

**Grassroots Measures To Protect the Endangered Snow Leopard from Herder Retribution:
Lessons Learned from Predator-Proofing Corrals in Ladakh**

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Abstract: Livestock depredation is an increasingly contentious issue across the range of the endangered snow leopard (*Uncia uncia*). Depredation is most severe in or near protected areas offering core habitat for this cat. "Surplus killing," in which as many as 100 sheep and goats have been killed in a single night, inevitably results in attempts at retaliatory killing of predators by herders suffering significant loss. Ironically, such predation by snow leopard, wolf, or lynx can be avoided by adequately predator-proofing night-time enclosures. Predation on the open range is far more difficult to address, but may be reduced to acceptable levels through improved day-time guarding of livestock, educating herders on the importance of protecting the predator's natural prey base, and by providing economic incentives to help offset unavoidable loss.

This paper describes community-based initiatives being undertaken in India's Hemis National Park aimed at predator-proofing livestock corrals and encouraging local herders to become more effective stewards of the snow leopard, its prey and habitat. A highly participatory, 4-step process known as Appreciative Participatory Planning and Action (APPA) provides the primary mechanism for assisting communities to develop Action Plans to reduce livestock depredation losses, increase household incomes, and strengthen environmental stewardship. Herders are informed about the Snow Leopard Stewardship program and conditions for a successful outcome. The team, comprised of local people, NGO staff, facilitators and government officials, first identifies the root causes for depredation (*Discovery*). Under the next phase, *Dreaming*, participants envision how their village might appear if depredation losses were reduced to acceptable levels, household incomes increased, and snow leopards fully protected. This provides a good basis upon which to collaboratively devise actions for addressing the community's concerns (*Design*). *Delivery* involves implementing actions under the overall Action Plan, as well as specific measures that can be acted upon immediately. The community is encouraged to use simple but realistic indicators for monitoring the project's effectiveness.

In Lessons Learned to Date, we highlight the importance of providing meaningful community involvement from inception through project implementation and monitoring. The use of APPA

greatly increases ownership, communal empowerment and self-reliance, and local people's willingness to protect wildlife. The Snow Leopard Conservancy believes that the most effective conservation actions will be contingent upon (1) establishing direct linkages with biodiversity protection; (2) ensuring reciprocal co-financing and commensurate responsibility from the community; (3) encouraging full participation from all stakeholders irrespective of their gender, age or economic status; and (4) ensuring regular monitoring and evaluation under an agreed-to Action Plan that sets forth the responsibilities, contributions and obligations of each partner.

Introduction

Livestock depredation by snow leopard and wolf is widespread across the Himalayan region (Jackson et al. 1996, Jackson and Wangchuk 2001; Mishra 1997, Oli et al 1994). For example, in India's Kibber Wildlife Sanctuary, Mishra (1997) reported losses amounting to 18% of the livestock holdings and valued at about US \$138 per household. The villagers claimed predation rates increased after establishment of the sanctuary, but surveys indicated a dramatic increase in livestock numbers accompanying changes in animal husbandry systems (Mishra 2000). Similar conditions were reported from the Hemis National Park in Ladakh, India, where more than 50% of households reported losing 1-15 % or more of their domestic stock over a 14 month period (Bhatnagar et al. 1999).

The Hemis High-Altitude National Park covers around 4,000 square kilometers in the TransHimalayan Range of Ladakh (Fox and Nurbu 1990). The park is considered prime snow leopard habitat, and harbors four species of wild sheep and goats, giving it international biodiversity importance. About 1,600 people live in 16 small settlements scattered across three valleys. They grow barley and a few vegetables, and own more than 4,000 head of livestock, of which 81% are sheep and goats, and 11% are yaks, cattle and crossbreeds. Tourism provides an important source of supplementary income. Ladakh was opened to tourism in 1974, and the Markha Valley circuit through Hemis National Park remains the most popular trekking route, with about 5,000 visitors per year.

