

# Forest Commons in Uttarakhand and Subsistence Rural Economy

## A Study of Two Panchayats

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### I. Introduction

Eleven out of 13 districts of Uttarakhand are located in western Himalayan agricultural zone. Most people in this region are dependent on agriculture and livestock for their livelihood. For both of these traditional occupations, people in the area have been dwelling on common property resources such as forest, rivers, streams, mountains, alpins etc. According to Singh (2009) the western Himalayan zone is rich in agro-biodiversity and the unique farming system of the region evolved based on local resources and socio-economic conditions. He further argues that from time immemorial, people of this region have been exploring productive interaction with nature. Various documents of the forest and revenue department recognize the dependence of local people on common resources and to some extent rights and concession to use these resources have been granted to the villagers. Moreover, in many villages, people have been allowed to manage patches of their nearby forest through the Van Panchayat system.

The dependency of these Himalayan people on forest is not limited to their livelihood requirement. Other dependency includes access to physical material required for the life such as water, thatching grass and timber for household use, stone, sand etc. The rich local practices in the region also allow them to perform their pooja and festivals in the region officially in the control of the state forest department. However, various studies show that these natural resources are rapidly degrading in the region. According to the Uttarakhand State of Forest Report for 2001 and 2019 the area of dense and moderately dense forest has decreased from 19,023 sq km in 2001 to 17,851 sq. km in 2019<sup>1</sup>. On the other hand the open forest with less than 10% canopy density increased from 4,915 sq km in 2001 to 6,415 sq. km. in 2019 in the state<sup>2</sup>. The Land Degradation/Desertification atlas prepared by Space Application Centre, Ahmadabad found that the rate of land degradation in Uttarakhand is higher compared to the national average. According to the atlas, around 6.48 lakh hectare land in the state is under degradation. The most significant process of degradation observed in the report is vegetation degradation (ISRO, 2016). The vegetation degradation largely refers to the process of deforestation.

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<sup>1</sup> State of Forest Report, 2019 (Uttarakhand) <https://fsi.nic.in/isfr19/vol2/isfr-2019-vol-ii-uttarakhand.pdf>

<sup>2</sup> State of Forest Report, 2001 (Uttarakhand) [http://mahervis.nic.in/Pdf/Report/report\\_sofr\\_2001.pdf](http://mahervis.nic.in/Pdf/Report/report_sofr_2001.pdf)

Official data from different sources confirm the degradation of natural resources in the state. Naturally it has an adverse impact on rural livelihood and life. Many studies found that natural resources in the control of communities are better managed in the state. However, few other studies have found that even community managed resources such as Van Panchayat have also observed decline in productivity. A study of 45 van panchayats by Pinaki Sarkar (2008) found that even Van Panchayats have lost their charm of effective governance (Sarkar, 2008). The increasing population, inactiveness of people in function of Van Panchayat and many other social and economic factors are responsible for downfall of old age institutions of van panchayat.

The increasing pressure on common property resources has a direct link to the loss of livelihood. With degradation of natural resources, many people find it difficult to earn livelihood in the mountain districts. According to a report of Uttarakhand Migration Commission published in 2018, in the last ten years 3.83 lakh people migrated seasonally and more than 1.18 lakh people migrated permanently. According to the report, 50.16% of these workers migrated to bigger cities within the state and outside the state in search of livelihood<sup>3</sup>. Much of this distress migration can be stopped by simply regenerating natural resources in the rural areas. According to another report by the Migration Commission of Uttarakhand more than 2.75 lakh migrant workers from Uttarakhand went back to their villages due to COVID-19 pandemic (RD&MC, 2019). The good thing is that nearly half of these reverse migrated workers want to stay back in villages. Therefore the prevailing situation can be converted into opportunity by investing funds and manpower in the regenerations of common property resources.

<b>Main Reasons of Migration in Uttarakhand</b>	
<b>Reasons of Migration</b>	<b>Percentage of Migrated workers/people</b>
Lack of employment/livelihood option	50.16
Poor health system	8.83
Poor educational system	15.21
Poor infrastructure (road, electricity, water etc.)	3.74
Low productivity in agriculture	5.44
Wild animal destroying farms	5.61
Other	11.00

Source Rural Development and Migration Commission, 2018

This study report analyses policy framework of common property resources in Uttarakhand based on secondary literature and examines interconnectedness of healthy natural resources and subsistence rural economy. For the purpose of this study we have gathered qualitative primary data from two villages namely Dumak and Kalgoth in the

<sup>3</sup> RD&MC [http://www.uttarakhandpalayanayog.com/pdf/Chamoli\\_Report.pdf](http://www.uttarakhandpalayanayog.com/pdf/Chamoli_Report.pdf)

Joshimath block of Chamoli district in Uttarakhand. These are two remote villages on the edge of Kedarnath Wildlife Sanctuary and heavily dependent on forest governed by the forest department and van panchayats. This report is based on qualitative data gathered from these two villages using research tools such as focus group discussions, case study and semi-structured interviews.

