present at least 20 numbers in 22 NPAs in Laos. Tracks, findings and camera traps images have been documented in Bokeo (North), Nam Et Phou Louey (North), Nam Kading (South), and Dong Ampham (South) National Protected Areas (Chanthavy Vongkhamheng, pers. comm., 2010).

Dr. Gary Gal breath has identified a genetic study of blond color phase of the black bear occurring in the northern Annamite Mountain range of Laos in 2001 (Galbreath & Heene, 2001). Presence of both species sign has been confirmed in Bokeo NPA, northwest Laos by (Long & Abley, 2008). During camera trap the Black bear in north eastern and central Laos has been sighted (Johnston, pers. comm., 2009). In May 2010 in NEPL NPA the presence of Black bear has also been confirmed.

II. MATERIAL AND METHODS

1.1. Study Area:

Gais is a remote eastern valley of Diامر district with three kilometer distance from KKH. The valley has a population of about 1840 with 230 households in the nullahs and 60-70 households are permanent settled in the nullahs of the valley. Gais is part of Goharabad village and comes under the tehsil Thack of district Diامر. The second highest peak Nanga Parbat with eight thousand, one hundred and twenty-five (8125) meters height is situated in Raikot valley of Goharabad.

The village has formed when floods comes from Leachier village about 500 years ago. Noor Saeed Lumbardar the first who came here and constructed an irrigation channel. Then the people of Goharabad came and divided the area into 36 peoples according to the Hati system. Before 1970 rice has been

cultivated in the valley. Black cereal has also been cultivated in the valley up to 1990. Two major floods came in 2008 and 2010 and 95% agricultural fields and fruits trees destroyed in the village along with 2 casualties. The valleys come under double cropping zone and cultivated maize and wheat crop. The valley has Lower Middle and two primary schools without furniture and students were sitting in ground during their education. No any health facility in the valley. The local community constructed traditional houses by using timber of Deodar and Kail trees. The wood is being used in the walls, roof and even floor in upper areas of the valley.

Gais has his community owned commercial forest and renowned for version of Deodar forest. The communities of Goharabad has banned on illegal cutting of the forests. Only dead fallen are allowed to the villagers by a special permission from the committee locally called (Zoati) with the permission of Jirga (elders of the village/valley). Forest Committee (Zoati) is only protecting the forest in Gais as well as other villages of Goharabad and they are not concentrating wildlife and other natural resources. Gais is one of the potential valleys for wildlife species like, Himalayan black bear, Astore markhor, Musk deer, Himalayan lynx and other endangered fauna, avi-fauna and flora species. Himalayan Monal pheasant (*Lophophorus impejanus*) and Koklas pheasant (*Pucrasia macrolopha*) are the Threatened Species in IUCN Red List of Version 2012.2 and Version 2013 1. Some other birds like Himalayan snow cock, Chakor Partridge (*Alectoris chukar*) and others are found in the valley. Due to lack of awareness and ecological importance of these species, the locals are involved in hunting of these birds as sport hunting, meat, sale of their crown and stuff.

The valleys is potential for alpine pastures like Darogah bala, daraogah pain, korati bala korati pain, Jatori, Malpat, khom,

Damarali, Changa and Moshtar are the main pastures in the valley. These pastures are being used by the shepherds from May to October. The Mostar pasture and Chnaga is used during winter.