The 1999 survey of 79 households in the park indicated that snow leopard and wolf were associated with 55% and 31% of presumed depredation incidents respectively, with sheep and goats constituting 75% of the stock lost, followed by yak-cattle (13%) and horses (8%) (Bhatnagar et al. 1999). Three settlements incurred 54% of all known or presumed depredation according to the interview survey. Loss resulting from snow leopards entering poorly constructed corrals accounted for 14% of all incidents (N = 210), but nearly 50% of all livestock killed, understandably arousing considerable anger among the livestock owners. Depredation varied geographically with distinctly recognizable "hotspots."

In response to the rising complaints from local residents, the Jammu & Kashmir Department of Wildlife Protection instituted a compensation scheme in 1997. However, within two years the Department found itself committing 60% of its annual \$26,000 budget to the program. Frustration

with the scheme was high with some payments taking up to two years, and claimants being reimbursed at a fraction of the animals' worth. The relocation of residents or the exclusion of livestock from the park is not an option; rather the local people's willingness to co-exist with predators is dependent upon actions to reduce depredation to an acceptable level, while also improving household incomes to offset unavoidable livestock losses (such as occur on the open range during the daytime even with reasonably good guarding practices).

This paper describes grass-roots initiatives and the process being employed to address this contentious issue in Hemis National Park. We have found that livestock depredation can be significantly reduced by predator-proofing nighttime livestock pens or corrals, thus largely removing the basis for retributive killing by shepherds. Fostering stewardship for snow leopards and other wildlife is a long term objective of the program.

Program Objectives and Planning Process

The Snow Leopard Conservancy (SLC) was established in 2000 with the goal of:

- ▶ Reducing livestock depredation by predator-proofing corrals, educating herders and otherwise improving animal husbandry and guarding practices;
- ▶ Closely linking snow leopard and biodiversity conservation with initiatives aimed at enhancing household incomes in environmentally friendly, socially responsible and economically viable ways;
- ▶ Increasing environmental awareness and understanding of the fragile mountain ecosystem, especially among rural communities and decision-makers through innovative, cost-effective outreach initiatives; and
- ▶ Conducting non-invasive baseline research on snow leopards, their prey and habitat, in order to blend scientific information with local knowledge

Since 1996 Jackson and Hillard have worked with The Mountain Institute, laying the framework for a more effective community-based participatory process for designing and implementing long-lasting, locally appropriate measures addressing crop and livestock damage due to wildlife (The Mountain Institute 1997). This approach has been further refined based on the authors' experiences in Hemis NP over the past 3-4 years.

We start by holding a meeting with all households to discuss SLC's mission and the objectives of its Snow Leopard Stewardship Program, the overall planning process employed, and what would be expected from the community in terms of their involvement, contribution and responsibility. Table 1 indicates the five conditions that SLC expects of each collaborator, including external donors and the beneficiary community.