## 2. Common Property Resources in Uttarakhand

The National Sample Survey Organization (NSSO) conducted the first and only survey of common property resources in 1998. In this survey the organization collected data of both de-jure and de-facto commons. At the time of this survey Uttarakhand was part of Uttar Pradesh, so no separate data is available for Uttarakhand state. However, the data collected for Western Himalayan (WHM) agro climatic zone of Uttar Pradesh represent all mountain districts of Uttarakhand. According to this report the mountain people of Uttarakhand are heavily dependent on common property resources as compared to the national average (see table). The estimated total CPR in the mountain district of Uttarakhand is nearly 13.74 lakh hectare which comes around 0.71 Ha CPR per household in the region.

<b>Common Property Resources</b>	<b>Uttarakhand</b>	<b>India</b>
Estimated area of total CPRs	13,74,200 ha	4,20,21,900 ha
Ratio of CPR to total Geographical area	0.61	0.15
Grazing land per HH	0.35 Ha	0.07 ha
Village forest per HH	0.19 Ha	0.05 ha
Other CPR per HH	0.16 Ha	0.19 ha
Total CPRs per HH	0.71 Ha	0.31 ha

Source: NSS, 54th Round, 1999

We don't have any other comprehensive data on CPRs as the NSSO stopped conducting similar survey after its first report. This report is more than two decade old, and many things have changed rapidly after its publication. However, various micro studies reveal that people are still dependent heavily on common property resources in the mountain districts of Uttarakhand. These CPRs took shape in the last two hundred years starting from colonial rule established in 1815. In these many years, local people, governments and other stakeholders confronted and collaborated on a range of issues related to CPRs such as environment protection, commercial exploitation of forest, rights and concession of villagers for life and livelihood etc. A brief policy overview of this confrontation and collaboration is presented here.

### 3. Institutionalization of Commons (1815-1947)

In 1815 the British government formally started ruling the entire Kumaon and a large part of Garhwal region of Uttarakhand. The king of Tehri managed to retain its power on a relatively smaller part of the Garhwal region which currently falls in Tehri and Uttarkashi district. Before the British rule, people had unlimited right over forest and its produce. The economy of villagers from this mountain region was entirely dependent on biomass (Pathak, 1997). The Himalayan Gazetteer written by Edwin T. Etkinson from 1881 to 1887 describes villagers' dependency on the forest. The historic book has recorded people's dependency on forest for agriculture, livestock rearing, medicinal requirements, trade, cottage industries, fodder, firewood, manure, mineral etc. (Etkinson, 1881).

The concept of protecting and preserving the forest was introduced in 1865 when the then government constituted the forest department. However, prior to this the British government conducted land settlement in 1823 that set the foundation of differentiating between private and non-private land. With the promulgation of the first Indian Forest Act, 1878 a large part of Uttarakhand forest was declared reserved (completely governed by government) and protected forest (partially governed by the government). These processes formally started restricting local people from using the forest they were dwelling for generations. In the words of Prof Pathak (1997) "conservation considerations were motivated by the need to ensure continuing supply of timber for imperial needs." A series of policy announcements in the nineteenth century in the name of conservation of forest were actually paving the way for commercial exploitation of timber by the government.

Many British timber merchants were active in Uttarakhand clearing forest for commercial use even before constitution of the forest department and promulgation of the Indian forest Act. Realizing the revenue importance of these forests, the then government started regulating in mid nineteenth century. In the words of Tucker (1984) the first colonial forest department organized by the British government in India was to manage supply of timber for railway and other industrial activities. Prior to this, many British timber merchants were active in Uttarakhand clearing forest for commercial use (Tucker, 1984).

