Review

Commons becoming non-commons in the efforts for reconciliation between conservation and livelihoods: A case study of northern Pakistan

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The paper examines the impact of converting previous open-access common land into protected areas on the community resource management system in Shimshal, northern Pakistan. We explored three main questions in this regard. First, what happens to community resource management under strict government control of the resource? Secondly, what has happened to the centuries-old practice of the traditional yak herding system of the Shimshal community as a result of the introduction of new policies leading to the creation of protected areas? Thirdly, can the community retain resource control of the protected area (state property), and how can we conceptualize it under the property regime? The research draws the following three conclusions: (1) a clear divide exists between the local government and the community on resource management and resource use, (2) the Shimshal community relies significantly on yaks for their livelihood, and the imposition of new rules and regulations in protected areas has significantly altered the Shimshal community's traditional yak herding practices, and (3) community control over resources in protected areas would be a new experiment under the state property regime. The study concludes that it is possible to bridge the gap between what have been regarded as irreconcilable principles of protected areas and livelihoods. This arrangement needs to be contextualised by giving specific importance to the community and their management practices. The state would achieve its conservation goals by monitoring the local community's activities and ensuring that their livelihoods and conservation efforts do not negatively affect each other.

Key words: Commons, property rights, yak herding, protected areas, livelihoods.

INTRODUCTION

The current issues pertaining to the conversion of commons into protected areas (a state-controlled resource) emerged with the notion that free access to common resources leads to degradation and areas of environmental value should be protected from human activity. As Hardin (1988) concludes, "freedom in the commons brings ruin to all." This view advocates the allocation of full authority to an external agency to regulate the commons. In other words, a state-controlled property regime can reduce overexploitation of common

property resources (Hardin, 1988). This perspective could be supported by Hardin's argument, which McCay and Acheson (1987) have succinctly summarized as: "all resources owned in common are, or eventually will be, overexploited." In this context, protected areas represent a clear example of conversion from common property regime to state property. Many governments in developing countries have initiated the process conserving resources in this fashion. However, there has been a growing body of literature on common property resources to show that users are able to restrict access and establish rules among themselves for the sustainable use of natural resources (Berkes, 1986, 1989; McCay and Acheson, 1987; Berkes et al., 1989; Ostrom, 1990;

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Bromley et al., 1992; Cronkleton et al., 2008; Ojha et al., 2008). A wide range of common resource systems have been developed and maintained by local communities in many different societies in the past. Examples can be seen in various regions of India and Mexico, where communities are managing their common resources through sharing forest resources and utilizing different land classification systems, respectively (Nayak and Berkes, 2008). In the context of northern Pakistan, common resources have remained under community control since the time of the Mirs (rulers), where communities established the traditional management system and customary laws to regulate their rights and access to the resources in an effective manner at the local level (Bilal et al., 2003).

However, conflicts have emerged between communities and the state as a result of disagreement over resource-use rights, access, and control of natural resources. In examining the foundations of these conflicts, it is important to examine the issues from two different angles. Firstly, according to the view of those who claim that communities' access and user rights would disrupt the areas of biological importance, state control of natural resources is the only effective way to conserve biodiversity (Locke and Dearden, 2005). The second perspective is a more people-centred approach, "based on the premises that local populations have a greater interest in the sustainable use of resources than the state; and that they are more able to effectively manage those resources through local or 'traditional' forms of access" (Brosius et al., 1998). This has led to debates about whether state or community control over resources would be more effective in resource management. The existing 'blueprint' approaches and strategies to natural resources management have increasingly proved to be unsuitable (Agrawal and Gibson, 1999). Recent literature suggests the need for a shift in the approach to natural resources management so that it might focus increasingly on people-centred policies, bottom-up planning processes, and decentralized governance (Chambers, 1994; Agrawal and Ostrom, 2001; Cronkleton et al., 2008; Ojha et al., 2008). The need for such a shift became obvious as the ill effects of the centralized control of resources became apparent. It led to the alienation of resource users and incited a growing demand for a change in approach towards greater community participation and empowerment. Another management option, co-management, where responsibilities are shared between communities and the state, has been mooted as an alternative means to sustainably manage resources in many countries. However, this management arrangement has been criticised for the gap between design and reality, particularly in relation to participation and control (Agarwal, 2001; Lele 2000).