Table 1: The Five Conditions Governing Community Engagement and Action Planning

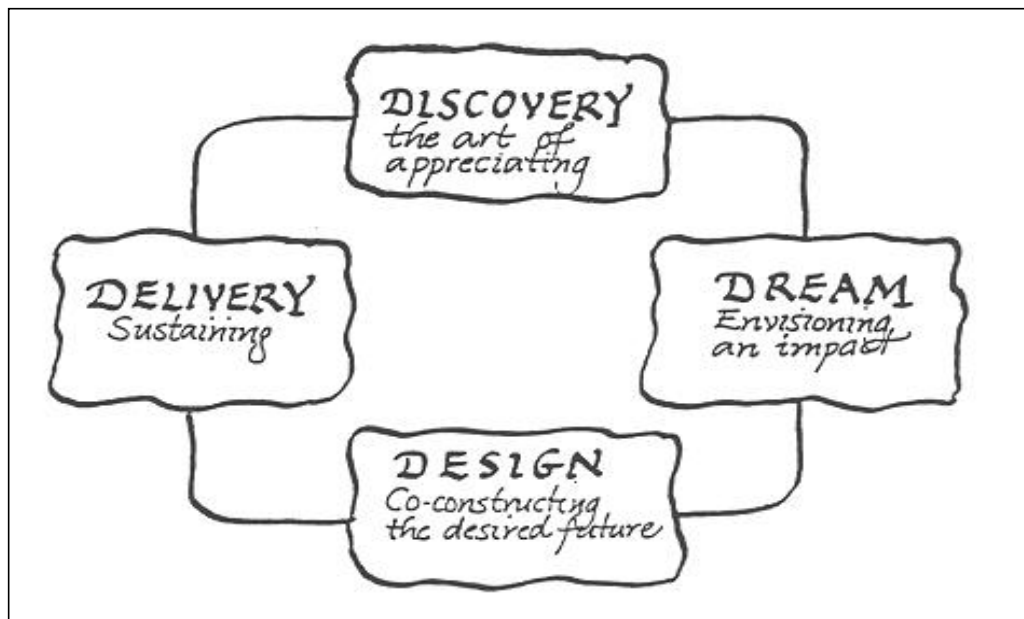
Condition	Explanation
<i>Linkage with Conservation</i>	Snow leopard and mountain biodiversity conservation is the primary motivation behind external investment, and therefore all project activities must be implicitly linked with clearly defined conservation objectives
<i>Participation</i>	The active and equitable involvement of each stakeholder group, irrespective of gender, age or economic status, is promoted throughout the project to ensure all affected households will be benefitted, and to encourage meaningful participation in planning, implementation and monitoring
<i>Reciprocity</i>	All stakeholder groups -- whether outside donor, local NGO, government, or local resident -- are expected to make a reciprocal contribution within their respective means (e.g., cash, materials, labor, or in-kind service)
<i>Responsibility</i>	The beneficiary community must be willing to assume responsibility for meeting conservation objectives and for maintaining any buildings or facilities resulting from the project. There should be clear penalties for infringement by any participant.
<i>Monitoring</i>	Stakeholders should employ simple but realistic indicators described in a jointly prepared Action Plan (which is also signed by the key parties) for monitoring project impact and performance.

Appreciative Participatory Planning and Action (*APPA*) is used throughout the project to facilitate interaction between the different players and stakeholders. *APPA* combines concepts from *Appreciative Inquiry* (as applied in business leadership training) and *Participatory Learning and Action (PLA)*, Pretty et al. 1995), in a collective inquiry and planning mechanism aimed at fostering consensus and achieving cohesive actions among a range of participants. *APPA* operates under two complimentary premises: (1) What you seek is what you find - “if you look for problems, then you will find more problems” and conversely, “if you look for successes, then you will find more successes,” and (2) What you believe in is really what matters most - “if you have faith in your vision or ideas for the future, and if these are do-able or believable, you can achieve success without waiting for the government or an outside agent to take you there.”

APPA is practiced through a sequential, reiterative process that seeks to (1) *discover* the community’s strengths and its valued resources; (2) *envision* their short- and long-term futures if the

necessary resources were suitably mobilized and the community acted in concert; (3) *design* a basic action plan for guiding both development and nature protection in ways that substantially limit long-term dependency upon outside financial sources or technical “know-how;” and (4) *motivate* participants to initiate community-improvement actions *immediately*, and largely on their own, rather than delaying the process for “some time in the future.” (Figure 1)

Figure 1: The APPA Cycle



Effective remedial actions hinge upon a sound understanding of the root causes for depredation, which in turn requires a deep appreciation of how people manage their domestic herds and their rationale for decision-making. Basic tools from *Participatory Rural Appraisal* are used, for example, to map village pastures and other natural resources of importance, to document existing or historical animal husbandry practices, and to explore traditional livestock guarding measures (see Table 2 for examples of important tools and associated information). Almost all of the exercises used in the discovery and planning phases can involve non-literate villagers, since they rely more upon drawing simple visual pictures or displaying relationships on paper or even directly in the sand, rather than on completing complex questionnaires or conducting scientific plot sampling.

