

Protection of Snow Leopards through Grazier Communities: Some Examples from WWF-Pakistan's Projects in the Northern Areas

Full Text:

Snow leopards occur near the snow line in northern Pakistan in the districts of Swat, Dir and Chitral of the Northwest Frontier Province (NWFP), Muzaffarabad district in Azad Kashmir and Gilgit and Baltistan districts in the Northern Areas. Although a number of protected areas are present in the form of national parks, wildlife sanctuaries and game reserves (Table 1) where legal protection is available to all wildlife species, including snow leopards, the status of this endangered species is not improving satisfactorily. The reasons are many and range from direct persecution by livestock owners to the less than strict management of protected areas.

Because of remote and inaccessible locations and lack of proper communication with local communities, government officials and nongovernmental organizations (NGOs) concerned with conservation find it difficult to obtain statistics on mortality of snow leopards. However, the killing of snow leopards is not uncommon. Because of the close and long-term association between local villagers and snow leopards, it is only through the support and cooperation of these peoples that protection of this endangered species can be assured against most of the existing threats. The effects of such cooperation has been clearly shown through some of the conservation projects of World Wildlife Fund (WWF) - Pakistan. Details of such projects and certain lessons that can be learned from these and similar projects are discussed in this paper.

Legal Status of Snow Leopards in Pakistan

The snow leopard is one of the few animals which enjoys full legal protection in Pakistan. According to the wildlife protection rules of NWFP, Azad Kashmir and the Northern Areas, the killing of snow leopard is prohibited. This regulation is implemented through wildlife departments or independent wildlife units within the forest departments in each of the regional governments. Overseen by regional supervisory staff, the Game Watcher (lowest level in the organization) has direct responsibility for wildlife protection including that for snow leopard.

TABLE 1. List of protected areas having wild populations of snow leopards.

Protected Area Type (ha)	Location		Province	District	Area
	Name				
National Park	Chitral Gol NP		NWFP	Chitral	7,750
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	Agram Basti		NWFP	Chitral	29,866
Game Reserve	Salkhale		Azad Kashmir	Muzaffarabad	809
	Ghamote		-do-	-do-	27,272
	Tangir		Northern	Diamer	14,245
	Kilik/Mintaka		-do-	Gilgit	65,009
	Danyore nullah		Northern Areas	Gilgit	44,289
	Shirgillah nullah		-do-	Ghizer	16,835
	Pakora nullah		-do-	-do-	7,511
	Chassi/Bowshdar	-do-	-do-	-do-	37,037
	Nazbar nullah		NWFP	Chitral	49,750
	Gehrait-gol		-do-	-do-	4,800
Chinar/Purit gol		-do-	-do-	6,446	
	Drosh-gol		-do-	-do-	2,060
Total areal extent of protected areas within snow leopard zone					741,986

PROBLEMS OF SNOW LEOPARDS OUTSIDE THE PARKS

Grazier communities and snow leopards

With the disappearance of prey species or drastic declines in their populations, snow leopards become greatly deprived of their natural prey. The food situation for this beautiful cat is better in places where livestock grazing is also done, either legally or illegally while it is best in alpine pastures which are overcrowded with domestic sheep and goats. Whereas a grazier cannot be expected to welcome a snow leopard, the animal is relatively safe in protected areas. On pastures the graziers use many techniques to get rid of snow leopard. Since the graziers get no compensation for predatory losses of their livestock and they live far from constant oversight by the wildlife department staff, the graziers enjoy a great independence in dealing with the fate of snow leopards. Nevertheless, it is not always easy to kill this animal. According to the results of a brief survey, only one in 50 snow leopards sought after is successfully killed. Very few dead snow leopards have so far been documented by the wildlife staff.

Fur traders and snow leopards

Trade in the fur of snow leopard is not allowed by law, however, in the markets of towns such as Gilgit, Murre and Karachi, potential buyers can easily get access to shops where fur of snow leopard and other protected cats are available for sale. Although it has been hard to identify the channels and sources which are used in the fur trade, from killing of animals to skinning and transport to market, the reported available quantities of fur clearly indicates a significant impact of this business on the snow leopard. Because of the lack of information, it is currently impossible to ascertain the number of animals which are killed by graziers to protect their livestock or by fur traders to earn money, although the former seems to be the more serious problem.