This study examines the impacts of protected area creation on the local management of the pasture resources of the Shimshal community in northern Pakistan. Our research has explores three main questions:

(1) What happens to community resource management under strict government control of the resources?
(2) What has happened to the centuries-old practice of the traditional yak herding system of the Shimshal community as a result of new policies on protected areas?
(3) Can the community retain control of the protected area (state property)?

We analyse the impact of PA's (protected areas) on the community resource management system, and describe how community control over resources in protected areas would be reflected under the state property regime.

STUDY AREA AND METHODS

The study was conducted in Shimshal, upper Hunza (Gojal), in the Gilgit district of northern Pakistan. It is approximately 62 km from Pasu, located in the Central Karakuram Mountains, in northern Pakistan. This site is characterized by a dry alpine habitat comprised of juniper, shrubby vegetation, community plantations on lower lands, and permanent snowfields in the higher altitudes. Shimshal is comprised of 112 households, with a total population of approximately 1500 individuals living in five adjoining small villages (hamlets).

These villages are permanent settlements in the Khunjerab National Park. Seasonal settlements of the Shimshal community are located in the vast alpine pastures of Pamir, Ghujerab and Lupgar. This is due, in part, to the community's exclusive control of 2700 km^2 of high altitude pasture land (Butz, 1996). The community owns agricultural land; they complement their irrigated agriculture with extensive herding of sheep, goats, cattle and yaks. Their enormous knowledge in raising livestock is well recognized. Livestock plays a major role in their livelihoods (Ali and Butz, 2003), and their herding system represents a high altitude pastures.

The Shimshal community is well organized and is well-known for the people's hardiness. This is the only community in northern Pakistan that has remained in isolation without access to roads until recently. In 2003, after twenty years of hard labour, the community was able to construct 62 km of a single-lane road, with some support from both the government and the Aga Khan Foundation.

Field research was conducted in all five villages in Shimshal. Data were collected by the Participatory Rural Appraisal approach and Focus Group Discussions. Two village level (two annual) and four household level (four quarterly) surveys were carried out to obtain household

level information. For village and household surveys, a random sampling method with a sample size of ≥ 50% was selected. A total of 70 households were surveyed at the village level. Semi-structured interviews were conducted with household heads, and focus group discussions were carried out with community groups. The participatory resource mapping tool was used to identify pasture cycles, and this helped to analyze the linkages, patterns, and inter-relationships between land use and their livelihood systems.

CONTEXT OF PROTECTED AREAS (PA'S) AND CONFLICTS TO COMMONS

The establishment of protected areas has been seen as a viable solution for protecting natural ecosystems by excluding humans from those areas (Hutton et al., 2004). Bennett and Lopoukhline (1998) stated that the concept of protected areas has been acknowledged as the basic method for biodiversity conservation since it makes use of regulatory frameworks to prevent disturbance activities. Most ecological zones in Pakistan are not adequately represented within the protected area system (Virk et al., 2003). In addition, many of these areas do not have an effective management system and they employ management approaches that are confined only to protective measures (IUCN, 2003). In Pakistan, PA's have so far followed a top-down approach, which has resulted in conflicts with the communities over access to and use of natural resources (Mock, 1997). According to Mock and O'Neil (1996), the Government of Pakistan recognises only three categories of protected areas: national parks, wildlife sanctuaries, and game reserves. Up to now, the country has established 225 Protected Areas, comprising 14 National Parks, 99 Wildlife Sanctuaries, 96 Game Reserves, and 16 unclassified areas (private, proposed or recommended). The number of PA's continues to grow each year. These conservation measures, however, have not always been based on detailed biological information or criteria and many of these PAs are too small and fragmented to guarantee species survival, especially of wide-ranging fauna such as the snow leopard (endangered species) and Himalayan lynx. Boundaries have not been worked out according to ecological considerations, and the main focus has remained on game species (MACP, 1999; IUCN 2006).