Table 2: Examples of PRA Tools Used for Appraising Livestock Depredation and Animal Husbandry Patterns

- ▶ Natural resources and village assets map
 - ▶ Map of depredation “hotspots” and seasonal pastures
 - ▶ Calendar of seasonal livestock movements and daily herding cycle
 - ▶ Seasonal calendar of depredation losses (shows peak depredation periods)
 - ▶ Pasture ranking with respect to depredation and other losses
 - ▶ Pair-wise matrix ranking of major sources of livestock mortality
 - ▶ Ranking of different guarding measures
 - ▶ Income and livelihood ranking matrix
 - ▶ Semi-structured interviews to assess predation causes and patterns, along with possible remedial actions
 - ▶ Venn diagram showing village institutions affecting livestock production & management
 - ▶ Village or pasture walk to obtain first-hand understanding of livestock management practices and issues
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Results to Date

The participatory “discovery” phase exercises conducted in the five settlements of Markha, Rumbak, Skyu-Kaya and Hankar have all implicated poorly constructed livestock pens and lax daytime guarding practices as the primary cause of depredation. Stock are allowed to forage, often completely unguarded, in areas with well-broken terrain and cliffs, and thus offering prime habitat to snow leopard (Jackson et al 1996). The fact that domestic livestock now substantially outnumber natural prey and biomass only invites loss to wild predators. Historically there has been better emphasis on daytime guarding, and problem predators were controlled through trapping and other traditional control methods (which are no longer permitted by the government). With more children going to school and youths increasingly reticent to assume the difficult livelihood of livestock herding, even highly vulnerable small-bodied livestock are left to graze unattended during the daytime. While baseline documentation is lacking, predator numbers appear to have increased due to park regulations and patrolling by park guards. The mapping and ranking of pastures clearly suggest that depredation rates vary with locality, presumably reflecting differences in predator densities, habitat suitability and herding patterns.

Following this initial “discovery phase,” we then envisioned how each village might look within a time frame of 1-2 years (short-term) and 5-10 years (long-term) if the community acted to reduce predation losses, protect snow leopards and other wildlife, and successfully enhanced their income-generation skills. Images from these individual and collective “dreams” provided a firm basis upon which to collaboratively design remedial measures for reducing depredation loss, improving household income and promoting wildlife conservation and stewardship. Participants tended to visualize a situation in which people and wildlife lived in harmony, and in which the people’s prosperity supported this balance.

In the next phase, we asked the participants to help us design activities which could make their dream more of a reality. First, the team made a list of information needed to develop its Plan of Action (Table 3), an activity that helped us identify gaps in information. The group realized that these gaps had to be addressed during the course of planning, and in so doing they would have to revisit earlier phases of planning for more focused discovery and dreaming activities. Much of the skill in applying APPA lies in knowing the most appropriate times to revisit Discovery and Dreaming, when to intercede with external technical input, when to push the group deeper into a topic, or when it is best to back off and accept somewhat “fuzzy” information.