Problems of snow leopards in protected areas:

Inadequate size -- Although some of the wildlife parks have enough size to accommodate animals having big territories like snow leopards, others are quite small and not sufficient for this purpose. If the animals increase in number they have to disperse to areas outside the parks and thus live at the mercy of villagers.

Insufficient supervisory staff -- Game Watchers, who stand at the lowest tier in wildlife organizations have direct responsibility to take care of snow leopards. Because of inadequate funds being committed to this sector, too few Game Watchers are available to effectively and efficiently cover the critical and crucial snow leopard areas. In most of the cases, one Game Watcher is responsible to guard about 320 km². Having minimum mobility due to lack of proper transportation facilities, it is practically impossible for him to carry out his duties in such a big area.

Poor implementation of rules -- Although rules and regulations are present in the entire zone of snow leopard, whereby hunting of this animal is strictly prohibited, the practice goes on in one form or another. Even if a killer is detected and challenged by the wildlife staff, he gets none or insufficient punishment. This situation of poor law enforcement has encouraged poachers to continue their business.

Lack of scientific management -- Although a number of parks and other protected areas are available throughout the snow leopard zone, scientific management is not being practiced in any of them. Even a workable management plan is not available for most of them. Exact status of snow leopards in such areas, even a close approximation, is not known and almost no information exists on their behaviour, diet, dispersal patterns, etc.

Conflicts with the local communities -- There is not a single wildlife protected area in Pakistan that is free of problems, especially of those regarding conflicts with local communities. Because of heavy population pressure, demands on the natural resources are increasing fast. Local villagers, being poor, have different needs. Since people are normally asked to abandon their traditional uses inside the parks, they are naturally hostile to the overall concept of the wildlife parks. In order to overcome some of the conventional problems and break through the existing system of bad relations between park officials and local communities, WWF-Pakistan has initiated a few projects, two of which are in snow leopard range. Details of such projects is given in the following sections.

WORLD WILDLIFE FUND'S PROJECTS TO PROTECT SPECIES

I. Management Plan of Khunjerab National Park

Khunjerab National Park was created in 1975 with the main objective of protecting and conserving species. Initially, a 12 km² zone, being important for Marco Polo sheep was declared as a protected or core area and the local graziers, who were enjoying grazing concessions there for centuries, were asked to vacate it. However, the rest of the park (about 3000 km²) was open to traditional uses. According to future government plans, the whole of the park has to be vacated after concessionists or right holders are compensated through cash payments or they are provided with alternate grazing grounds.

Compulsory vacating of the core zone by graziers, although accomplished successfully, initiated a long-lasting conflict between people and park authorities. The people were of the view that the proposed core zone was the only suitable grazing area for their yaks, on which they depend for various dairy products as well transportation of goods to remote villages in snow-covered areas. The average price of a healthy yak is about US \$1000. Moreover, the local graziers claim that they were promised due compensation for this grazing unit by the park authorities, but nothing has been done.

As an outcome of this unrealistic management approach, the people appealed in a local court against the government decision and got the permission to use the core zone until the final decision of the court. The people thus initiated anti-park and anti-wildlife campaigns. They refused to allow wildlife staff inside the park and reportedly started killing wildlife species so that no justification would be left for the park to exist. This was the peak of the conflict.

In 1989, World Wildlife Fund - Pakistan was requested by the Government of Pakistan to develop a management plan for the Khunjerab National Park for which the author was selected to lead the management team. Although the author succeeded in conducting some preliminary surveys, opposition of people to the park was so severe that it was decided to postpone the planning work until the issue was resolved between the government and the people. During the interim period problems of the park were continuously growing and adversely affecting the wildlife species. In order to help resolve the issues, the author offered his services as a mediator in September, 1991. Several dialogues were arranged with the local communities as well as with the park authorities and local administration and based on such dialogues, various management options were identified for consideration by the interested parties.