Mock (1997) describes protected areas in Pakistan as islands in a sea of different land uses and of strongly altered ecosystems; such islands may have difficulty maintaining species diversity and may not incorporate functional ecosystems. Studies have shown that PA's have not succeeded in meeting their management objectives with specific reference to Mountain Protected Areas, and the reasons include indigenous peoples' rights to resource extraction for their livelihoods; the improper design, legal establishment, boundary demarcation, resource assessment and setting of objectives for protected areas; and the often negative relationship between forest officials and the local people. These findings reflect flaws in the concept of protected areas which fail to recognise and respect the rights and values of local and indigenous peoples. Over centuries, these communities have developed a way of life which is broadly in balance with the setting in which they live (Mock, 1997). In most cases, the protection of community livelihood systems and cultures and the conservation of the resources upon which they are based have not been seen as special features during the establishment of protected areas. The unique features of the communities' livelihoods are compatible with conversation objectives but do not necessarily adhere to a Western notion of conservation (Mock, 1997).

Generally, conflicts arise as a result of separating natural resource protection from human use and of not adequately addressing livelihood issues (Hough, 1994; Hutton et al., 2004). Many of these conflicts are related to resource access and the rights of the communities, which see their livelihood security being undermined. Many communities have been deprived of access to common resources because the PA's have been based on external principles of protection, while ignoring traditional knowledge and practice founded on learning developed over hundreds of years of experience and adaptation. These communities have traditionally followed laws and regulations set up and enforced by themselves to protect their resources. However, the laws and regulations of the protected areas overthrew the traditional management systems and heightened conflicts over access, use or control of the resources (Davey, 1998).

The Khunjerab National Park (KNP), in northern Pakistan, is a notable example of state control over common resources, in an area where the local community has followed sustained herding practices for centuries (Butz, 1996; Knudsen, 1999). The state views that protected land is an entity that belong to the State (that is, the authoritative bureaucratic-politcal entity) rather than the local community. This has led to conflicts between the community and the state, and possibly will alter the important pastoral systems that help maintain the park landscape (Knudsen, 1999). Ali (2003) points out that "the original park plans would fragment this local management system and upset pastoral migrations which were fully compatible with the aims of conservation defined under the IUCN's guidelines 1979 for conservation in mountain environments".

Wegge (1988) confirms that the Shimshalies' herd management system seemed to be a typical 'traditional practice' and there was no evidence of over-grazing. But the state perceived the local community and their traditional practices of herding as a threat to the National Park, which resulted in alienating the community from their hereditary common resources. Knusen (1999)

stresses that it is dangerous to write the community off before their potential role has been established. The concerns here are that the existing policies have put an end to the pastoral system and that the park landscape might not be upheld (Knudsen, 1999). There is a possibility that the conflict will bring detrimental results both to the state and to the community if the conflict is not resolved. For the state, the wildlife it aims to conserve will be lost as a result of aggravated actions, and for the community, the loss of spiritual and cultural affiliation to their heritage seems obvious.

GOVERNING THE COMMONS IN NORTHERN PAKISTAN

In northern Pakistan, historically, common resources were divided among tribes and lineage groups by the Mirs (rulers), where the communities established traditional management systems and customary laws to regulate their rights and access to the resources in a manner that was effective in terms of management at the local level. Primarily, two property systems exist throughout the region:

(i) Tribal (Shinaki)
(ii) Principality (Rajgiri) systems (Bilal et al., 2003).

Under the Tribal system, a council of elders dealt with the issues of excludability, whereas under the Principality system, the representatives of the Mirs decided the excludability and subtractability. However, under both systems, local communities were part of the decision-making process, and there was an arrangement to include the collective decisions of the communities regarding the extent of exclusion and subtraction (Bilal et al., 2003). The representative (Wazir) of the Mir used to convene a gathering of village elders to discuss issues of relevance. The community would vote on each decision, and if greater than a majority was expressed, the decision was considered final. If the Wazir gave a final decision that was against the decision taken by the community, then it would have the opportunity to approach the Mir by visiting him and bringing him a small gift, generally, livestock – a yak or bull - and animal products such as Poshoro (5 to 10 kg butter) or Philam (woollen cloth). Then the Mir could decide in favour of the community; he sometimes based his decision on an outsider's advice or opinion.