Table 3: Key Information Needed for Planning and Implementing Remedial Measures

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- ▶ Determine livestock losses by kind, sex, age, location (especially “hotspots”) through interviews, direct observations and other means
 - ▶ Identify other mortality factors (e.g. disease, accidents) and their relative importance
 - ▶ Identify root causes of depredation (such as lax guarding, depleted prey base, grazing in depredation-prone areas)
 - ▶ Provide a sound basis for developing environmentally appropriate, cost-effective measures to reduce losses (“Best Practices Design and Operational Criteria)
 - ▶ Identify how best to share responsibilities and costs of preferred remedial measures
 - ▶ Provide a basis for monitoring the effectiveness of implemented measures (who, when, how, where) that may include differing approaches on the part of the implementing agency and the community
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Participants were asked to follow “Best Practices” guidelines in designing the remedial actions so that they would be (1) environmentally responsible; (2) economically sustainable within the local context; (3) socially responsible (e.g. build upon proven traditions and cultural values that protect nature rather than damaging it); and (4) implemented under a mutually agreed-to and signed “Action or Work Plan” which sets forth the responsibilities, contributions and obligations of each partner (Jackson 2000). Clearly, any action must be compliant with the park’s rules and regulations, as well as sensitive to local wildlife species and habitat management needs. The action should not result in fewer snow leopards or blue sheep, and could not allow hunting, trapping or poisoning of animals. Best practices also provide an avenue for blending external expertise and scientific knowledge with local traditional knowledge. This better ensures remedial measures will meet the park’s regulations while offering room for locally flexible designs based upon the crop and livestock damage control lessons learned in other areas.

Typically during the Design phase we have held discussions about our livestock husbandry poster, which depicts one valley with good management practices and another which needs improvement. It is important to agree on what can and cannot be realistically achieved in terms of reducing loss, and to accept the impossibility of eliminating all livestock depredation. For example, there is no easy solution to depredation on the open range. Large-bodied stock like yak, yak-cattle crossbreeds, and horses need to roam widely when foraging, and consequently are rarely tended by shepherds, yet they may also fall victim to snow leopards or wolves, especially in winter when they are weaker.

Also using the poster—which illustrates examples of economic and social benefits associated with protecting wildlife—we have explored ways in which wildlife can be of benefit to the local people. We looked at how to improve upon what they were already doing, rather than trying to establish an unfamiliar activity or economic system. In Ladakh, where adventure trekking is well established, local people needed help in capturing more tourist dollars and other indirect benefits without increasing dependency on tourism in these uncertain times. To-date we have concentrated on skills training for operators of “parachute cafés” (recycled Army-surplus parachutes used as tented, temporary facilities). Training was aimed at improving their menus, hygiene and campgrounds. The parachute cafes will also serve as focal points for providing tourists and local communities with information on wildlife viewing and conservation opportunities. Our next step, in collaboration with TMI, will be to build upon the villagers’ desire to develop traditional homestays

The final step is for participants to develop an Action Plan. The plan specifies details such as, “where (location); who (the responsible party or parties); what (details of required inputs and activities); how much (quantity); when (scheduling); how implemented (the method or methods to be used) and how the effectiveness of the action will be monitored (“success” indicators and process to be used by both SLC and the community).”

Participants produced drawings illustrating the improved livestock enclosure, and related design documentation on enclosure dimensions and required materials (Figure 2). A typical improved livestock pen for sheep and goats is 18 x 35 feet with a eight-foot high stone wall, and an open roof covered by 4 by 4 inch wire mesh and supported with wooden poles every few feet. The structure has no windows, and a single wooden closely-fitting door that can be securely locked at night. Materials cost USD \$ 400-600, depending on transportation costs of those items purchased in Leh (wire-mesh, poles, door, door frame, hinges and cable fasteners). Two such structures were sufficient for protecting all sheep and goats from the 21 households of Skyu-Kaya using the Lilangste pasture. Figure 3 shows the corral in Husing Nullah before and after improvement (but prior to the fitting of a door).

Figure 2: Sketch of a Predator-proof Livestock Pen Using Locally Available Materials

