
Project Title

**Human-leopard conflict Assessment in and around
Pir Lasora National Park Dist. Kotli, AJ&K**

SGP WWF-PAKISTAN



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Progress Report

**Livestock depredation and Population estimation of
Common leopard (*Panthera pardus*) in and around the
Pir Lasora National Park**

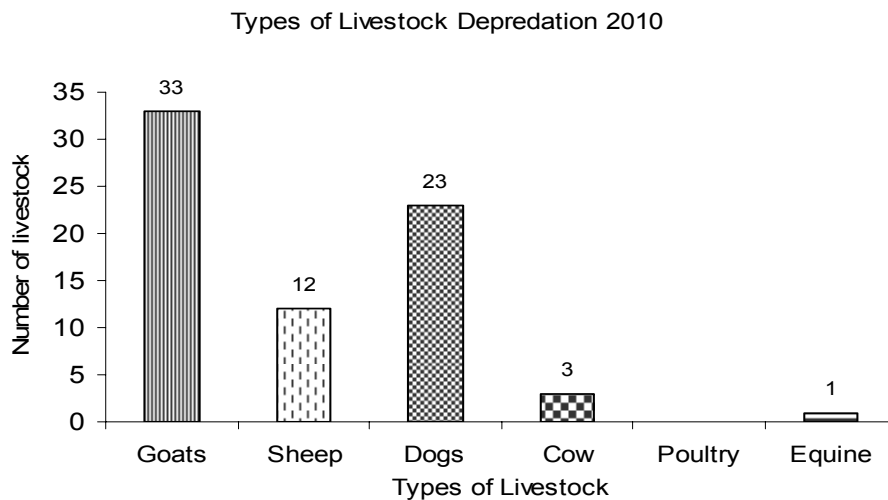
Live stock depredation of common leopard in PLNP

The leopard is an agile and stealthy predator. Once the leopard pounces on its prey it dispatches it by making the killing bite to the throat, essentially suffocating the prey. In and around the PLNP livestock is also the part of leopard diet. Keeping in view the objectives of the study, questionnaires were prepared through rigorous process of consultation with both external and internal supervisors. The questionnaire was pre-tested to avoid duplicate responses as much as possible.

Group discussion and in depth interview was held with concerned people at village level. These discussions were useful to get general and historical information about the leopard predation on livestock in these target areas. The discussion and in depth interview were based on semi structured interview. A total of 47 affected families were interviewed during the survey with the help of a structured questionnaire.

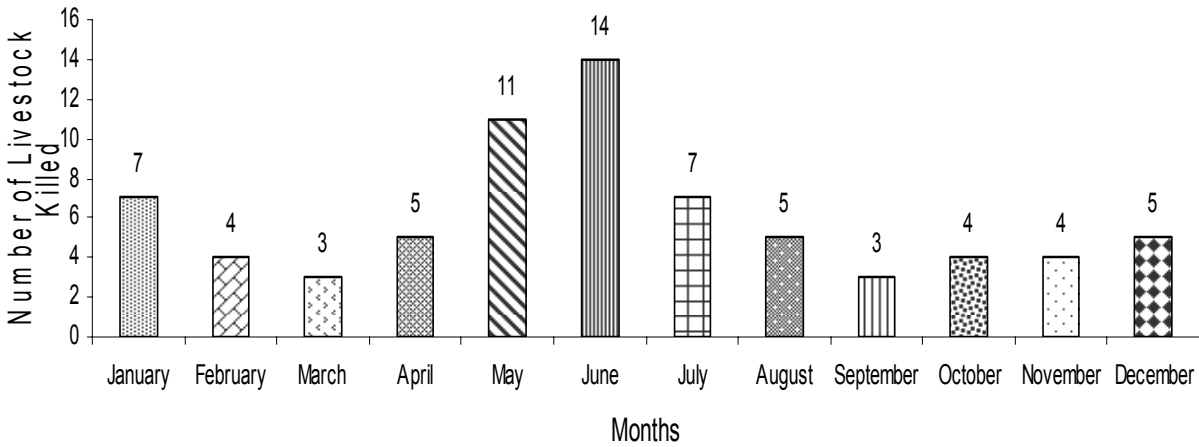
Types of Livestock Killed

The major types of livestock in these villages were the goats and buffalo followed by cows, sheep and donkey. Free grazing of goats and sheep is more common as compared to other livestock type in study area as per field observation.