However, the situation changed after the 1970's, with the abolition of the Mir's regime. The principalities were declared state property, while in areas such as Darel and Tangir within the Diamer district, where there was a tribal system, the tribal councils negotiated with the government to retain their commons (Bilal et al., 2003). The state passed the Forest Act 1975 and, under this act, the state then had entitlement to all the resources except

the forests in a few parts of the Northern Areas, such as in Darel of Diamer district, where the communities own the forest. However, with the end of the Mir's regime and the establishment of state control, many communities in northern Pakistan continued to follow their traditional user rights to most of the common resources, specifically, on pastures. Many of the pastures remain under the exclusive control of particular communities, where the community decides who has the right of use and who is excluded. One of the best examples is the Shimshal community in northern Pakistan, which has exclusive control over 7200 km^2 of high altitude pasture land that includes Pamir, Ghujerab, Lupgar and many other pastures (Butz, 1996). The community has been utilizing these pasture resources for many centuries through their unique yak herding system. However, the establishment of Khunjerab National Park by the state has led to conflicts related to the Shimshal community's exclusive rights and their herding practices.

SHIMSHAL YAK HERDING SYSTEM

Shimshal yak herding predominantly follows a traditional pattern dictated by the climate and seasons, the topography of the land, and social and cultural influences. Their traditional system relies on accumulated centuries of experience, including knowledge of the pastures' productivity, availability of water during the summer and winter, accessibility, vulnerability to predators, and religio-cultural influences embedded in their self-identity as 'Shimshali', a community that is highly devoted to maintaining their culture and hereditary resource. The community affiliation with livestock, especially yak, and with the pasture reflects their devotion to their legacy and their livelihood security.

For most of the community, livestock plays a major role in their household economy, their consumption of dairy and non-dairy products, and their meat requirements. Animals are also sold to obtain cash income to cover several months of their household expenses.

The Shimshali yak herding practice, the use of different pastures in different seasons and periods, the number of livestock herded in particular pastures, and the periodic movement of the animals to higher or lower elevations, are akin to and represent a 'modern' rotational grazing system. This herding system, which Butz (1996), referred to as 'interwoven transhumant cycles', reflects generations of decisions villagers have made about their herding practice. Confidence in their best pasturing system without employing any scientific knowledge comes from the decision making process they employ at three levels, as described by Butz (1996): first, at the household level, followed by the community level, and the third, at the pasture-cycle level. Households need to herd their livestock to ensure their livelihood security. They are also motivated to maintain their relationship with hereditary

Table 1. Key mechanisms of community management of common resources in Shimshal.

Mechanism	Purpose
Village level decisions: all village heads and household heads have a role in decision making process. Village elder (lumberdar) makes the decision.	Involve all village heads, household heads in decision making and provide an equal opportunity to every household head. Have every individual abide by collective decisions and the regulations set by the community.
Household level decisions: all members of the household have a role in household level decisions.	Involve all household members in decision making and provide an equal opportunity to every member. Ensure their commitment, availability and contribution in labour.
Pasture-cycle level decisions	Informed decision based on climate conditions, accessibility, availability of fodder and safety of livestock.
Pasture management: A series of pasturing on specific pastures, pasturing cycles, time of pasturing, determining duration and livestock numbers.	Attain maximum benefit from the resources. Maintain pasture quality by ensuring the continuous supply of fodder for the livestock in different seasons; facilitate seed regeneration, and new growth of vegetation. Retain traditions and heritage as proud symbols.

Source: Focus group discussion with the community elder group.

pastoral land, which Butz (1996) referred to as instrumental and symbolic values. To put this into practice, households have to make a conscious decision. We observed that the household members get together to plan how many livestock are required to send to pastures. The decisions are based on several factors: availability of number of persons (labour), affordability of cost in terms of cash or kind (material), and the number of milking animals available.

