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Abstract: This strategic document was discussed, improved, and endorsed by the meeting held in Gilgit in 2001, and has the following objectives: 1) Provide information on major conservation issues of Snow Leopard in Pakistan 2) Provide guidelines on resolving controversial issues 3) Provide a strategic framework for collection and use of information 4) Provide opportunities to range countries to undertake joint efforts for conservation. Major problems of snow leopard conservation are listed, their reasons are identified and a proposed plan to tackle each problem is proposed. An implementation mechanism involving responsible agencies is recommended and solutions to possible constraints are discussed.



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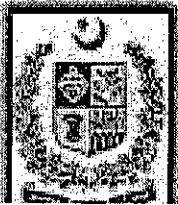
STRATEGIC PLAN FOR THE
CONSERVATION OF SNOW LEOPARD IN PAKISTAN



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On

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* Approved by Stakeholders,
submitted for government
endorsement,



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Background

Snow Leopard is found in the high altitudinal areas in 12 countries, including Pakistan. It is endangered throughout its natural range because of various problems, including direct killing by herders, and reasons such as habitat fragmentation and loss of natural prey

Snow Leopard is important and must survive not only because it and has the right to exist but also because it is a part of the high altitudinal ecology, culture and socio-economic system, perhaps more than any other element of the same environment. However, it is not being recognized to the extent it deserves. Being carnivorous by nature, it has to subsist largely on other animals found in its habitat. Natural prey, being lost from many places either wholly or partially because of uncontrolled hunting, grazing and disturbance of various natures, is substituted by domestic livestock which is the largest source of income of the pastoral community in the alpine and sub-alpine zone. In retaliation to the loss of livestock, herders and livestock owners kill Snow Leopard whenever they can. Since its pelt earns a handsome price in the market, it is a good incentive for the pelt traders as well. Fragmentation of habitats is another factor adversely affecting its survival.

In addition to the above, there are several other problems that do not allow the populations of Snow Leopard to reach a reasonable level all over the natural zone of its occurrence, including Pakistan. Irrespective of what happens in other range states, Pakistan has fulfilled the basic requirement of giving legal protection to Snow Leopard and has even prescribed fines and other punishments if such rules are violated. Since its survival largely depends on the survival of its prey species besides intact habitat and its tolerance by the herder community, a lot has to be done to ensure its conservation.

In Pakistan, there are several organizations interested in the conservation of Snow Leopard. Since no single organization can perform all that is needed to protect the Snow Leopard, a system needs to be developed in the form of an agreed strategic framework that could guide all interventions related to Snow leopard conservation in its natural range.

Keeping this requirement in view, a strategic plan for snow leopard conservation in Pakistan was developed and presented before a group of experts in the relevant field and representatives of various agencies and organizations both in the public and private sectors, having interest in snow leopard conservation.

This document is the final version of the strategic plan that was discussed, improved and endorsed by the meeting held in Gilgit on 20th April, 2001.

Status / potential uses /objectives of the Strategic document

The proposed strategic plan is a document for use by all agencies/ organizations that are interested in the conservation of Snow Leopard or natural habitats in the alpine and sub alpine zones and the associated bio-diversity.

Using this document, all the interested organizations/ individuals could pick the issues/problems of their interest for planning and conducting various interventions that meet their objectives. This could lead, ultimately, to a treasure of information and case studies, so required, for the conservation of Snow Leopard, in its entire range.

Based on this, the strategic document has the following objectives:

- Provide information on major conservation issues of Snow Leopard in Pakistan
- Provide guidelines on resolving controversial issues in relation to the conservation of Snow Leopard
- Develop/Provide a strategic framework for the collection and use of information in the conservation of Snow Leopard on long term basis.
- Provide opportunities to range countries to undertake joint efforts for the conservation of Snow Leopard

Guiding principles

The strategic plan is guided by the following principles:

- Sustainability of resource conservation depends largely on the quantity and quality of available information and its proper usage
- Conservation efforts have brighter chances of success when undertaken in partnership and with shared responsibility
- The right (of Snow Leopard) to survive and flourish is honored only if the right of the pastoral community to optimize their earnings is accepted, respected, and supported
- The structure of conservation stays longer if built on the foundation of awareness and education of relevant target groups
- Cash compensation for the livestock depredation is not a sustainable solution: it is a never-ending game that opens ways to corruption and of no obvious benefit to the cause of Snow Leopard conservation