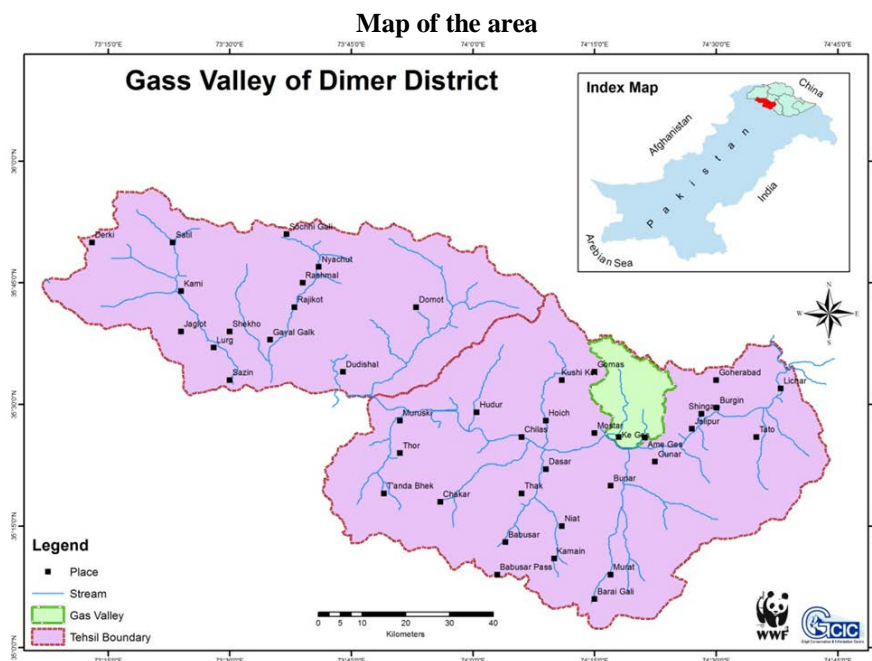
According to the locals, varieties of snakes are found in the valley, like black, white, brown, red and grey colors. Cobra has also seen in the valley by local people. Due to lack of research and other conservation interventions, the valley is undiscovered of such species and other reptiles.

The source of livelihood is agriculture, livestock, laboring, government services and Chilgoza fruits. The locals sell maize, livestock and Chilgoza fruits to meet their health, education and household expenses. The average household size is 14 and with high female ratio. 5-7 years old girls are getting education in primary schools and their strength is only 5% in the class.

The team also visited Geah valley of Diamer for similar interviews. Only four people were contacted, as the other people were busy in collection of firewood from the forest for winter season. The team sighted damages of fruit trees and scats of bear in the village. The respondents told that only one Black bear has been sighted in the valley. He comes in night and damage maize crops and fruits (grapes, walnut and apricot). They have sighted a den in Jalwogar forest area in 2011 which is still there. They told that 20 years ago the population of the species was high and about 5-6 bears had been sighted in the valley.

Due to cutting of forests, increase in population, damages of livestock and crops the people killed the animal or shifted to other valleys.

When asked about on human attack by Black bear in Geah valley, they told that Mr. Farkhan of Thorli valley, Diamer is being attacked and damages his both eyes by the animal in couple of year ago.



1.2. Methodology:

Before conducting the study a questionnaire was developed and tested on 38 individuals. During the interview structural and un-structural questions were preferred to conduct from shepherds

and the effected communities of livestock, crop and fruits. Therefore, we interviewed notables, hunters, educated people, teachers, government employees, and farmers, religious and political leaders from the valley. During the interviews it was

discovered that 95% of people were aware about the shape and attack on crops and fruits. Discussions and interviews with local educated local people are a fast method to acquire information on lasting phenomenon (Sathyakumar, 2001)(Sathyakumar 2001, Hwang 2002). Our team spent nine days in the valley, because our work was to done by foot travelling from one village to another. While travelling to another village we conducted interviews on the way and in the villages. The interviews were conducted from 18 -70 years old members. The questions were asked in local language and before conducting the interviews the member was briefed about the objectives of the interview to create any confusion and raise their expectations from WWF and the project. The questionnaire was filled by four educated members from the valley they were also trained in a session on how to ask the questions and attitudes during interviews. The interviews started from N 35 29 36 6 E 074.18 29 7 and N 353090.1 E 0741913.8

Carvings have also sighted in the valley at the GPS points of N 35 29 34 2 and E074 18 39 0.

III. DISCUSSIONS

In Diamer district the Black bear has been reported in Gais, Gonar farm, Khinar, Hudur, Geach, Khanbari, Thor, Thorley, Darel and Tangir valleys. Due to commercial harvesting of forest in these valleys the population of the species have been shifted to Gais valley due to habitat disturbance and human interference. The Gais Valley forest is protected by the local communities and no any commercial harvesting has been undertaken.

The Himalayan black bear is primarily a forest species; it lives in the conifer forest, and so in the valleys originates lower areas some 3000 m and rarely occurs in areas barren of significant forest cover. The bear graze at night, and rests during the daytime; mostly the species active in night and come in the valleys during day time when there is no disturbance of human in search of food. Especially in May during the Mulberry season. During winter its feeds on the nuts of oak trees.

