

## Review

# Tragopans, dilemmas and other horned creatures: why should communities care?

MALIKA VIRDI<sup>1\*</sup> and EMMANUEL THEOPHILUS<sup>2</sup>

<sup>1</sup> Sarmoli Jainti Van Panchayat, Munsiri, District Pithoragarh, Uttarakhand, India

<sup>2</sup> Himal Prakriti, Munsiri, District Pithoragarh, Uttarakhand, India

\*Correspondence author - malika.virdi@gmail.com

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**Abstract** The primary objective of this review is to describe and analyse the efforts of two village communities to conserve the Galliformes within village forests that are owned and used by the villages, as well as in adjoining Reserve Forests. The communities often have to make 'expensive' decisions regarding restraint and regulation of the use of such forests, but attempt to do so through collective action in a manner that reconciles livelihoods needs with conservation action. The review describes the biological diversity within the forest areas belonging to the villages, and analyses the nature and effects of anthropogenic pressures on that biodiversity. The strategies adopted by the village communities, through their Village Forest Council or 'Van Panchayat', are then discussed. These strategies encompass a wide diversity of elements that are required to address the complexity of the problem. Broader strategies have also begun to be deployed, such as the initiation of cooperation with other village communities and with state partners. The review finishes by discussing the manifest divergences between proclaimed global ecosystem values, and local use-values, as well as divergences on the moral economies of subsistence, and those of the global marketplace, and the need for reconciliation of these in conservation strategy. We believe that community level conservation efforts must favour local ecosystem use-values, while also integrating local and non-local ecosystem values to give needed synergy between such conservation ideals, and to be practical applications.

**Keywords** Conservation, local communities, livelihoods, Van Panchayats.

## Introduction

The villages of Sarmoli and Jainti in the Gori River Basin of North Kumaon, India comprise 330 households, but only 34 ha of village forest, as support-area to meet their essential survival needs of fuelwood to cook and heat their homes, grazing area for their livestock, hay stands for winter-fodder and leaf-litter for farmyard-manure to sustain agriculture. There are various estimates of the area of forest required to sustain one unit of subsistence agriculture, ranging from 1:6 to 1:15 (Rawat, 1998). With far less forest area available than any of these estimates suggest, the villages also intensively use the Khalia Range Reserve Forest where they have limited rights of use for subsistence farming, such as grazing livestock and collecting wood for fuel. The communities need to range for considerable distances to meet their resource needs, or modify their agricultural production to adapt to the surrounding resource scarcity.

Even under these conditions of scarcity, the Van Panchayat<sup>1</sup> of the two villages has resolved to protect the *van murgi* (literally forest-hen, but also a generic term for pheasants and partridges) that live in the village forest and reserve forest. Hunting and trapping of the birds has been prohibited by the village, and regulations relating to forest disturbance have been issued to protect the birds' habitat. With such an insufficient area of village forest, how can these two village communities be at the forefront of *van murgi* conservation? Two questions come to mind here; firstly, is this perhaps a community participation initiative of the local Forest Department or that of a conservation Non-governmental Organisation, driven by project funding? Whose values are driving this effort? Secondly, what does this

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<sup>1</sup> A Van Panchayat is a Village Forest Council, an elected body, vested with the responsibility of managing a Village Forest as a commons, for meeting subsistence needs of fuelwood, small timber, fodder and leaf-litter for farm-yard manure.

initiative mean in terms of action and results? For example, after a village has resolved to conserve, when are actions thought to be adequately enforced and long-standing practices sufficiently altered to 'make a difference'? There are also deeper political concerns regarding the extent to which the community is homogenous in its values and resolve.

## The setting

Wild birds and animals frequently have to share their habitat with human communities, even in designated sanctuaries and National Parks. However, in a landscape such as the Gori River Basin in the western Himalayas, where 72% of the land area is under the tenure of villages as village forests and common grazing land and only 14% is under official protected status (reserve forests and a portion of the Askot Wildlife Sanctuary), the necessity for community conservation can be significant. Some of the largest and most pristine patches of forest and alpine areas in the Gori basin are governed by local Van Panchayats and several villages in the region each have more than 100 km<sup>2</sup> of forest under their Van Panchayat.

It is useful to understand why the Gori River Basin contains such a rich biodiversity. The Basin is 120 km long and, on average, 25 km wide and ranges in altitude from 560 m to 7,400 m, and so also exhibits a complementary scale of climates from subtropical to polar. The basin encompasses three latitudinal biogeographic zones, Lesser Himalaya, Greater Himalaya and Trans-Himalaya. The average annual rainfall varies from 15 cm to 300 cm. Longitudinally, the basin falls within the transition of flora and fauna from both the eastern and the western Himalaya, containing various elements of both. The very rich biological diversity can be seen by the fact that the river basin contains more than 2,190 species of angiosperms.