Proposed Strategic Plan

Problem: *Retaliatory killings of Snow Leopard by livestock owners*

Reasons

- Livestock owners do not see any personal gains in the survival of Snow Leopard
- Damage done by Snow Leopard to the domestic livestock is not compensated in any form, by any agency
- Women are not motivated enough to resist the killing of Snow Leopard by their men in retaliation to depredation
- Livestock owners lack the needful skills and capacities to avoid frequent predation of their livestock by Snow Leopard both on the pastures and in corrals

Proposed Plan

- Depredation hotspots shall be identified throughout the natural zone of Snow leopard occurrence
- Demonstration models shall be established in the high depredation areas:
 - ⇒ Herders would be trained to take better care of their livestock, construct predation proof corrals and undertake activities that could sufficiently enhance their income to compensate for the losses because of predation by Snow Leopard
 - ⇒ Livestock owners shall be educated about the advantages of the existence of Snow Leopards
- The successful models would be replicated in other high depredation areas
- Women would be motivated to play their potential due and potential role in the conservation of Snow Leopard
- The sale of poisonous chemicals in local markets shall be controlled.

Problem: *Fragmentation of the Snow Leopard habitat*

Reasons

- Habitats, crucial for the survival of Snow Leopard, have not been properly identified and notified as *protected* against negative developments
- Development of infrastructure is done haphazardly and without following the legal procedures as laid down in rules related to environment and biodiversity conservation

Proposed Plan

- All crucial Snow Leopard habitats shall be identified and marked on maps.
- Demand for, and conduct of Environmental Impact Assessment shall be seen as a major tool to avoid negative developments in important or potentially important habitats of Snow Leopard and its prey species

Problem: *Killing of Snow Leopard for its pelt and other body parts*

Reasons

- Communities are mostly unaware of the issue and have no interest in it
- Check posts are either missing or non- functional
- Traders, even if known, are not punished because of their manipulative skills

Proposed Plan

Information shall be gathered about all the important pelt markets and routes of pelt trade and shared with agencies responsible for the control of such activities.

- Functional check posts shall be established on critical routes as identified above, to check any pelt being carried through
- Information on pelt traders, if known to any individual or agency, shall be collected and made available to law enforcing agencies (in strict confidentiality) for further investigation and/or legal action against the traders
- A reward scheme shall be introduced for staff that shall actively participate in the control of pelt trade.

- The amount of fine for pelt traders shall be increased.

Problem: Loss of prey species of Snow Leopard

Reasons

- Uncontrolled hunting of important prey species has reduced their populations
- Excessive and uncontrolled grazing by livestock has reduced both the quantity and quality of food for the prey species, thus adversely affecting their reproductive capacity and simultaneously increasing their susceptibility to various diseases if they share their habitats with domestic livestock

Proposed Plan

- Illegal hunting of wildlife species will be controlled in important Snow Leopard occurrence zones
- Livestock grazing will be regulated according to the health of the pastures in areas where important prey species of Snow Leopard occur
- Species recovery program shall be developed and implemented.

Problem: Existing protected areas are insufficient both in numbers and sizes to provide refuge and food to Snow Leopard

Reasons

- There is a strong likelihood of resistance (by the local communities) to the creation of new or extension of existing protected areas
- Government land in the Snow Leopard habitat is not enough to meet the requirements of creating viable protected areas network for Snow Leopard or create corridors between the existing protected areas
- Government institutions have insufficient capacity to properly manage the existing protected areas in the Snow Leopard habitat

Proposed Plan

- Snow leopard hotspots shall be identified throughout its natural range
- The validity and effectiveness of the existing protected areas shall be assessed in the context of the requirements of Snow Leopard for space and food

- Extension in their areas shall be considered in consultation with the local communities so that their rights of uses or ownership are not affected against their will and consent

Problem: Lack of awareness

Reasons

- Lack of appropriate information about Snow leopard, its ecological importance and facts about predation and other aspects, so as to develop relevant messages for key target groups
- Lack of awareness program/activities on the agenda of most of the relevant organizations for those who matter
- Insufficient institutional support to accommodate the needful awareness programs for new generations

Proposed Plan

- Information would be collected from herders and through field surveys to be used for awareness raising among the concerned communities in general and the herders in particular
- Awareness plan would be developed for academic institutions in the Snow Leopard zone and presented before the relevant authorities for their support in implementation
- Plans would be developed for a wide range of audiences
- Print and electronic media will be involved in awareness raising program

Problem: Lack of joint and coordinated efforts

Reasons

- Partners are not known
- Coordination is not existent

Proposed Plan

- Partners shall be identified at regional level (NAs, Chitral, Upper Swat, AJ&K) and responsibilities for the conservation of Snow Leopard be shared