The present study reveals that a total of 72 animals were killed in 2010 by leopard in PLNP. Goats are the common prey of leopard in these areas. Predation rate of the goats (Goats 46%) is very high followed by the dogs (32%), sheep (17%) and cow (4 %) etc. The maximum number of the livestock were killed during month of June 18% and followed by May and July that is (15%), (10%). in these days livestock is grazed for a maximum time in the forest and pasture, leopard attack chances becomes more in these days as compared to the winter season.

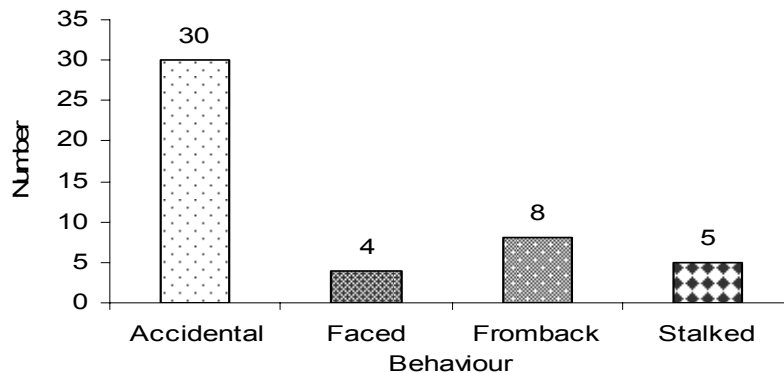
Live Stock Depredation 2010



Behavior of the common leopard during attack

Behavior of the common leopard during attacks was also observed which showed that maximum attacks occurred accidentally. About accidental (63%) faced (9%) from back (17%) and stalked (11%).

Behaviour during Attack

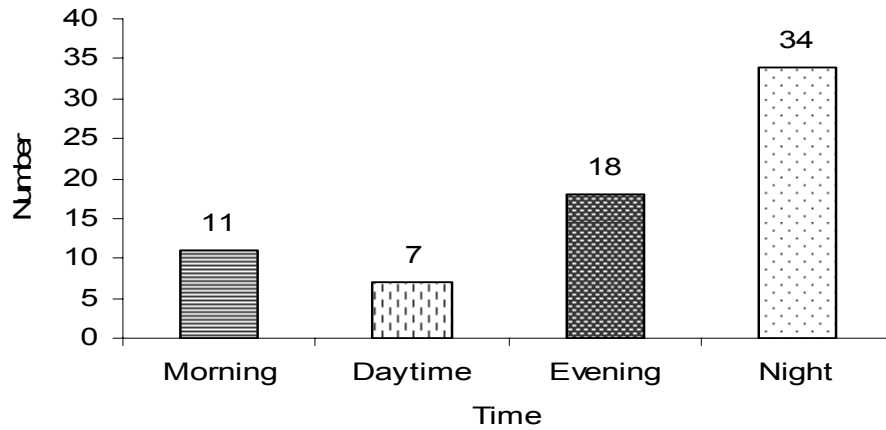


Time of livestock depredation

In 2010 maximum number of livestock 48% were killed at night followed by evening (26%) morning and daytime (10%) and (16%). The night killings occurred mostly in the open place where the livestock were not fully secured and no lighting was done in such places. Mostly open places are without any herder so leopard as a predator, searching for its prey finds the easy prey and attacks on it.

The reason of the low killing during the day time people guarded their live stock mostly people works in jungle for fuel wood collection, fodder for live stock and etc. They provide little opportunity to the leopard for attacks in the day time.