At the community level, various actors are involved in the decision making process. These include but are not limited to the appropriateness of the pasture for the specific number of livestock, mapping of pastoral movements based on their years of experience, religious festivals and other ceremonies. The community level decisions ensure an equal opportunity is provided to all households in the shared resource system. It is important to note that the community's main priority is to conserve their resources, and this is reflected in their resource-use activities. At the pasture-cycle level, herdsmen have to make conscious decisions based on their experience of weather conditions, such as access during winter; climatic conditions always dictate their decisions. The herdsmen have to make sure that the livestock herd is safe from predators, that enough fodder is available to feed on, that the water requirement is fulfilled, and, especially, that attention is given for the timely departure to other pastures as well as for the village to attend the special ceremony called 'Kutch'. This event reflects the community's gratitude to God for His blessings and for their safe arrival with their animals and accumulated wealth.

The mechanism of the herding practice and the management of the resources are described in Table 1.

SUMMER PASTURING SYSTEM

Summer pasturing represents the combination of ecological knowledge about the climate and vegetation with the decision making process. Knowledge of the pasture, vegetation, and caring capacity plays a key role in pasturing. In summer pasturing, the major role that women play in livestock herding is well recognized. After village level decisions are made about who would be going with the livestock, the herders have to leave the village by the first week of May to travel to Shujerab, the nearest pasture. This arrangement is made based on two reasons: firstly, the availability of new vegetation in pastures for the livestock is considered and, secondly, the village has already completed the cultivation of agricultural crops and the fields have been closed for grazing.

The next move, to Shwert pasture, is determined by climatic conditions and the availability of new vegetation in the next pastures. There is also a time limit (period) set for each pasture, with a time cushion of three to four days. The pasture cycle continues, with several stays made at Sher Lakhsh, Furzin-i-Dasht, Gorjerav, Sher Bulak, Ghrsar and Sher-a-lik, until the final destination, Pamir, is reached, where they spend two and half months. By September 10th, they have to leave Pamir. Any delay or early return would put the livestock at risk. Delays in the return would make them face cold temperatures or snow at high altitudes, and an early return would put the livestock at risk because they would have to cross water routes several times, and this would be made difficult by peak water flows. Their arrival to the village after spending over six moths in pastures is celebrated with an event called 'Kutch'. This is a special

occasion to thank God for their safe return with the accumulated wealth. The celebration continues for a week, with friends and families invited to their homes. Similar summer pasturing is done by other herders in other main pastures, such as the Gujerab, Lupgar, and Yazghel.

Most of the dairy products such as butter, qurut (a milk product), cheese and many other products are produced during summer pasturing. These products are consumed in their main diet, and are also sold for cash or bartered.

WINTER PASTURING SYSTEM

Winter pasturing is done predominantly with yaks. Normally, herders stay with their livestock to protect it from being attacked by wolves or snow leopards, especially at the time of calving, and to prevent the herd from straying. Given the fact that the Shimshal community has limited land available in the village to feed their livestock, especially yaks, their dependency on pasture resources is obvious. However, yak herding in Shimshal has another purpose related to the proper utilization of pastures. Although it is very tough to graze their yaks in the winter, the community has been practicing winter pasturing for centuries and in this fashion they maintain the pasture resource. It is their perception, based on experience, that if certain pastures remain untouched after grazing their livestock in the summer, then those pastures will have low productivity in the following year. Yaks are grazed during winter in those pastures, and their pattern represents a well established grazing system of high altitude pastures.

Common to both summer and winter pasturing is the caring of their ancestral resource, which they affiliate with the founder of Shimshal. According to one of the popular histories, Mamu Singh, a Burusho (brushski-speaker) from Baltit (Central Hunza), found this region four centuries ago. Later his son, Sher, discovered all the other territories, including Pamir, which the lineage of the Shimshal—Gazikator, Bakhtikator and Baqikator—claim as their ancestral land (SNT, 2007). However, the community practices have been disrupted as they have been forced to abandon the use of certain pastures upon which their livelihoods depend.