While there were lots of resentment and protest against forest and land related policies of the British government, but they were not organized. The constitution of district civil forest in late nineteenth century sparked the Himalayan resentment. The colonial government issued a notification on 17th October 1893 for creation of 'District Civil Forest'. The fallow land, be-nap land, grazing area and woodlot within the boundary of villages were acquired under this notification to create the district civil forest. It had a direct impact on the life and livelihood of local people. This notification restricted people from freely accessing their own forest. In 1902 the government further divided the district civil forest into closed civil forest and open civil forest. The forest categorized as closed civil forest was equivalent to reserve forest where no rights of local people were entertained. To accurately demarcate the open and close civil forest a fresh forest settlement was carried out from 1911 to 1917. This exercise led to an increase in reserve forest by around 5,000 square km<sup>4</sup>. While villagers had been opposing the notification of

<sup>4</sup> National Institute of Rural Development and Panchayati Raj [http://www.nirdpr.org.in/nird\\_docs/rss/rss75.pdf](http://www.nirdpr.org.in/nird_docs/rss/rss75.pdf)

1893, the new settlement started in 1911 did not go well with the local villagers. It helped scattered local protests and resentment to unite against the government.

With this, the British government took the control of all land other than the privately owned land by villagers (Pathak, 1997). The then government had to face lots of resentment and protest of villagers against these policy decisions of the colonial government. The protest turned violent in the second decade of the twentieth century when people started burning the forests. This forced the colonial government to constitute a forest grievance committee in 1921 headed by the Commissioner, Kumaon. The committee consulted extensively with around 5040 people in Garhwal and Kumaon region of Uttarakhand and recorded their grievances (Joshi, undated). The report of the committee documented following main grievances against government control of civil forest under the forest settlement from 1911-1917.

1. Forest boundary pillars often come too close to cultivation or buildings.
2. Lopping restrictions
3. Restrictions on grazing
4. Exclusion of sheep and goats from the reserves
5. Employment of forest guards to enforce numerous rules and regulations and their constant interference with women and children, who under the customs in vogue in Kumaon are the chief people to exercise on behalf of the villagers such rights as lopping, collection of minor produce, grazing, etc.
6. Large number of forest cases which have either to be compounded or fought out in a criminal court.
7. Unsatisfactory methods of dealing with indents for timber.
8. Rules regarding fire protection.
9. Strict restriction on the exercise of minor rights to those which are formally recorded in the rights list.
10. Measured land was taken up within the reserves and in some cases inadequate compensation was given or none was given.

The committee in its report recommended many changes in the forest policies in the favour of local livelihood and environmental protection. Two crucial suggestions of the committee were as follows

- (i) To de-reserve the larger part of the reserved forests created during 1911-1917 forest settlements; and
- (ii) Lay the foundations for creating community forests that would be managed under a broad set of rules framed by the Government but for which villagers themselves will make the specific rules for everyday use to fit local conditions.

The report of the Kumaon Forest Grievance Committee further created the foundation for the creation of the Van Panchayat System in Uttarakhand. The protest of villagers for their forest rights forced the then government to hand over forest within the proximity

of villages to its bona fide residents. Nearly a decade long negotiations and deliberation finally provided for the creation of Van Panchayats.

Along with institutionalization of forest and revenue land, British government also institutionalized the common land and forest in Uttarakhand. These common properties were limited yet well defined. The deputy commissioner of Garhwal Mr. V.A. Stowell (1907) while describing type of land tenure in revenue manuals defines the sanjait land. According to him the sanjait land in a village is undivided common land belonging either to the whole community or common to certain families or co-sharers only. The revised Garhwal Gazetteer written by H.G Walton in 1911 describes the system of expansion of agriculture in the common land. Various land settlements attempted to measure land owned by individuals.

Land which was out of cultivation at the time of settlement is known as be-nap (un-measured) land. The government had sole right of such land within the village boundary. The Kumoun commissioner Mr. Trail in the land settlement process of 1880 measured all kinds of land including be-nap land from previous settlements. However, he made it clear that the government will be the sole owner of such land. Such measured waste land was then named as Kaiser-i-Hind land. Boundary demarcated under this settlement is called sal-assi bandobast. Kaiser-i-Hind land was further available for agricultural expansion under the Nayabad system. The nayabad is made of two local words naya+abad (Walton, 1911). Describing this type of land, Mr. Walton notes that it represents an area over which the village exercises its right related to pasture and wood cutting.