Table 1:Pastures, types, losses duration of Livestock and human attack by Black bear in Gais Valley:

Pasture	Number of livestock	Types	Duration	Losses by bear (livestock)	Attack on human	No. of bears sighted
Damralie	2000	Goats, sheep & cows	May-Oct	3	-	2
Khom	900	Goats, sheep & cows	May-Oct	3	3	1
Khorati bala	1300	Goats, sheep & cows	May-Oct	5	-	1
Khorati pain	1200	Goats, sheep & cows	May-Oct	-	1	1
Jatori	400	Goats, sheep & cows	May-Oct	1	-	1
Malpat	4000	Goats, sheep & cows	May-Oct	2	-	3
Darogah bala	1500	Goats, sheep & cows	May-Oct	-	-	1
Darogah pain	700	Goats, sheep & cows	May-Oct	-	-	-
Shadatokhur	900	Goats, sheep & cows	May-Oct	1	-	-
Changa	170	Goats, sheep & cows	Oct-April	-	2	1
Moshtar	2000	Goats, sheep & cows	Nov-April	-	-	-

Due to agricultural extension in the habitat by local communities for additional productive land uses, illegal hunting for its skin, fats, to save their lives, livestock and lack of awareness about its ecological importance, population of the specie is declining from its natural habitat of other valleys of the district. The Gais's forest is protected by local communities and felling of forest is strictly prohibited. According to the locals the Black bears comes from other parts of the district due to commercial harvesting of forest. At higher altitudes, animal comes often into agricultural fields and damage maize crop,

attack on livestock and break fruit trees (Grapes, Mulberry, Apricot, Walnut and Fig) in search of food. Local people kill the animal in revenge of such damages. Moreover, due to extreme poverty and dependence on subsistence agriculture and livestock herding, animal is also hunted for sale of its skin and fats by locals in the markets of Chilas and Gilgit as well as to outsiders from Khyber Pukhtoon Khawa province of Pakistan.

During interviews with the residents on its den and living places they told that the bear leaves in a big hole and prepare with its own forelimbs, or in a suitable hole in fallen rocks, or

under tree roots. It does not always enter a prolonged phase of deep hibernation during winter, but may emerge to forage from time to time, especially if food is abundant, and some individuals may move to lower elevations. The bear collects bark of Juniper trees and put in the living places during rest time, especially in sleeping sites.

When asked about its attack and aggressiveness with the herders they told that they have seen two times the Bear becomes dangerous when it feeds especially meat and while crossing a

ridge, when there is no alternate route for crossing. The female with cubs become very dangerous when suddenly appear on the way.

The species is mostly found in Harkali, Moshtar, Darogah, Dassa, Dadapsh, Changa and Neelidar forest of the valley. During late winter the species shift to Moshtar forest from other forests, because this area has dense forest of conifer trees.

Table 2: Fruits and Crops damage by Black bear in Gais valley, 2013:

Crop/Fruits	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
Maize												
Grapes												
Apricot												
Mulberry												
Fig												
Vegetables												

The shepherd did not like the animal due to damages of their livestock, fruits and maize crop. The local communities were killing the species due to retaliation of their losses, because their livelihood depends on livestock, agriculture and fruits. They were in view that if government or any other department or conservation organization shall pay the compensation of their damages then they will not kill the animal.

During the years they have sighted 11 species in the agriculture filed, pastures and forests. Sometime they have put poison in the decade of livestock, but the bear did not eat. The shepherd told that the species kills 15 numbers livestock (goats, cows and ox) and the market rate /- per goat Rs.18000/-and per cow and ox/bull is Rs.45, 000/-and the average is Rs. 30000/-and total amount is Rs. 450000/-

The Black bear when enters in an agricultural filed of maize first he collects the Maize's grains eat and then damage the whole crop by rolling. Fruits like grapes, apricot, Mulberry, Fig is being damaged by the species in the valley. The bear drag the whole branch of grape and damage the whole fruit and branches also.