A brief on such options is given below:

Elimination of all grazing rights and concessions -- This option, although preferred by the park authorities, was far from being realistic. About 25 million rupees (ca. US \$1,000,000) would be required to compensate the people if and when they agree to the proposal. There is no alternate grazing grounds where people could take their livestock. As a matter of fact, more than 80% of the local inhabitants subsist on their livestock. This option thus did not work.

Zoning system -- This option is ideal in situations where the government is sole owner of the park or where people have no serious demand for the park resources; neither applicable here. Only a small core zone, created by government in 1975, was not accepted by local communities because they were not be compensated for it. Having bad experiences in the past, local communities did not agree to any solution which may require them to vacate any area. This was the primary outcome of the mistrust that people had developed over a period of 16 years. This option also did not work.

Accommodation of conditional grazing -- This option was based on several facts. The previous core zone had no Marco Polo sheep now because of the tremendous disturbance caused by traders after the opening of trade between China and Pakistan through Karakoram Highway, which passed through the middle of the core zone. Hundreds of visitors could normally be seen in the core zone almost every day in summer, coming just to see the border area. The Khunjerab Security Force is posted in several locations, including the core zone. Being physically fit, equipped with modern weapons and not having much to do in the area, these people could be the potential source of disturbance of the Marco Polo sheep. Their counterparts on Chinese side have been doing the same. A fresh trophy collected from their post is still available with the author.

Since all other rules of the protected or core zone were already violated, insisting on no grazing in the area could not bear fruitful results. It was thus proposed to suggest that the authorities allow only one hundred yaks for grazing in the core zone. As a condition for the grazing allotment, the people will then stand responsible for the protection of every wild animal, including snow leopard, within the boundaries of the whole park. Under this agreement, they could neither kill snow leopard or claim compensation for the losses. In fact more than 200 sheep, goats etc. are killed each year by snow leopards inside the park. A recent study in the park revealed that 50% of snow leopard diet consisted of domestic livestock (D. Blumstein, pers. comm.). If livestock are eliminated, wild animals may come under the direct pressure of predators. This may not be tolerated by the already endangered ungulates of the park. Moreover, with fewer prey species in the wild the overall population of snow leopards, which is considered quite satisfactory in the park, may also be adversely affected.

Keeping all the above considerations and possible impacts in view, this option appeared to be the best under the prevailing circumstances, and local administration, park authorities and local communities agreed to it. The agreement was signed on 5th January, 1992.

Impacts of the agreement -- Although a few months old, the above agreement has given useful results. A village council has been set up by all the rights holders and users of the park. This council is responsible for the protection of each and every

species of wildlife in the park. The council has notified various government agencies that the local villagers will not tolerate any hunting in the area. Anti-poaching activities of the council is being supported greatly by the Chief Administrator of Northern Areas and even by the Minister of the area. People have further agreed to reduce their livestock in some of the areas which are important for endangered species. They have already made adjustments to the rotational grazing system, as required by the agreement. Since a friendly atmosphere now exists, the write-up of the management plan has been started and hopefully will be completed by the end of September. The plan will further prescribe various actions which are essential to improve the wildlife populations and the economic conditions of people.

II. Protection of Ibex in the Bar Valley

Bar valley is situated about 35 km from the main town of Gilgit. The people of Bar valley were known for hunting ibex during winters and preserving the meat for use throughout the cold season. Similarly the people, being graziers, were used to killing of snow leopards whenever they got a chance to do so. According to the results of a survey, about 300 ibex were killed in each season, although the number of snow leopards killed was not exactly known.