- WWF- Pakistan in association with ISLT shall provide coordination support till other appropriate arrangements are in place
- A system shall be jointly worked out for holding periodic meetings and collection and dissemination of information

Problem: *Weak implementation of the existing rules regarding the protection of Snow Leopard, its prey species and habitat*

Reasons

- Existing rules are not properly implemented because of certain loopholes and weaknesses
- Staff of the wildlife department is not enough to effectively cover the entire Snow Leopard zone
- Community is not motivated, trained and sufficiently involved to play an effective supervisory role especially in places where staff of the Wildlife Department is not available or which are difficult for them to reach

Proposed Plan

- The network of community reserves/community managed conservation areas shall be further strengthened and expanded to important sites of Snow Leopard occurrence
- The possibility of posting community watchers for sustainable economic and social incentives shall be assessed and tried in places where other programs are not in place
- Publicize and update the existing rules

Problem: *Lack of capacity of relevant Government & non-Government Agencies and CBOs to collect needful information on Snow Leopard*

Reasons

- There is no regular training program of any agency in Pakistan that could provide needful training on issues related to Snow Leopard conservation
- Resources are either insufficient or non-existent with the potential recipient organizations/individuals to pay for their training

- Availability of funding to support trainees for their travel, boarding and lodging under a regular training program is lacking even if capacity to provide such training exists with certain agencies/organizations

Proposed Plan

- Partners should agree on a comprehensive training plan for implementation by an agency that is competent to do so and thus made responsible for this purpose
- Proposal will be developed to obtain long term (5-10 years) funding to cover the costs involved in such training
- The SLIMS has widely been used in Pakistan and could be made part of the implementation strategy be considered for data collection

Problem: Lack of Scientific Research

Reasons

- Research institutions and universities, having the potential to undertake research on Snow Leopard and related issues, have normally no resources to do so
- Students from local and foreign universities are not aware of the available research opportunities on Snow Leopard in Pakistan
- There is no program that provides research grants to students/researchers interested in research on Snow Leopard and related issues

Proposed Plan

- Partners will identify various research areas crucial to the survival of Snow Leopard from socio-economic perspectives and agree on a mechanism whereby support could be extended to various research organizations and individual researchers and students to work on the agreed topics
- Research areas, when identified, shall be circulated widely for encouraging local and foreign students and researchers to undertake the needful studies through the support available from different sources

Problem: Snow Leopards trapped in farmer's houses are generally lost to the wild

Reasons

- Farmers do not generally know whom to inform or what to do with the trapped animals
- Relevant agencies, even if informed, have no facilities to rescue and rehabilitate the trapped animal

Proposed Plan

- Repay the rescue cost
- The partners shall agree on the most convenient locations for the availability of needful equipment and trained staff and the mechanism to procure such equipment, train people and to publicize it widely so that it is known to people in the Snow Leopard occurrence zone
- A system shall be worked out to recognize individuals/villages helping in rescue of trapped animals
- Incentives for community when releasing the trapped animals

General:

- The plan should ensure maximum benefits to the community (employment, daily wages etc)
- Pool the money if possible
- Research should be implemented if found practicable

Implementation mechanism

Although the strategic document may be implemented by various organizations or institutions at federal or provincial level or by agencies in private sector within their work system, a meeting in Gilgit, held on 20th April 2001, comprising of key representatives of various institutions, interested in Snow Leopard conservation, recommended the following mechanism:

1. National Council for the Conservation of Wildlife (NCCW) should act as a coordinating agency, drawing support from WWF and other relevant agencies for the implementation of the strategy and obtaining and keeping records and reports for sharing with other interested partners and stakeholders, when they desire so.
2. NCCW may formulate a technical committee to elaborate upon the implementation mechanism further and develop, when needed, a comprehensive

action program for the implementation of individual components of the strategy.

3. Each Provincial Wildlife department and concerned institutions in the public and private sectors may implement this strategic plan in accordance with the broad policy framework, as advised by the plans, however they may contact NCCW, WWF or other relevant institutions for any possible help in their conservation related interventions.

Keeping in view the above broad implementation guidelines, WWF-Pakistan in collaboration with ISLT and other partners would implement the strategy in the following manner:

Component 1: Arrest the fragmentation of Snow leopard Habitat

Snow leopard range maps will be produced for Pakistan using the data from the SLIMS surveys and other available sources. Map attributes may include snow leopard sign density, prey density, protected areas, and livestock use areas, areas of known conflict. Snow Leopard hot spots and areas where conflicts are a serious or a potential concern will be identified.