During the interviews the interviewers told that the species with market value of Pak Rupees 140000/-crops and fruits have been damaged in the year 2013 in Banga, Gumbas, Chnaga,

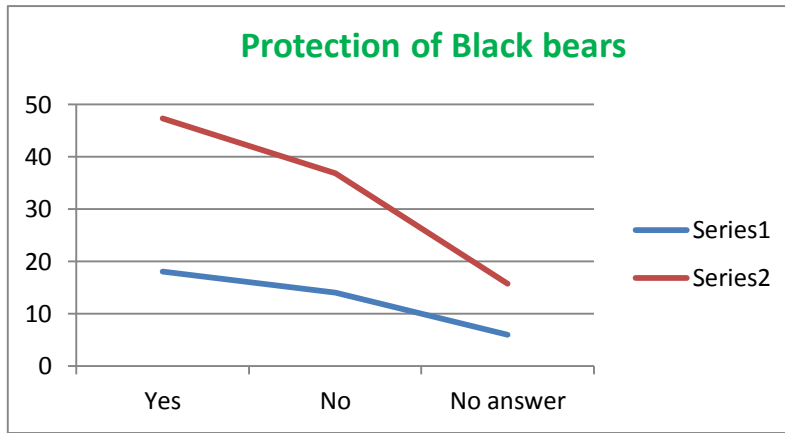
Shutrochung, Samato shing, Darella hat, Gais hat and Sunolagah villages of Gais valley.

The species mostly attack on cows, calf and rarely on goats during night time. Sometime in the forests or pastures it attacks on the goats and sheep. According to the locals the Black bear killed 15 numbers of livestock during the last two years with an approximate value of Rs. 450000/-.

Although the bear attacked on six people during their travelling on the way, no any death cases have been occurred in the history of the valley.

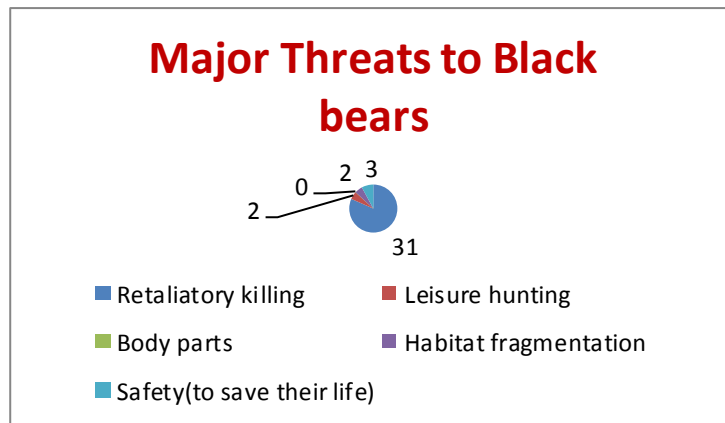
IV. RESULTS

Black bear is present in Khinar, Khanbri, Geach, Darel, Tangir, Thor, Thorley, Hudur and Gais valleys of district Diamer, Gilgit-Baltistan of Pakistan. Due to commercial harvesting of conifer forest in the adjacent valleys and human interference in the valleys, the population of the species has been shifted to Gais valley's forests. The shepherd did not like the animal due to damages of their livestock, fruits and maize crop. The local communities were killing the species due to retaliation of their losses, because their livelihood depends on livestock and agriculture. They were in view that if government or any other department or conservation organization shall pay the compensation of their damages then they will not kill the animal.