The colonial government was clear that more than agriculture revenue; it is going to benefit from the commercial exploitation of forest in Uttarakhand. Various rounds of land settlements in the region slowly restricted people from accessing forest for their life and livelihood. However, they created common property resources for the villagers. These commons were further institutionalized in the form of sanjait land, kaiser-i-hind land and van panchayat forest.

#### **4. The Rise and fall of Van Panchayat (1931 to 2020)**

The Van Panchayat system is a unique framework to regulate planning, management and monitoring of common forest for villager's use in the mountain districts of Uttarakhand. These forests are crucial for the subsistence economy of mountain people in the state. However, local people had to fight against coercive forest policies of the British colonial government in the early twentieth century to win this system of community managed forest. Unlike in many other parts of the country, Britishers were least interested in revenue from agriculture in the mountain. They knew thick and healthy forest in the Western Himalayan agricultural zone can yield more revenue for them compared to agriculture. Therefore they started regulating forests in the region from the early nineteenth century. However, up until the late nineteenth century, these regulations were not directly threatening the life and livelihood of local people.

In 1877 the then government demarcated the forest and follow-up regulations from 1893 to 1910 started alienating people from the use of forest and forest products. It instigated local people to revolt against the government and its policies related to the forest and forest products. The people's revolt intensified in 1916 and continued up until 1921, when the colonial government decided to constitute a grievance committee to resolve the issue. Based on the recommendations of the grievance committee, the then government agreed to hand over forest in the close proximity of any village to its residents. For the management of such forest the 'Kumaun Panchayat Forest Rules' were issued in 1931 under the Article-6 of the Scheduled Districts Act, 1874.

The Kumaun Panchayat Forest Rules, provided for villagers to ask for the control of their local forest to meet their daily demands. Forest Panchayat constituted under these rules was autonomous body, free to manage forest in its jurisdictions. These van panchayats had power to frame sub-rules, introduce fees and fines, prosecute offences, develop and execute conservation projects and management for forest products. To perform effectively, these panchayats were given power of forest officers. Nearly 900 Van Panchayats were constituted in the next two decades before independence. In the first two decades after independence around 1800 more Van Panchayats were constituted. In 1974 the then state government of Uttar Pradesh amended these rules.

With the abolition of the Scheduled District Act, 1874 new rules were issued under the Article 28 of the Indian Forest Act, 1927. These rules introduced the forest department as a key regulator along with the revenue department. The article 21 of the Indian Forest Act, 1927 provides for the constitution of 'Village-forest' under the supervision of the forest department. The department has the right to withdraw rights and concessions granted to villagers through village forest any time. Therefore, many experts believe that the amendment to the Panchayati forest in 1974 diluted the entire system. However, these Panchayat continued to enjoy rights related to making sub-rules, developing working plans for the forest, distribution of forest products, collection of fee and fine and management of funds.

With the formation of Uttarakhand as 27th state of India, the entire area where the Van Panchayat system was in place came under the Uttarakhand government. With the motive of implementing Joint Forest Management (JFM) scheme, the then Uttarakhand government brought yet another amendment to the Panchayat forest in 2001. These amendments were opposed and criticized by villagers and activists. Responding to these voices, the first elected government of the newly formed state released a new set of rules of Panchayati forest in 2005. The Uttaranchal Panchayati Forest Rules, 2005 are currently in force with some changes in 2012. These rules also recognize van panchayat as 'village forest' as defined in the section 28 of the Indian Forest Act, 2020.

The new rules have reduced the autonomy of these panchayats substantially and confined them as self-help groups (forest users). These rules provide for the development of composite plans by the divisional forest officer. Van Panchayats have to develop micro-plan

in accordance to the composite plan developed by the forest department for their forest with the help of grass root forest officials. It has also made the forest guard an ex-officio secretary of the Van Panchayat.

<b>Van Panchayats in Uttarakhand</b>		
<b>District</b>	<b>No of Van Panchayats</b>	<b>Total Area under Van Panchayats (in Hectare)</b>
Chamoli	1509	327047.5
Almora	2324	77693.25
Bageshwar	822	38782.92
Champawat	654	33649.77
Dehradun	170	6571.275
Nainital	413	32992.49
Pauri	2450	55813.57
Pithoragarh	1621	123609.7
Rudrapryag	509	18379.64
Tehri	1290	14164.86
Uttarkashi	406	3983.989
<b>Total</b>	<b>12168</b>	<b>732688.9</b>

Source Compile from Uttarakhand Forest Department

The current set of Van Panchayat rules prioritises the various uses of forest produce. The first and foremost priority is to meet the ecological requirement of the region. Unless this requirement is met, traditional forest rights of local people cannot be granted. The use of forest products for village industries can be a game changer for rural livelihood improvement, but under the current rules, this is the third priority. The Panchayat can use forest products for village industry and commercial exploitation only if the forest department allows them.