In order to motivate the people of Bar valley (ca. 1100 families) and persuade them to protect ibex and all other species of wildlife found in the area including snow leopards, efforts were initiated by the Regional Director of WWF and a member of the local district council. The focal message conveyed to the people consisted of protecting ibex until a time when the population grew enough to allow trophy hunting by foreign hunters. The money thus generated will be equally distributed between concerned government agencies and people of the Bar valley. Since the people had to subsist on ibex as an important source of food, especially during winter, it was realized that some sort of compensation would be essential for the people to meet their meat requirement. This possibility was investigated in detail during a feasibility study by the author in November, 1990; anticipated results being encouraging, requests were conveyed to various donor agencies such as the Agha Khan Rural Support Programme, IUCN and WWF-Pakistan for a sum of Rs 240,000 to be granted as a loan to the people of Bar valley for a period when the local communities would be able to earn revenue and return this amount through the sustainable use of ibex. In June, 1991 WWF formally agreed to provide this amount, in a splendid ceremony chaired by the local administrator who also administered the oath binding the people that they will not kill, or allow to be killed, any animal species in whole of the Bar valley till the termination of this agreement with WWF-Pakistan.

For the past 14 months every animal species is being protected in the valley. Last winter a snow leopard was seen just near the village, but for the first time in the history of the valley nobody attempted to kill it. In a recent survey of ibex in a part of the valley, 441 animals were seen in 1/3 of the valley. Two ibex killed by snow leopards were also discovered in the mountains. According to another survey, more than 50 goats and sheep were killed by snow leopards in three months but no one claimed compensation for it. The situation is improving and hopefully in the next few years about 10 over-mature ibex will be allowed for trophy hunting, earning enough money to compensate owners of the livestock for their predatory losses. The project has been extended for another 3 years now, substituting cash payment with certain developmental works in the valley and helping people to generate income sources through enhanced eco-tourism. The project is progressing well.

RESULTS, DISCUSSION AND CONCLUSIONS

It is an established fact that the objective of wildlife conservation, especially of snow leopard, cannot be achieved unless local communities who live within the vicinity of the wildlife areas cooperate and participate actively in the task of conservation. This, in turn, is possible only if certain incentives are available to compensate them for the losses they receive either through the non-use of specific wildlife areas or through predation of livestock. The management that is practiced now was non-existent just a few decades ago. Examples are available when the same areas were shared by both wildlife and domestic livestock to the mutual benefit of both. With such traditional system, ungulates were comparatively safer from severe predatory losses because of the presence of livestock as buffer. Similarly predators were also prospering because of the availability of ample food in such areas in the form of both wild prey as well as domestic goats and sheep. However, when the parks were established, graziers were in some areas eliminated at one stroke, giving no time for an alternative system to develop and cater to the needs of both wild prey and predator. Chitral Gol National Park is one classic example where in early 1950s, when it was a private Game Reserve, there were 1500 domestic goats each winter, increasing to 3500 in summer. Despite this number of domestic livestock there were also about 1200 markhor (*Capra falconeri*) in the area. In 1953 there were 54 over-mature markhor in Kasavir Lusht, a small portion of the present park where no animal was available in 1989, and very few after that. In 1980 when some of the livestock was still there, 650 markhor were counted in the whole of the national park. However, the number of markhor started declining gradually along with the efforts of park authorities to expel domestic livestock out of the park. The number of markhor decreased to 317 in 1987 and to only 154 in 1990. Snow leopards which were previously accustomed to ample food in the form of goats and sheep had now to rely on markhor only. According to surveys conducted by the NWFP Wildlife Department in December, 1989, 103 markhors were found killed by predators. Out of this, 84 were confirmed to be killed by snow leopards. As a matter of fact, markhor has tremendous commercial value and a big potential to be used sustainably for the economic uplift of the rural communities. The government of NWFP is permitting annually only one mature markhor to trophy hunters and gets about Rs. 350,000 (US \$15,000) as hunting fee. Out of this amount, 50% has been committed to the local communities.

Although we have to undergo detailed investigations in order to establish the relationship between snow leopards and domestic livestock and the possible impacts of this relationship on the populations of prey species, certain complications do appear if the existing semi-natural system is ignored and changed altogether. Similarly, local communities have to be involved in the overall management of protected areas even if their cooperation costs us some of the park resources. This is particularly important when we deal with a species like snow leopard which may depend on graziers for several of its critical needs.