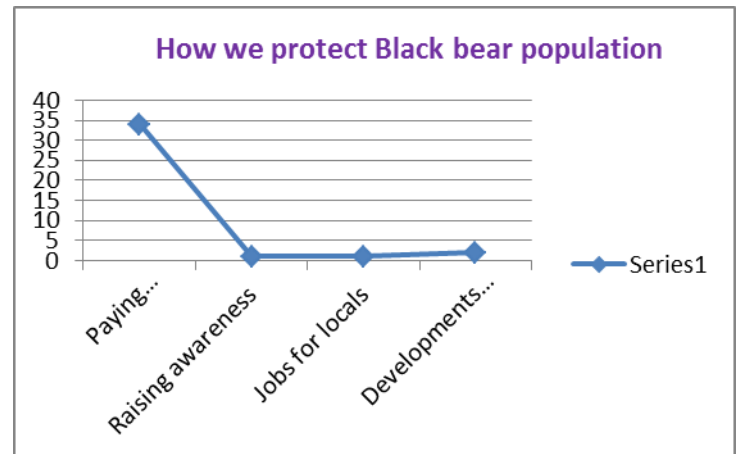


During the years they have sighted 11 species in the agriculture filed, pastures and forests. They have never put poison in the decade of livestock. The shepherd told that the species kills 15 numbers livestock (goats, cows and ox) and the market rate /- per goat Rs.18000/-and per cow and ox/bull is Rs.50, 000/-and the average is Rs. 30000/- and total amount is Rs. 450000/-

The Black bear when enters in an agricultural filed of maize first he collects the Maize's grains eat and then damage the whole of the filed. Fruits like grapes, apricot, Mulberry, Fig is being damaged by the species in the valley. The bear drag the whole branch of grape and damage the whole fruit on it After eating he destroys rest of the crop in the field by up routing and crawling.



During the interviews the interviewers told that a total of 40 mounds crops/fruits have been damaged in the year 2013 in Banga, Gumbas, Chnaga, Katrochung, Samato shing, Darella hat, Gais hat and Sonolagah villages of Gais valley. The total amount according to the market value is Pak Rupees 140000/- is damaged by Black bears



The species mostly attack on cows, calf and rarely on goats during night time. Sometime in the forests or pastures it attacks on the livestock. According to the locals the Black bear killed 15

numbers of livestock during the last two years with an approximate value of Rs. 450000/-.

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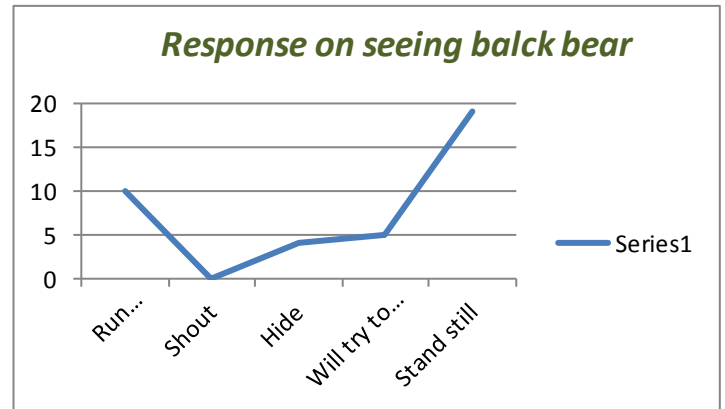


Table 3: Losses of Maize and Fruit Crops

Village	Crop/fruits	Month	Value (Pak Rupees)
Gais	Bell pepper & maize	May-June	20600
Banga	Maize, grapes, apricot, & walnut	May-Oct	45600
Samato shung	Grapes, apricot, & walnut	May-July	15000
Gumbas	Maize & grapes, apricot, & walnut	Oct	12600
Chunga	Maize	Sept-Oct	9000
Sonologah	Maize & grapes, apricot, & walnut	Sept-Oct	21900
Shutrochung	Maize, grapes, apricot, & walnut	Sept-Oct	1300
Darela hat	Maize and grapes,	Sep-Oct	14000
Total			140000

V. RECOMMENDATIONS FOR PROTECTION/CONSERVATION/MANAGEMENT OF BLACK BEAR:

No any efforts have been made for conservation of Black bear in the valley by government or any other conservation organization. This was the first initiative taken by WWF-Pakistan for conservation of Black bear and other natural resources Gais valley, Diamer District of Gilgit-Baltistan. The locals shown their keen interest in protecting the animals with the following recommendations;

1. By paying compensation of their losses of livestock, crops and fruits by the Black bear.
2. Improving their education by providing education aids and trained teachers
3. Providing basic health facilities in the valley
4. Introducing modern techniques in agriculture sector
5. Raise environmental awareness and build their capacities in NRM and income generation interventions.

6. Strengthening local protection system (Zoati) by providing financial support.
7. Proper lightening system should be installed in the most effected fields and orchards sites to reduce crops and fruits damages.
8. Population status survey should be conducted in other valleys of the district to know the population of Himalayan black bear in the district.

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