Using the data and maps mentioned above, a Gap Analysis for snow leopard range would be conducted. This will allow a detailed and scientifically prepared list of potential Snow leopard habitats that could be included in the network to be forwarded to government for consideration. Where protected area status is not feasible; the information will help in determining alternative conservation measures, such as community co-managed grazing reserves and economic incentives.

Component 2: Ensure joint and coordinated efforts

WWF will facilitate NCCW in establishing the technical committee; if desired so, to review the progress made in the Snow Leopard range by various agencies and advice on further improvement.

Component 3: Implement the existing rules regarding the protection of Snow Leopard, its prey species and habitats

WWF-Pakistan is not a law-enforcing agency. It can advise on certain aspects such as publicizing of the major issues and publicizing and helping in updating the existing rules. Government Wildlife departments have the primary responsibility of law implementation, however, the Snow Leopard project may help in developing their capacity if needed by the concerned departments and if facilities are available with the project.

Component 4: Build capacity of relevant Government and non-Government Agencies and CBOs to collect information on Snow Leopard

At least one training program will be arranged each year on rotational basis for staff of wildlife departments, conservation organizations, or other entities that could make use of such training. SLIMS, community-based conservation, management planning, and other appropriate topics will be covered under this program. To ensure that training is put to use, follow-on visits or contacts would be made and the training programs improved on the basis of "trainee" feedback or needs.

Component 5: Encourage scientific research

To help develop the capacity for research and management of snow leopards in Pakistan, four students from national institutions will be invited and sponsored to participate in fieldwork conducted under this program. Research grants will also be provided to researchers on subjects related to Snow Leopard conservation.

Component 6: Minimize killing of Snow Leopard for its pelts

- Potential markets will be identified in the country to find out sites for pelt trade and other body parts in Pakistan.
- Law enforcing agencies will be approached to inform them about the status of the pelt trade in Pakistan

Component 7: Minimize retaliatory killing of Snow Leopard by livestock owners

A two-pronged approach is required:

1.Reduce the loss of livestock to Snow Leopard.

- Extensive interviews will be conducted with graziers in the snow leopard range to assess the level of conflict between wildlife and livestock.
- Depredation statistics will be collected during the interviews and from historic records maintained by government agencies.
- A comprehensive picture of past and present depredation and the financial impact on graziers will be determined.
- A monitoring system will be established in cooperation with government agencies and local village councils or leaders to assess the future trends.
- In collaboration with the ISLT experts, the project will test at least one breed of livestock guard dog. The experience shall be replicated, if found useful.

- Improved corrals have proven useful in reducing losses to Snow Leopards in other range states (Ladakh (India) and Nepal). Buffer zone of Khunjerab National Park is one area where the use of improved corrals could be tested to reduce losses of livestock. Public meetings will be held to determine villagers' attitudes to such a program and if feasible, corrals with improved design will be built. Ownership by the villagers shall be ensured. Efficacy of the treatment will be closely monitored by the Snow leopard Field Biologist for any possible improvement.

2. Develop and implement an incentive package for the herders

Some of the important Snow Leopard habitats have already been identified. A minimum of one village will be selected for developing a multi-dimensional incentive program for the conservation of Snow Leopard. A preliminary survey of several grazer households in Snow Leopard range revealed two potential areas for initiating incentive programs: income generation through handicrafts and disease control to reduce livestock losses.

Snow Leopard Project will establish model programs on such incentives in selected sites. Criteria for selection will include:

- Presence of Snow leopard and prey
- Conflicts resulting from livestock depredation present
- Relatively high dependence on livestock
- Accessible for ease of monitoring and replication
- Potential for running awareness programs - presence of schools and nature clubs
- Absence of other conservation or development programs to avoid duplication of efforts and facilitate monitoring of impact
- Availability of some level of social organization to facilitate project implementation

2.1. Income generation through handicrafts

Availability of handicrafts is not uncommon in the region but villagers are not aware of their potential value or lack the ability to reach markets, or artisans do not have sufficient understanding of design requirement and product development to take advantage of marketing opportunities.

Local community does have a local culture and tradition of producing handicrafts, however, they do not get sufficient income out of these because they are unaware of the end market and the profit which the middleman makes from it. Moreover, their products are not based on the requirement and demand of the market. Accordingly a range of products will be designed, training and minimal equipment will be provided to increase efficiency and marketing support will be offered in order to develop a sustainable business that brings additional income to the community. Participation will be linked to specific conservation actions and a procedure will be carried out that the non-compliance results in financial losses for the target community.