CHAPTER 36

PROTECTION OF SNOW LEOPARDS THROUGH GRAZIER COMMUNITIES -- SOME EXAMPLES FROM WWF-PAKISTAN'S PROJECTS IN THE NORTHERN AREAS

Ashiq Ahmad

Snow leopards occur near the snow line in northern Pakistan in the districts of Swat, Dir and Chitral of the Northwest Frontier Province (NWFP), Muzaffarabad district in Azad Kashmir and Gilgit and Baltistan districts in the Northern Areas. Although a number of protected areas are present in the form of national parks, wildlife sanctuaries and game reserves (Table 1) where legal protection is available to all wildlife species, including snow leopards, the status of this endangered species is not improving satisfactorily. The reasons are many and range from direct persecution by livestock owners to the less than strict management of protected areas.

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With the disappearance of prey species or drastic declines in their populations, snow leopards become greatly deprived of their natural prey. The food situation for this beautiful cat is better in places where livestock grazing is also done, either legally or illegally while it is best in alpine pastures which are overcrowded with domestic sheep and goats. Whereas a grazer cannot be expected to welcome a snow leopard, the animal is relatively safe in protected areas. On pastures the graziers use many techniques to get rid of snow leopard. Since the graziers get no compensation for predatory losses of their livestock and they live far from constant oversight by the wildlife department staff, the graziers enjoy a great independence in dealing with the fate of snow leopards. Nevertheless, it is not always easy to kill this animal. According to the results of a brief survey, only one in 50 snow leopards sought after is successfully killed. Very few dead snow leopards have so far been documented by the wildlife staff.

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A brief on such options is given below:

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Since all other rules of the protected or core zone were already violated, insisting on no grazing in the area could not bear fruitful results. It was thus proposed to suggest that the authorities allow only one hundred yaks for grazing in the core zone. As a condition for the grazing allotment, the people will then stand responsible for the protection of every wild animal, including snow leopard, within the boundaries of the whole park. Under this agreement, they could neither kill snow leopard or claim compensation for the losses. In fact more than 200 sheep, goats etc. are killed each year by snow leopards inside the park. A recent study in the park revealed that 50% of snow leopard diet consisted of domestic livestock (D. Blumstein, pers. comm.). If livestock are eliminated, wild animals may come under the direct pressure of predators. This may not be tolerated by the already endangered ungulates of the park. Moreover, with fewer prey species in the wild the overall population of snow leopards, which is considered quite satisfactory in the park, may also be adversely affected.

Keeping all the above considerations and possible impacts in view, this option appeared to be the best under the prevailing circumstances, and local administration, park authorities and local communities agreed to it. The agreement was signed on 5th January, 1992.

Impacts of the agreement -- Although a few months old, the above agreement has given useful results. A village council has been set up by all the rights holders and users of the park. This council is responsible for the protection of each and every species of wildlife in the park. The council has notified various government agencies that the local villagers will not tolerate any hunting in the area. Anti-poaching activities of the council is being supported greatly by the Chief Administrator of Northern Areas and even by the Minister of the area. People have further agreed to reduce their livestock in some of the areas which are important for endangered species. They have already made adjustments to the rotational grazing system, as required by the agreement. Since a friendly atmosphere now exists, the write-up of the management plan has been started and hopefully will be completed by the end of September. The plan will further prescribe various actions which are essential to improve the wildlife populations and the economic conditions of people.

II. Protection of Ibex in the Bar Valley

Bar valley is situated about 35 km from the main town of Gilgit. The people of Bar valley were known for hunting ibex during winters and preserving the meat for use throughout the cold season. Similarly the people, being graziers, were used to killing of snow leopards whenever they got a chance to do so. According to the results of a survey, about 300 ibex were killed in each season, although the number of snow leopards killed was not exactly known.