The unusual richness of biodiversity has recently become more widely recognised. Two of the ten most valuable areas for biodiversity in the western Himalaya identified by the Biodiversity Conservation Prioritisation Project of WWF-India are in the Gori river basin (Rawal & Dhar, 1999). The basin has also been designated as an Important Bird Area by the Indian Bird Conservation Network, as an area which is prioritized for conservation under

criteria that include the presence of threatened and endemic bird species<sup>2</sup>.

The Sarmoli-Jainti Village forest is situated just after the first rise of the Greater Himalaya, in a region called Munsiari in Pithoragarh District of the Uttarakhand Himalaya. The 34 ha of forest ranges in altitude from 2,300 – 2,800 m and includes vegetation types in the transition level between warm-temperate and cold-temperate. Khalia Range, the adjoining reserve forest, extends through cold-temperate to sub-alpine and alpine vegetation types up to 3,747 m. This altitudinal range yields a high diversity of habitat and, consequently, fauna and flora. The village forest and 20 km<sup>2</sup> of the reserve forest have been designated as a Conservation Area by the village community. This is a larger expanse than that used regularly by nearby village communities and includes a south-facing sub-alpine and alpine cliff area which is known to be a favoured nesting site of Himalayan monal *Lophophorus impejanus*. This 20 km<sup>2</sup> is also home to a further nine galliform species, satyr tragopan *Tragopan satyra*, cheer pheasant *Catreus wallichii*, koklass pheasant *Pucrasia macrolopha*, kalij pheasant *Lophura leucomelanos*, Himalayan snowcock *Tetraogallus himalayensis*, snow partridge *Lerwa lerwa*, hill partridge *Arborophila torqueola*, chukar *Alectoris chukar* and black francolin *Francolinus francolinus*.

## Human land-use in the conservation area

Three kilometers from Sarmoli village is a road-head bazaar called Munsiari and a cluster of nearby villages. This area has the densest human population within the river basin (2,669 people registered in the 2001 census). Until trade ceased with Tibet in 1964, Munsiari was a small staging area for trading caravans. The area is now becoming a hub of urban development with a rapidly increasing human population due to the location of the sub-divisional administrative headquarters, an Inter-College and other offices of various companies which are constructing hydroelectric projects along the Gori River.

People in Munsiari and the neighboring villages still depend largely on fire-wood for cooking fuel and heating living spaces. All of this wood

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<sup>2</sup>The designated Important Bird Area (IBA) is the Askot Wildlife Sanctuary and the Goriganga basin. IBA Criteria: A1 (Threatened Species) and A2 (Endemic Bird Area 128: Western Himalaya). The IBA Site Code is :IN-UT-02.

comes from the adjoining Khalia Reserve Forest and from the Sarmoli-Jainti Village Forest, exerting further pressure on these forests.

We attempted to estimate the human-induced pressures on the conservation area in 2006. We found that while only 12 villages have a legal right to use habitat within the Khalia Reserve Forest, 41 villages grazed 553 livestock in the area in the monsoon season. In addition, 11 seasonal buffalo-camps brought around 200 cattle to graze the reserve for a six month period.

Seventeen herds containing 2,445 sheep and goats were also grazed in the forest throughout the monsoon season, as well as an even larger number of sheep and goats from herds passing en-route to alpine pastures further north. Nine nearby villages, housing nearly 3,000 people, intensively use this forest to meet their subsistence needs for fuel-wood, fodder and leaf-litter. Bamboo collection (mostly *Thamnocalamus falconeri* and *Phylostachys jaunsarensis* for thatching roofs, weaving baskets and mats, and staking runner-bean crops) and lichen and medicinal plant collection (mostly *Pichrorhiza kurrua* and *Aconitum heterophyllum*, as well as *Cordyceps sinensis*) for trade also draws a large number of people into the forests, which exerts a considerable disturbance as well as extractive pressure on the area.

Hunting and trapping Galliformes only happens occasionally and at a small scale. Commercial hunting is not known to occur and all birds taken are used to supplement the hunter's food source. Firearms are used for hunting and trapping is carried out using foot snares and nooses made from horsehair or fishing line. Hunting often occurs in combination with other forest activities, such as livestock grazing or plant collection. It does not appear to have directly affected Galliformes but it certainly contributes to the overall pressure. The greatest direct threat to the birds probably comes from the disturbance of brooding hens and their nests by nomadic shepherds and their sheepdogs.