The program will benefit from an existing marketing infrastructure developed by ISLT for a similar conservation incentive program in Mongolia (Snow leopard Enterprises), and under development in Kyrgyz Republic and India.

2.2 Livestock disease control and pasture management

Initial surveys have confirmed earlier findings that livestock disease control could be a powerful conservation tool. Various diseases regularly kill 15-25 percent of livestock holdings, whereas Snow leopards only take 1 or less than 1 percent. By reducing losses to disease livestock owners will be more tolerant of occasional losses to snow leopards. During the process the herders/owners will be trained in livestock husbandry and first aid, who will provide further training to the rest of the community or will help them in disease control as master trainers. Terms of Partnership (ToP) will be signed with the herder community to protect Snow leopard in reward to Snow Leopard project disease prevention, vaccination and master training program.

Component 8: Enhance public awareness of the snow leopard and the fragile ecosystem it occupies.

The inhabitants of Snow leopard habitat in Pakistan have generally negative attitudes to the predators, being a pest they want it to be eliminated. Some people are aware of wildlife laws, prohibiting hunting of Snow leopards, but mass awareness of the rationale is lacking. Due to the presence of a successful trophy-hunting program in certain valleys whereby the community receives a large percentage of the license fees, ungulates are regarded as valuable resources. Snow leopards on the other hand, cause problems by preying on livestock while their ecological value in the eco-system is not properly understood. Similarly, the threats to its extinction are also not fully appreciated. These factors combine together to create an urgent need for a comprehensive conservation awareness program for northern Pakistan.

The awareness program will target different audiences using different materials as appropriate.

8.1 School children and teachers

An important target group is schoolchildren as these are the future decision-makers and often able to influence the attitudes of their parents more effectively than programs aimed directly at adults. School teachers can play an important role if they are trained on the concept and procedure of nature clubs. The program will include:

- Organize training for school teachers in Environmental Education to train them as master trainers
- Establish nature clubs in the Snow leopard habitat and develop activities for members including essay and artwork competitions, exchange of letters with

clubs in other parts of snow leopard range within Pakistan and across Asia.

- Develop lesson plans and materials for teachers, and training in their use. Content will include snow leopards and mountain Eco-systems but designed in a way to complement curricular subject areas.

8.2 Adults

Threats facing snow leopards in Pakistan being immediate so it demands to target adults to raise awareness about threats, increase understanding of the role of the snow leopard in the mountain Eco-system and gain their support for the cause of conservation.

Methods for delivering the message will include:

- Radio broadcasts
- Articles in local papers
- Preparation of leaflets, posters and wall-charts, and their display in public places such as post offices, airports, restaurants and shops
- Newsletter and its distribution to a wide range of audiences in snow leopard range
- Stickers and badges for gifting to members of nature clubs and individuals interested in Snow Leopard conservation.

The proposed awareness program will cover some of the major issues concerning snow leopard conservation.

8.3 Women in snow leopard conservation

Women, though half of the total population, are ignorant of most of the conservation issues. They could be of tremendous help or support provided they are involved in activities related to Snow Leopard conservation.

In order to enlarge the sphere of support for Snow Leopard against the retaliatory killing, women would be involved in the process, adopting the following approaches:

- Create awareness among them
- Help them to build their capacity for enhancing income from their livestock and other sources.
- Establish linkages between the above income opportunities for women and conservation of Snow Leopard

Possible constraints and their solutions in the process of implementation

1. Availability of human resources

None of the agencies may have free staff to start work on issues related to Snow Leopard. This can become mandatory for the staff working on any other related issues: veterinarian of an agency can collect data on the numbers of livestock killed by Snow Leopard and compare it to those killed by diseases. Independent units could be created later in the process.

2. Availability of financial resources

None of the implementing agencies, except one or two, may have resources to invest in Snow Leopard conservation. The best practice is to start with the activities that could be done without large investment or with activities already underway. Any development work, for example, done for and with the community, may inculcate the awareness component of the strategy, adding more when resources permit to do so.

3. Demand for quick compensation

Herders may demand a quick compensation for their livestock losses. They have been doing it in the past and are doing it even today when no strategy or its implementation is in place. Since everything under this strategy is going to help the herders in one way or the other, they have to be convinced on it. In any case, cash compensation must be avoided, as there is no end to it.

4. Others

There may be a large number of other problems in the implementation process that may be discussed in the Steering Committee meetings, and a joint solution found