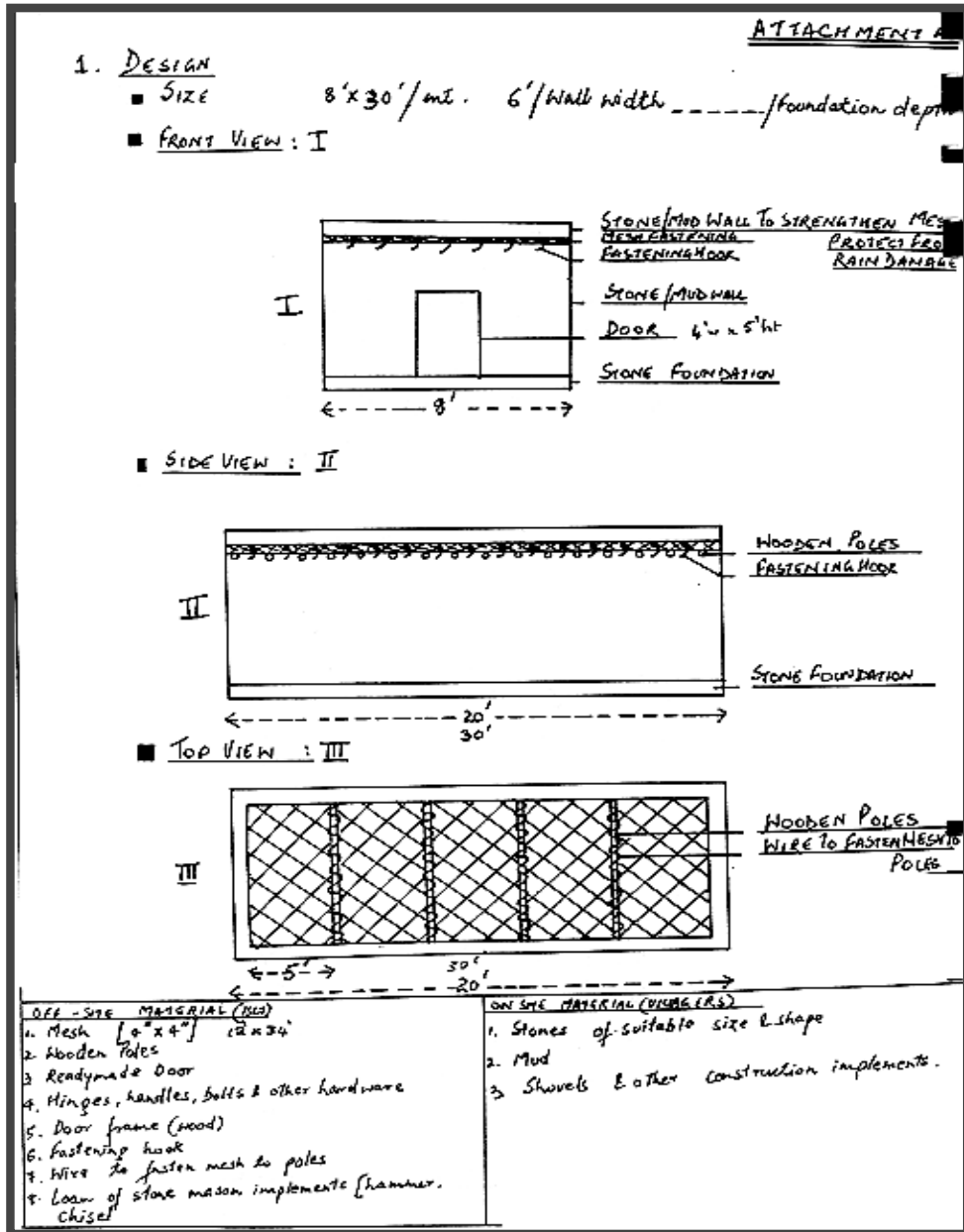


Figure 3: The Corral in Husing, Rumbak Village, Before and After Predator-Proofing

Before - the low, broken stone walls show how easy it is for a predator to enter & kill livestock



After - note higher walls and the wire-mesh protected roof



The Action Plan includes a list of households and user groups who will assume responsibility for constructing and maintaining the improved pen. Any new or re-constructed corrals must benefit all livestock-owning households, who agree not to file any compensation claims with the Wildlife Department, and to immediately report any instances of poaching to the authorities. We ensure that the improved facility is no larger than the existing structure or structures it is intended to replace, in order to avoid encouraging increases in livestock numbers. Most pastures are already under substantial grazing pressure, in effect forcing blue sheep onto the more steep and less productive ranges. Our long-term goal is to improve forage conditions for native prey species, in order to help reduce depredation pressures on the domestic stock. Clearly this will require concerted actions such as rest-and-rotation grazing schemes, establishing special pastures reserved for wildlife, and other measures for enhancing forage plant seedling establishment and productivity.