COMMON RESOURCES AS LIVELIHOOD SECURITY, SPIRITUAL AND CULTURAL WELL-BEING

The commons have been seen as a resource that will eventually be degraded by free access, as Garret Hardin (1988) hypothesized. Many scholars argued against and criticised this view, which led to more thorough examinations of the commons. An entire array of information has been collected and knowledge has been gained through various studies related to the scale, complexity, institutions, self-organization and many other matters associated with the commons. However, the focus has never been on linking the commons to livelihood security and to spiritual and cultural integrity. If we look at common property with a view to "poverty" rather than from a "resource" perspective, there are thousands of people that survive on common resources, mostly in hilly areas. We may be able to capture a part of the answers to the above questions by understanding the livelihood systems of communities and recognizing how their management systems demonstrate the complexity of commons management. By looking at the example of the Shimshal community and their traditional systems, the commons play a pivotal role in maintaining the community's culture and the spiritual values that enrich their spiritual life and cultural well-being. These are deeply embedded in their self-identity as 'Shimshali', a community that is highly devoted to maintaining their culture and hereditary resources. These communities work collectively to secure their livelihoods.

For many communities, the commons are the only resources to which the poor may get an equal share in resource use, and this gives them a sense of security. As Kirkby (2000) affirms, poor communities are mainly dependent on the physical environment, and especially on common property resources, because they cannot afford access to any other resources. The poorest therefore suffer the most from the effects of resource degradation. Fenny at al. (1998) expresses their concern over the effects of restricting poor people's access to natural resources. According to the authors:

"Poor people tend to be most dependent upon the environment and the direct use of natural resources for their livelihood opportunities, and therefore are the most severely affected when the environment is degraded or their access to natural resources is limited" (Fenny et al., 2002).

There is ample field-based evidence that the communities have effectively managed their common resources. Perspectives on the commons have changed from the initial perception of Hardin (1968) that the commons are everyone's resource, which will eventually be degraded, to the perspective that the commons traditionally are a well managed and maintained resource that replenishes itself as long as human activity acts to maintain the landscape.

THE NEW HORIZON: LINKING CONSERVATION TO LIVELIHOODS

There is a potential to bridge the gap between what have been regarded as irreconcilable principles in the management of protected areas and the pursuit of livelihoods. Recently, a growing literature has emerged

Table 2. Community managed state property.

Practices	Under state control	Under new arrangement
Livestock grazing	Very limited or no access	Supervised grazing
Collection of medicinal plants	Very limited access or no access	Supervised collection
Trophy hunting	Completely banned	Limited, based on trophy size and violability of the population
Eco-tourism, trophy hunting	Allowed free entry There is no provision for trophy hunting under the PA category of National Park	Allowed with payment of a nominal fee, fund will be used for the development of the community and resources. Revenue from the trophy hunting will be used in building schools at the community level and community health centres.
Institutional level management	Run by a single authoritative person	Committee members comprised of elders and the well-educated
Benefits	State gets all the benefits	Sharing of benefit: community will get the benefit from protecting it.
Regular monitoring	With very limited funds available to the government there is no monitoring	Community will provide regular monitoring though selected individuals and with partner organizations (WWF, IUCN) to conduct wildlife census and determine caring capacity.
Protection of culture	Not a mandate	Retaining culture would be the main priority.

Source: semi-structured interviews, group discussions, official documents/records.

that aims to link conservation and livelihoods through partnerships between the government, community groups and non-government organizations. Some examples of such partnerships can be widely seen in northern Kenya, India, Nepal, Bangladesh and many other countries. However, there are very few examples in Pakistan in which the community has participated in state-controlled resources through private organizations (MACP, 1999). A new emerging and potentially promising community livelihoods-centred approach, which appears to offer a way forward to reduce state-community conflict, would be a positive step in managing resources in areas with high resource-dependent communities. Such an approach would view indigenous cultures and resource-use practices as mutually compatible and key parts of a system. The community-driven conservation regime, with a focus on their livelihoods diversification and advancement, would bring a sense of responsibility, respect and ownership of resources. The goal would be to provide an option to the community to continue their resource-use practices in harmony with the natural resource base and also encourage them to gain skills and knowledge for the best use of the resource. A comparison between the state-controlled and the new management arrangements is outlined in Table 2.