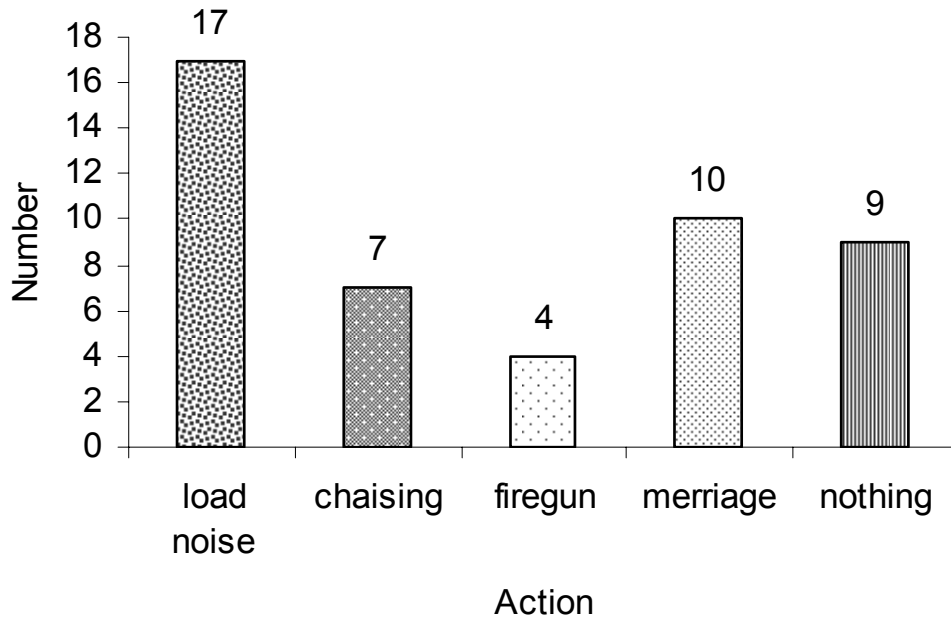
Time of Livestock Depredation



Action against leopard attack

When the leopard attacked livestock mostly the local community made Load noise (36%), chasing (15%), firing (9%), marriage bomb (21%) and nothing (19%) against leopard attacks