An agreement is developed for signature by the primary implementing agency and beneficiary community, represented by the leader of each corral user group or a member from each household in the case of a small settlement. The agreement specifies key conditions, such as the materials,

labor and technical expertise each partner will provide, special provisions for protecting snow leopards and their prey species, and specific indicators the community will employ for measuring the success of the proposed initiative.

Local people identified the following expected outputs or indicators for assessing project success: (1) Numbers of livestock lost from the improved corral would decline very significantly and no corral depredation incidents would occur if the structure is properly constructed, utilized and maintained (village stewards are being trained to maintain a log of livestock mortality); (2) By eliminating multiple predation incidents, the community's attitudes toward snow leopards, general tolerance of wildlife, and the presence and regulations of Hemis National Park would improve markedly (SLC is assessing attitudes through focused interviews and a comprehensive questionnaire); (3) Herders would spend less time guarding at night, leaving time for other more productive activities; and (4) Villagers would earn more income, especially if corral improvements were accompanied by efforts to enhance livelihood skills from tourism (to be monitored annually by SLC staff). Over time these changes would lead to more stable wildlife populations within Hemis National Park, along with a better working relationship between the park authorities and the local residents.

Key Lessons Learned

- The *APPA* process indicated that the most cost-effective option for reducing depredation, especially multiple losses, lay in predator-proofing existing structures.
- *APPA* is a powerful tool for empowering herders and farmers. It builds pride by highlighting positive community attributes and building upon traditional values and successes. This approach is highly effective in mobilizing rural communities toward greater self-reliance, and thus a more harmonious long-term relationship with the National Park in which they live, and on whose resources they depend so heavily.
- Success appears to be proportionate to the community's perceived 'ownership' of the project and the materials or resources it contributes. The greater their involvement, commitment and contribution, the more likely the structure will be well looked after. This is illustrated by the following examples:

Construction of the first corral in Markha was delayed due to a late winter. Eventually, the structures had to be increased in size from the original plans, because the villagers had deliberately underestimated their livestock holdings fearing they may be taxed more by the government for reporting actual herd sizes. They used the corral before it was fully predator-proofed, and lost 29 animals to a snow leopard. As donors, we felt some responsibility for the loss and called a community meeting. The household most affected had recently suffered a death, and the village as a whole assumed full responsibility for what had happened, attributing the incident to a traditional "Mountain Spirit." No compensation was requested.

Skyu-Kaya scheduled the corral improvement for the summer. But when the time came, they

found they were short of manpower, because many households were out with their pack animals accompanying trekking groups. The problem was solved when each household contributed toward the substantial cost of hiring outside laborers to work under the supervision of a good stonemason (known locally as a *mistri*). Recently a villager told an SLC staff member that, “In the late evening, after our sheep and goats had spent the day grazing, we herded them into the new pen, locked the door and walked the two miles to our home. When we returned in the morning, there were tracks of a snow leopard all around the pen. It had even jumped up onto the wall. This happened two nights in a row, but we lost none of our animals! As Buddhists, we are very happy, for the sake of our livestock, and for the snow leopard who might now go back to hunting blue sheep. Also we are very happy because now we shepherds no longer have to lie awake on the cold ground next to the pen. We can go home and get a good night’s sleep.” The Skyu-Kaya villagers have requested SLC to assist in predator-proofing another corral.