In the case of Shimshal, the community is already involved in eco-tourism activities. This can be further explored by utilizing their local knowledge on high altitude alpine pastures, including the traditional yak herding system, and also by understanding their socio-cultural systems.

It would be appropriate for the state to see the community as stewards that conserve the resources. The state could play a role as an advisor to achieve conservation goals by ensuring the livelihood security of the local community. This would be made possible by enabling government policy directives that emphasize community involvement and benefit-sharing in the resource management. The challenge would be related to how such an arrangement would work under the property regime.

STATE PROPERTY UNDER COMMUNITY CONTROL (NEW MANAGEMENT ARRANGEMENT)

The literature is clear about how property can be held as distinct resources within four different categories: open access, private property, state property, and communal property (Berkes and Farvar, 1989; Feeny et al., 1998). However, there is a gap in terms of possible combinations of categories of property, which leads us to understand that property rights only make sense if they are held as exclusive rights. This kind of understanding of property is especially critical for analysing property rights in the context of protected areas (state property) under community management and control.

Similarly, co-management arrangements cannot be

Table 3. Bundle of rights under the new category of property regimes.

Bundle of rights	Under state control	New category (community controlled state property)
Access	x	xx
Withdrawal	x	xx
Exclusion	-	xxx
Management	-	xxx

'x' = Limited access, 'xx'= Moderate access, 'xxx'= More access, '-' = No access to resources.

clearly defined either as state or common property based on the given definitions. Several scholars have defined the nature of these regimes (Berkes, 1989; Feeny et. al., 1998; McCay and Acheson, 1987; Bromley, 1992; Ostrom, 1990) through developing the following explanations. Open Access is the absence of well-defined property rights, where access to the resource is open to everyone. With Private Property, individual rights to exclude others and regulate the use of the resource are known as private property. State Property rights are vested in the government to decide access to and levels of exploitation of the resource. Common Property is held by an identifiable community of interdependent users who exclude outsiders while regulating use by members of the local community.

State property under community control would be a new experiment under property regimes. This arrangement would allow the community to manage the resource and exclude others from using it (grazing of pastures or extraction of the resource). The state has the authority to allow a specific number of livestock per season based on the carrying capacity of the pastures or the specific number of visitors per year to the park.

Any income generated through the park would be invested in community development schemes, the development of pastures, the procurement or creation of educational material and the pursuit of related research. The bundle of rights, access, withdrawal, exclusion and management under the new category would give ownership to the community under the guardianship of the state. Table 3 outlines the bundle of rights that would exist under the new management arrangement.

What makes this arrangement different from co-management is that government decision making is made in consideration of the community's rights, allowing the community to negate government officials' decisions. This is particularly important where the communities are not aware of their rights. In the case of the above arrangement, the community enjoys the power of making decisions related to their resource and the state acts as an advisor.

CONCLUSION

Given the diverse cultures and languages of northern Pakistan, it would be difficult to generalize our conclusions to the whole region, but in a specific context like the Shimshal valley, or other similar communities, our conclusion is grounded in realities and presents some viable alternative strategies for conservation. Our observations support that pastures are an important natural capital for the Shimshal community, but inappropriate management strategies have increased their livelihood insecurity.

The concept of protected areas in the context of the mountains in northern Pakistan needs to be re-examined to avoid bringing about severe consequences, since it often neglects the role that humans have long played in shaping and maintaining the landscape. Based on the experiences and the consequences of protected areas, we need to rethink our current understanding of conservation in consideration of the context. The current system of protected areas needs to be adjusted to reconcile conservation and livelihoods. There is a possibility of bridging the gap between what have been regarded as irreconcilable principles of protected areas and livelihoods. This will require a change in the management system from state control to community control by allowing local communities to serve as stewards of the resource.

Community control of protected areas would represent a new experiment in northern Pakistan. However, this arrangement needs to be contextualised by giving specific importance to the community and their management practices. The state would achieve its conservation goals by monitoring the local communities' activities to ensure that livelihood and conservation pursuits are not negatively affecting each other. Such an arrangement would not only strengthen community livelihoods but also give a boost to the management of the resource itself. This would reduce conflicts between the state and the community and simultaneously lead to effective conservation of local natural resources.

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