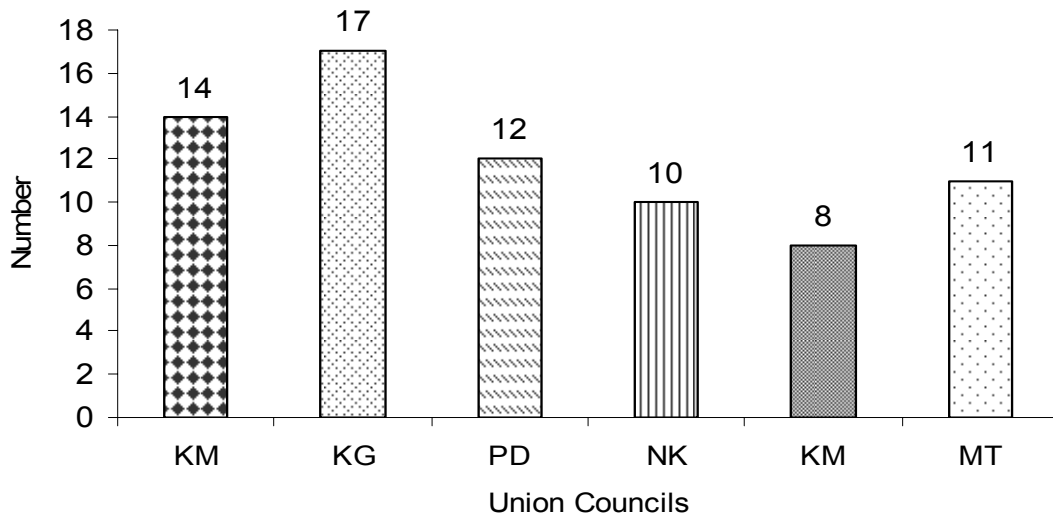
Action against leopard Attack



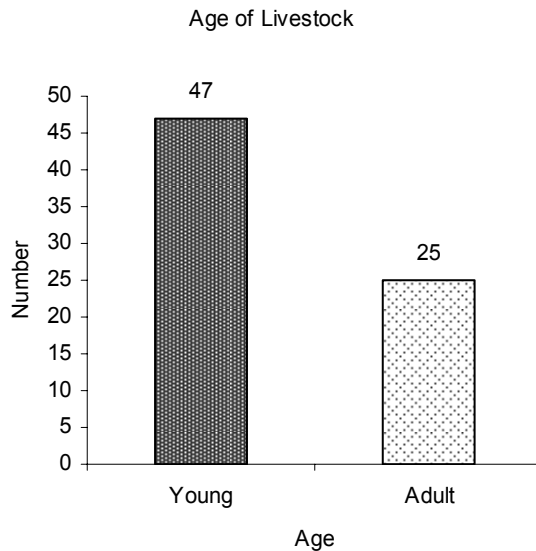
Livestock depredation in different union councils in and around PLNP

All the target villages of the six union councils were selected to determine the livestock depredation rate by the common leopard. average livestock depredation in six union councils are Krela Majhan 19%, khad gujran 24%, plani datote 17%, Nakial14%, Qamrooti11, and matheriani15%.

Livestock Depredation in Union Councils

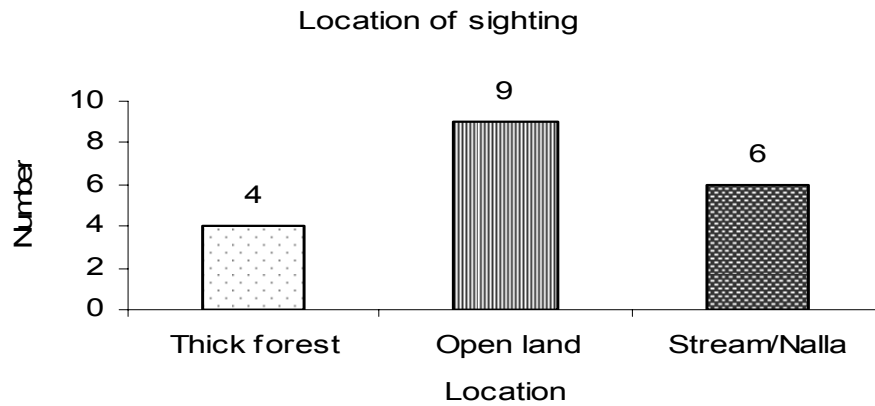


Out of the total livestock killed; about 65% were young and 35% were adult. This information shows that maximum livestock were killed at the young stage. The reason for the maximum killing of livestock at young stage is that; the leopard can easily capture or attack the young one as compared to elder and healthy one from the herds.

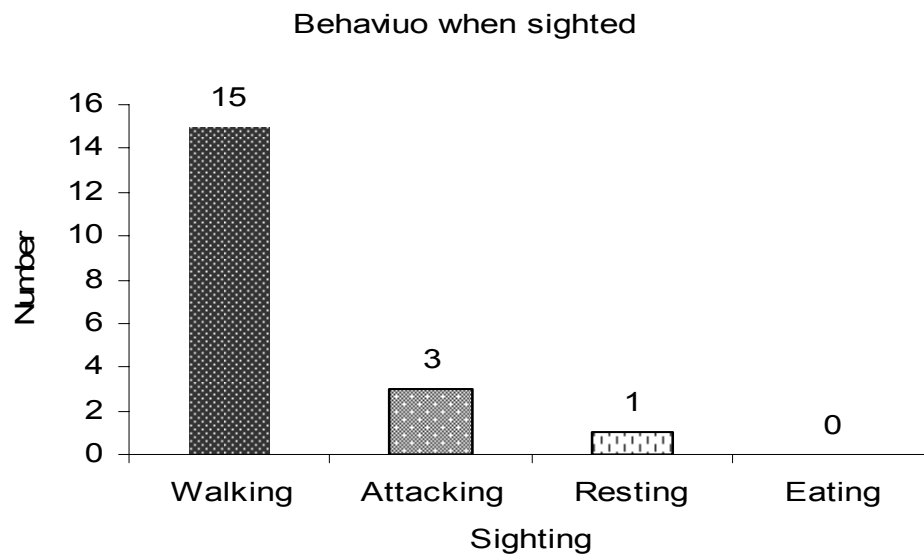


Sighting record information of common leopard during the year 2010 in PLNP

Leopards were sighted at 19 locations during the year 2010. Sighting in Thick forests were 21%, open land 47%, and stream nalla 32%. Number of the sighting at different time is different. The people that live near to the den of the common leopard at Majhan and Butdara mostly saw the leopard with cubs in the evening and the morning time. High Leopard sighting in the villages particularly at morning and evening time was observed.