The major pressure on galliform species in the entire river basin is forest loss as a result of fuelwood collection, forest disturbance and habitat degradation in general. Competing and conflicting human use of the forest, particularly in the scale and nature of resource extraction, is clearly an issue. However, the root of the problem lies deeper in the larger political

ecology of the nature, extent and intensity of current forest use, which is dictated by existing livelihoods options. It is clear that unless the intensity of these driving factors subside, the current path of habitat degradation is likely to continue.

## Methods and strategies developed

Since 2004, a series of meetings and discussions have taken place to evaluate the current state of the Van Panchayat and the need to ensure that it continues to sustainably meet the villagers' subsistence needs. These discussions produced the following broad strategic consensus:

- Protecting and improving the overall productivity of the village forest area and prioritising the greatest needs of the community is an important requirement. Hay for winter fodder was agreed to be the most critical requirement and some areas where succession vegetation have taken over will be cleared.
- Due to the proximity of the village forests to increased tourist traffic at Mungsiari, the Sarmoli-Jainti Community can attract reasonable volumes of bird and animal-watching tourists to visit the forest. Keeping such tourism community-based could provide earnings to many village households through home-stay facilities, and provide local employment as trip organizers and guides.
- The community need to conserve the diversity and beauty of the forests (such as the grand old-growth oaks and yew trees) and the spectacular wildlife that they contain (such as the pheasants and partridges) to ensure that the area remains attractive to visitors.
- The neighbouring Shankhadhura Village Forest is contiguous with the Sarmoli-Jainti Forest and Khalia Reserve Forest and together they constitute a discrete conservation area. However, the longstanding boundary dispute between the two villages needs to be resolved before such a partnership can take effect.
- Cooperation with the Forest Department is critical because the Khalia Reserve habitat constitutes the largest and most critical part of the forest block in combination.
- Nine villages with a total human population close to 5,000 have forest-use rights in the Khalia Reserve. Some of these villages are very close to the forest resulting in more

intensive use, while others are further away and only graze their livestock seasonally. A regulated agreement of forest use between the villages would be required.

- Galliformes will be used as umbrella species for wider conservation effort. This is because they are among the most spectacular fauna to be found in the conservation area (satyr tragopan and Himalayan monal in particular). Also, by protecting their habitat, the habitat of other associated fauna (such as serow *Capricornis sumatraensis* and musk deer *Moschus chrysogaster*) that also inhabit the forest. While the threatened Himalayan black bear *Selenarctos thibetanus* is also among the animals whose habitat overlaps with that of the Galliformes, enthusiasm among the village community to conserve this species is very low because of their frequent predation on villagers' livestock.

## Results and work undertaken

In an attempt to engage with the various areas of community conservation action, the following actions have been undertaken by the Van Panchayat:

- Enhanced Protection through watch and ward.
- Enforcing the regulations for forest use, with particular relevance to conserving Galliformes and their habitats. Regulations include prohibiting the felling of favoured roosting trees and maintaining the connectivity between feeding and refuge patches.
- Enforcing a community ban on all galliform hunting for three years. While the hunting of any bird or animal is deemed illegal, every forest dwelling or nearby community has its own extra-legal stance as to whether they support or oppose this law, hence a local ban of hunting is also necessary.
- Propagating plant species which Galliformes are known to depend on, such as Kharsu oak *Quercus semecarpifolia* and *Phylostachys jaunsarensis* bamboo.
- Initiating and maintaining a community-based nature tourism enterprise that increases awareness of the value in conserving Galliformes and their habitats. This includes the establishment of home-stays and employment through guiding and

managing trips for nature and adventure tourists.

- Rejuvenating a pond in the village forest that is dying from eutrophication. The pond is deeply associated with local folklore and a relatively accessible tourist site for day-walks. Nature trails will be created with view points marked.
- Education campaigns. A Nature Interpretation Centre has been created and a school out-reach programme initiated. Bird guides and mountaineering and trekking expedition guides, porters and camp-staff have been employed.
- Coordinating with the Forest Department, and building bridges of partnership with neighbouring communities, particularly those where previous relationships have been hostile, such as the next-door Shankhadhura Village. Significant strides have already been made on this front. Future collaborations on nature and adventure tourism projects are hoped.
- Monitoring programmes of the nature and intensity of existing land-use, the status of the habitat and the seasonal presence-absence dynamics of galliform species will be initiated.