In order to motivate the people of Bar valley (ca. 1100 families) and persuade them to protect ibex and all other species of wildlife found in the area including snow leopards, efforts were initiated by the Regional Director of WWF and a member of the local district council. The focal message conveyed to the people consisted of protecting ibex until a time when the population grew enough to allow trophy hunting by foreign hunters. The money thus generated will be equally distributed between concerned government agencies and people of the Bar valley. Since the people had to subsist on ibex as an important source of food, especially during winter, it was realized that some sort of compensation would be essential for the people to meet their meat requirement. This possibility was investigated in detail during a feasibility study by the author in November, 1990; anticipated results being encouraging, requests were conveyed to various donor agencies such as the Agha Khan Rural Support Programme, IUCN and WWF-Pakistan for a sum of Rs 240,000 to be granted as a loan to the people of Bar valley for a period when the local communities would be able to earn revenue and return this amount through the sustainable use of ibex. In June, 1991 WWF formally agreed to provide this amount, in a splendid ceremony chaired by the local administrator who also administered the oath binding the people that they will not kill, or allow to be killed, any animal species in whole of the Bar valley till the termination of this agreement with WWF-Pakistan.

For the past 14 months every animal species is being protected in the valley. Last winter a snow leopard was seen just near the village, but for the first time in the history of the valley nobody attempted to kill it. In a recent survey of ibex in a part of the valley, 441 animals were seen in 1/3 of the valley. Two ibex killed by snow leopards were also discovered in the mountains. According to another survey, more than 50 goats and sheep were killed by snow leopards in three months but no one claimed compensation for it. The situation is improving and hopefully in the next few years about 10 over-mature ibex will be allowed for trophy hunting, earning enough money to compensate owners of the livestock for their predatory losses. The project has been extended for another 3 years now, substituting cash payment with certain developmental works in the valley and helping people to generate income sources through enhanced eco-tourism. The project is progressing well.

RESULTS, DISCUSSION AND CONCLUSIONS

It is an established fact that the objective of wildlife conservation, especially of snow leopard, cannot be achieved unless local communities who live within the vicinity of the wildlife areas cooperate and participate actively in the task of conservation. This, in turn, is possible only if certain incentives are available to compensate them for the losses they receive either through the non-use of specific wildlife areas or through predation of livestock. The management that is practiced now was non-existent just a few decades ago. Examples are available when the same areas were shared by both wildlife and domestic livestock to the mutual benefit of both. With such traditional system, ungulates were comparatively safer from severe predatory losses because of the presence of livestock as buffer. Similarly predators were also prospering because of the availability of ample food in such areas in the form of both wild prey as well as domestic goats and sheep. However, when the parks were established, graziers were in some areas eliminated at one stroke, giving no time for an alternative system to develop and cater to the needs of both wild prey and predator. Chitral Gol National Park is one classic example where in early 1950s, when it was a private Game Reserve, there were 1500 domestic goats each winter, increasing to 3500 in summer. Despite this number of domestic livestock there were also about 1200 markhor (*Capra falconeri*) in the area. In 1953 there were 54 over-mature markhor in Kasavir Lusht, a small portion of the present park where no animal was available in 1989, and very few after that. In 1980 when some of the livestock was still there, 650 markhor were counted in the whole of the national park. However, the number of markhor started declining gradually along with the efforts of park authorities to expel domestic livestock out of the park. The number of markhor decreased to 317 in 1987 and to only 154 in 1990. Snow leopards which were previously accustomed to ample food in the form of goats and sheep had now to rely on markhor only. According to surveys conducted by the NWFP Wildlife Department in December, 1989, 103 markhors were found killed by predators. Out of this, 84 were confirmed to be killed by snow leopards. As a matter of fact, markhor has tremendous commercial value and a big potential to be used sustainably for the economic uplift of the rural communities. The government of NWFP is permitting annually only one mature markhor to trophy hunters and gets about Rs. 350,000 (US \$15,000) as hunting fee. Out of this amount, 50% has been committed to the local communities.

Although we have to undergo detailed investigations in order to establish the relationship between snow leopards and domestic livestock and the possible impacts of this relationship on the populations of prey species, certain complications do appear if the existing semi-natural system is ignored and changed altogether. Similarly, local communities have to be involved in the overall management of protected areas even if their cooperation costs us some of the park resources. This is particularly important when we deal with a species like snow leopard which may depend on graziers for several of its critical needs.