- By predator-proofing a village’s corrals we remove as many as 5-10 snow leopards from high risk of retaliatory killing, even in an area with a strong Buddhist tradition and reverence for life.
- Solutions can be very simple and cost-effective. For example, in Markha village, livestock pens located in the basement of houses were predator-proofed for a few dollars each, simply by putting bars and wire mesh screens on the basement windows to prevent entry by snow leopard.
- Top-down, externally driven initiatives often fail to achieve their goals and thus waste valuable resources. For example, a corral provided without community input and “free of cost” to one village in Hemis National Park remains unused because it was not adequately designed to prevent entry by a snow leopard, and was placed next to a cliff which could offer easy access to the predator.
- NGOs are a logical vehicle for facilitating community-based integration of conservation and development; however, the sponsoring agency must be willing to make a long-term commitment to its rural stakeholders (Sanjayan et al. 1997). Regular monitoring support and follow-through staff visits are vital to moving participatory community-based conservation forward.

Conclusion

It is apparent that corral predator-proofing can go a long way in reducing losses and alleviating conflict due to livestock depredation by snow leopard. As the experience in Ladakh shows, enhancing existing structures can be accomplished with inexpensively and with considerable input from local communities. It is now widely acknowledged that the future of most protected areas hinges on the degree to which local people’s concerns, needs and aspirations are addressed by conservationists. For example, a promising approach rests in promoting a set of carefully designed and monitored community-based stewardship initiatives in which local people benefit by offering visitors good wildlife viewing opportunities, local nature guides, traditional homestays, attractive camping sites, or handicrafts for sale. Wherever possible, we believe that corral predator-proofing should be implicitly linked with specific conservation measures and initiatives aimed an enhancing local incomes.

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References Cited

- Bhatnagar, Y. V., R. Wangchuk, and R. Jackson. 1999. A survey of depredation and related wildlife-human conflicts in Hemis National Park, Ladakh, Jammu and Kashmir, India. Unpub. Rept., International Snow Leopard Trust. 20 pages.
- Fox, J. L. and C. Nurbu. 1990. Hemis, a National Park for Snow Leopard in India's Trans-Himalaya. *International Pedigree Book of Snow Leopards* 6:71-84.
- Jackson, R. M., G. Ahlborn, M. Gurung, and S. Ale. 1996. Reducing livestock depredation losses in the Nepalese Himalaya. *Proceedings Vertebrate Pest Conference* 17:241-247.
- Jackson, R and R. Wangchuk. 2001. Linking Snow Leopard Conservation and People-Wildlife Conflict Resolution: Grassroots Measures to Protect the Endangered Snow Leopard from Herder Retribution. *Endangered Species UPDATE* 18(4): 138-141.
- Mishra, C. 1997. Livestock depredation by large carnivores in the Indian trans-Himalaya: conflict perceptions and conservation prospects. *Environmental Conservation* 24(4):338-343.
- Mishra, C. 2000. Socioeconomic transition and wildlife conservation in the Indian Trans-Himalaya. *Journal Bombay Natural History Society* 97(1):25-32.
- Oli, M. K., I. R. Taylor, and M. E. Rogers. 1994. Snow leopard (*Panthera uncia*) predation of livestock - an assessment of local perceptions in the Annapurna Conservation Area, Nepal. *Biological Conservation* 68(1):63-68.
- Pretty, J. N., I. Guijt, I. Scoones, and J. Thompson. 1995. *A Trainer's Guide for Participatory Learning and Action*. IIED Participatory Methodology Series, International Institute for Environment and Development, London. 267 pages.
- Sanjayan, M. A., S. Shen, and M. Jansen. 1997. Experiences with integrated-conservation development projects in Asia. *World Bank Technical Paper* 388:1-41.
- The Mountain Institute. 1997. *People-Wildlife Conservation in the Qomolangma National Nature Preserve, Tibet: Experiences from participatory resource management workshop held in Khoryak and Ngora villages, Nyalam County (June 1996)*. Unpub. Project Report, Mountain Institute, Franklin, WV. 7 pages.