It is clearly evident from the sighting record that, leopards population in and around the park peripheries is randomly distributed. Behaviour when sighted the common leopard, Walking 79%, attacking 16% and resting 5 %.



The main reasons for the livestock depredation is that the park having very poor prey for the leopards and in summer local people move to the core zone of the park with their livestock, and leopard got easy prey in the form of these free grazing livestock, while the increase of livestock depredation rate around the villages is because of the poor herding practices (grazing without guard).

It is difficult to modify the behavior of the leopards; efforts should be focused on modification of the behavior and adopting appropriate responses through education and information programs. Establish of Compensation scheme in the targeted areas to compensate people for their losses by common leopard.

The removal of livestock from leopard habitat also increase the amount of good grazing available for common leopard prey specie , and reduce the contact between wildlife and people which often leads to poaching.

The main threats to this endangered species in the study area are due to human disturbance and habitat destruction in the form of forest cutting, livestock grazing and fodder collection due to which there natural habitat is shrinking day by day. Rate of the livestock depredation is also increasing which causes retaliatory killing of the species. Thus keeping in view, it is recommended that the human interference should be strictly banned at least in the core zone of the National Park.

Population estimation of common leopard in PLNP

As pugmarks census technique is used for the population estimation of the common leopard. For the regular monitoring and observation, leopard tracks have been identified. Identified tracks based on the previous record information of the sighting, intensity of the livestock depredation and retaliatory killing of the common leopard, also included the natural habitat, habitat preference, density of natural prey, leopard behaviour, home range and the territory of the common leopard. Keeping in consideration, above described information six leopard tracks were identified for regular monitoring. Out of these identified tracks two were out of the national parks. A special datasheet was designed to collect relevant information from the tracks, containing footprints, feces, and other sign-related information

Table 1: Details of the monitoring identified tracks of the common leopard

Track code	Tracking area	Distance covered during monitoring
UPDL - 1	Panjal, Kundi, Nara, Gori, Androoth, Kala pani, Pir Klinjar, Mehdan.	11 km
UPDL - 2	Simti, Majhan, Andrla nar, Jair, Bhata, Rest hous.	17 km
UKML - 3	Krela zerin, Pyne, Grani, River bank, Peli nala, Pehli.	7 km
UNKL - 4	Seri, Tangal, Ktehra, Khandar Bala, Khandyal, Khali, Chchatar.	13 km
UKGL - 5	Panjal, Naran trar, Glehtar, Bermoch, Bdan, Gulhar.	15 km
UQKL - 6	Qamrooti, Topyan, Nailan, Ltehri, Gharbi, Mehra, Sheendara.	9 km

During the reporting period, only two footprints were traced and took their measurements. After careful analysis of the footprints both pugmarks which were traced on the different tracks were identified as individual leopards. Standard method was used to analyze the traced pugmarks. Individual leopards were distinguished from each other and their localities were monitored regularly throughout the study, to get additional information about the leopard behavior. Places for camera traps installation and for regular monitoring of leopards inside the national park, were identified.

Table 2:

Track Code	Length (cm)	Width (cm)	Sex	Foot
UPDL	8.1	8.2	Male	FF
	7.9	7.8		HF
UNKL	8.3	7.6	Female	FF
	7.9	7.2		HF
UPDL	8.2	8.3	Male	FF
	8.0	7.9		HF
UKGL	5.1	4.8		
	4.9	4.6		

On the basis of information it could be argued that, the study area have a minimum number of 3-5 leopards. And every year 2-3 leopard killed in retaliation.



Data collection during the field work



Livestock grazing



Old scats of common leopard



Sign of livestock depredation



Eastern side of PLNP (area from which wildlife move towards the PLNP)