## Discussion

The conservation efforts discussed have been initiated because of community discussions on the larger issues of enhancing productivity and the scope of non-extractive forest use. Regulatory and governance decisions were initiated long before any financial assistance was forthcoming from sources outside the community. Even physical activities such as the home-stay programme, training of local guides and porters, and planting regeneration were completed with resources volunteered from within the community. The progress and commitment of this initial work attracted financial assistance from the Ministry of Environment and Forests and the Uttarakhand State Forest Department for further collaborative work with the Indian chapter of the World Pheasant Association. These funds enabled a portion of a Community and Nature Interpretation Centre to be built, the pond to be expanded, basic amenities for tourists to be provided and seasonal monitoring of galliform species and their habitats to be conducted.

However, such assistance is normally short-lived. These small and local conservation

efforts, when viewed in the context of larger trajectories such as the global development project and the failure of the State to address the larger conservation concerns of the river basin, seem fragile and ill-fated. While there is an apparent convergence between efforts of the state and of the community, the fundamental, yet complex, chasms that will decide the long-term fate of this effort still exist.

There are numerous dilemmas that these efforts and the conservation community at large need to contend with and attempt to reconcile. But how do we reconcile these issues when their driving forces often stem from different values? Is it even possible to reconcile these values or must some be favoured over others?

We know that the Gori River Basin is a very biodiverse landscape, which is relied upon heavily by nearby communities and will continue to be for the foreseeable future. The landscape is valued by the local community for the following resources:

- Critical 'support area' for agriculture and for livestock rearing, e.g. rangelands, haystands, leaf-litter for manure.
- Fuelwood and timber.
- Edible plants and meat.
- Medicinal plants for sale.
- Bamboo for staking and domestic use.
- Grass for thatching.
- Secure water sources, springs and seepages.
- Spiritual and aesthetic values.

Global values, or those held by the wider conservation community, for the same landscape include the following:

- Species diversity of the region.
- The biodiversity values (such as rarity, endemism and representation) ascribed to the birds, animals and plants in the area.
- The variety of habitat in terms of altitude and its corresponding climate, and its connectivity.
- Recreational and aesthetic values (such as trekking, skiing and bird watching).
- 'Resource flows' e.g. timber and medicinal plants.
- 'Ecosystem flows' e.g. hydrological regimes.

It is clear that there are values, both at local and non-local levels, which are from a paradigm which opposes conservation, such as those of the global market-place. Here, aesthetic and recreational values, such as those attracting tourism, develop in a manner that benefits global commercial players at the expense of the relatively poor communities. 'Product flows' often see local people as cheap labour for resource extraction which, with the bottomless global demand and constant desperation of poverty, can reach unbridled levels, as in the case of medicinal plants. 'Ecosystem flows' are valued only if they contribute to markets and if dominant players receive the resulting profits, as in the diversion of rivers into blasted tunnels to generate electricity for faraway markets.

How do we resolve or reconcile the following paradigms that are often inversely co-related?

- Local versus global.
- Moral economies of subsistence versus those of the global market-place.
- Human versus wildlife interest.
- Natural versus industrialised landscapes.
- Public land and state governance versus common land and local community governance.

It is along these fault lines that conflicts can occur between the various participants in the political ecology of conservation. This review urges that our attention is focused along these fault lines and that we design conservation strategies that attempt to bridge these divides.

## Conclusions

Community conservation action, which is not driven or dependent on project money and time-scales, must focus upon values which are of importance to the flora and fauna of the area, but that are also sensitive to the essential subsistence needs of dependent human populations. It should also attempt to integrate global or non-local values to allow communication and synergy across scales and across institutions. Active communication and negotiations is necessary between legislators and provincial governments and federal governments, as well as with other organisations such as the World Pheasant Association. Unless they are supported by consistent and relevant policy at regional and higher levels, local efforts can only show limited success.

Whilst there is no doubt that our understanding of the natural world has been greatly advanced by scientists, the problem remains that the conservation community has so far largely been talking to itself. Reports of necessary conservation action can become an isolated monologue with little reflection from a small, self-contained audience. Communication needs to be diverse and expanded across different groups, it is not enough to speak to bureaucrats alone. Dialogue needs to include people, communities and, most importantly, their representing legislators. The history of conservation in India has certainly shown that some of the critical strides forward have been initiated by our legislators, and while we work to build local conservation constituencies in numerous localities, there is also a need to engage with diverging parties at various levels. For conservation action to be significant and enduring, we need to negotiate common ground, consistency and synergy across the varying scales of intervention.

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### Biographical sketches

MALIKA VIRDI is the Sarpanch or the Head of the Sarmoli-Jainti Village Forest Council, and a Founding Trustee of Himal Prakriti. EMMANUEL THEOPHILUS is a resident of Sarmoli Village, and a researcher with Himal Prakriti.