The Van Panchayat system in its history of around 90 years has seen many changes. Policy level changes do have bearing on the performance of Panchayats and productivity of the forest. I have not come across any study comparing all policy changes in the Van Panchayat system and their impact on the ground. However, it is clear that over the years, the Van Panchayat system lost its autonomy along with loss for forest productivity.



## **Annexure-I**

### **Uttaranchal Panchayati Forest Rules, 2005**

#### **Main highlights**

#### **Legal status**

Rules issued under the sub-section 2 of the section 28 (read with section 76) of the Indian Forest Act, 1927.

#### **Duties of Users**

- (1) Provide help in forest fire control in case of incidence of forest fire in the concerned village forest.
- (2) In case of any forest offence such as encroachment, illicit grazing or illicit felling, its intimation shall be immediately given to the Management Committee.
- (3) Provide support for protection of old plantations established earlier or plantations carried out by the Management Committee.

#### **Composition of management committee of Van Panchayat**

The management committee of VP shall consist of nine members. Four seats shall be reserved for women out of which one shall be from scheduled caste or scheduled tribe. One seat out of the remaining five seats shall be reserved for the male members of the scheduled castes or the scheduled tribes. The post of Sarpanch (head of VP) will be held by men and women on rotational basis.

#### **Role of the Forest Department**

- (1) To Prepare Composite Management Plan for all van panchayats
- (2) To help VPs to prepare micro plan and approve the same
- (3) To help VPs to prepare annual implementation plan and approve the same
- (4) The local forest guard serves as member secretary of the management committee of Van Panchayat.
- (5) Manage distribution of forest produces amongst the users and regulate sale of forest produces.
- (6) Regulate and approve sub-rules framed by van panchayats,

#### **Management Plan for Van Panchayats**

- (1) The divisional forest officer shall prepare a Composite Management Plan for all the village forests/ panchayat forests within his/her control for a period of five years. The plan will be approved by the conservator of forests.
- (2) It is obligatory on the part of Van Panchayat to prepare a micro plan on the basis of guiding principles given in the composite management plan approved by the conservator of forests. The micro plan will be prepared with the assistance of concerned deputy ranger/forester or forest guard. The micro plan will be finally approved by the sub-divisional forest officer.
- (3) Based on the micro plan the van panchayat will prepare annual implementation plan, which will be finally approved by the forest range officer.

### **Exploitation and Utilisation of Forest Produce**

- (1) No forest produce shall be exploited unless the ecological requirements of the area are ensured by village forest/panchayat forest.
- (2) All customary rights of the holders such as collection of fallen fuelwood, lopping of branches of trees, cutting of grass shall continue to be governed under the provisions of micro plan.
- (3) After fulfilling the above mentioned two requirements, forest produces may be disposed on prior permission from divisional forest officer for the bona fide domestic use of right holders or the local cottage industries or the village industries or for the work of public utility
- (4) After fulfilling above three requirements on the approval of forest range officer and direction of divisional forest officer can dispose forest products for commercial sale.

### **Power to frame sub-rules**

The Van Panchayat on approval of divisional forest officer can frame sub-rules for the distribution of forest produce among persons entitled thereof, for regulating grazing, cutting of grass and collection of fuelwood, to levy fee to meet its administrative expenditure and for any other purpose consistent with these rules.

## **5. The Crumbling of Commons (1960 to 2020)**

The forest and revenue department evolved gradually in the colonial rule. By the time of India's independence, both of these departments had extensive records of land and forest owned by them. Villagers were also restricted to their private lands owned by them in the revenue records. However, various working plans of the forest department had granted rights and concession to villagers directly dependent on reserved and protected forests. The only significant common property resources left was the land under Van Panchayat. At the time of the independence there were around 900 Van Panchayats in the Garhwal region ruled by British. Today this region includes districts Pauri Garhwal, Chamoli, Almora, Nainital, Pithoragarh, Bageshwar and Champawat. After independence Van Panchayats were extended in other mountain regions of Uttarakhand.

The fight for forest by people in mountain districts of Uttarakhand is not limited to their livelihood. They also fought against ecological degradation due to commercial exploitation of the forest and industrial expansion in the forests. The people's movement in the early twentieth century and movements like Chipko and Tehri dam after independence are few to mention here. After the independence, the democratic government was expected to review the colonial forest policies of the British government. However, no government paid any attention to it. So, we continued with colonial forest laws and policies. Prof. Pathak (1997) notes that "the provincial and central government never reviewed the situation and there was no exercise to understand the man-forest relationship in the rapidly changing resource use pattern."

The Uttar Pradesh government brought the 'Zamindari Abolition and Land Reforms Act' in 1950 for the management of land. This law provides Gram Panchayat to manage be-naap land in its jurisdiction along with management of common property resources such as grazing land, waste land, pond, river, water streams etc. However, for the eight hilly districts of Uttar Pradesh (now hilly districts of Uttarakhand), the government of undivided Uttar Pradesh brought a separate law. The Kumaon Uttarakhand Zamindari Abolition and Land Reform, 1960 (KUZA act) replaced the UP Zamindari abolition act, 1950 in eight mountain districts of undivided Uttar Pradesh (now mountain districts of Uttarakhand). Under this law, the provision of management of common property resources by Gram Panchayat was removed. So, gram panchayats in the region have no power to control and manage common property resources within the boundary of their villages (Sharma, 2019).

The colonial government started curtailing the forest rights of villagers in the mid nineteenth century. It affected the traditional system of forest management and planning by local villagers. The institutionalization of forest and land management started by British government is continued by the democratically elected governments after independence. The common trend that has been observed that irrespective of people in power, villagers gradually lost their rights over forest and forest produces. In the last one and half century, the idea of common property resources in these districts of Himalaya has faded.

Various historical documents establish that people living in mountain districts of Uttarakhand have a tradition of dwelling forest for their living, livelihood, culture and recreational activities. However, the state policies concerning forest and related natural resources failed to accommodate these traditions. Successive changes in the Van Panchayat rules are classic examples of this trend. Agrawal (2005) notes the Uttarakhand government tightened its control over Van Panchayats, which eventually dis-empowered the management committee of the Van Panchayats. A study of Van Panchayat by Nagahama et al (2016) found that there is a general lack of people participation in Van Panchayat. Nearly 65% of respondents were not aware of the micro plan developed by the Van Panchayat. The systematic alienation of villagers through successive laws, rules and policies reduced their interest in the conservation of forest. Many district level forest officers are aware that over regulation by the department has been decreasing interest and sensitivity of local people about forest and wildlife. A letter by the Divisional Forest Officer of Kedarnath Wildlife Sanctuary to its director on 15th June 2011 raises this concern. In this letter, the DFO observed that in the view of the ruling of the Supreme Court under the Godavarman case, villagers have been denied their scheduled rights in the sanctuary area. This has reduced the sensitivity of villagers towards forest and wildlife.

<b>Total Area and Classification of Area in Uttarakhand State (Hectare)</b>				
	2000-01		2018-19	
	Area	Percentage of total reported Area	Area	Percentage of total reported Area
Reported Area for LUS	56,71,698		60,01,924	
Forest	34,65,057	61.1	38,11,662	63.5
Not Available for Cultivation	4,62,491	8.1	4,34,670	7.24
Other Uncultivated land Excluding Fallow Land	8,66,760	15.2	9,30,709	15.5
Fallow Land	1,07,446	1.9	1,77,095	2.9
Net Area Sown	7,69,944	13.5	6,47,788	10.7

<http://aps.dac.gov.in/LUS/Public/Reports.aspx>

The Schedule Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 is the latest policy that recognizes rights of forest dwellers. Along with individual rights to dwell forest land for agriculture and settlement, it also recognizes collective rights of forest dwellers called Community Forest Rights (CFR). It gives autonomy to the village committee to manage forests for which the village community granted community rights. However, Uttarakhand is one of the worst performing states, in terms of recognizing individual and community forest rights of villagers. As per the progress report up to June 2020, Uttarakhand only recognized 155 individual forest rights and one community forest rights<sup>5</sup>. The state has missed yet another opportunity to involve community in the conservation and management of forest.

Before the colonial government started demarcating revenue and forest land, the entire landmass was common property. People had their customary rules to manage land in their reach. From the point of view of mountain districts of Uttarakhand, the colonial government first attempted to do away with the concept of common property resources. Various rounds of early land and forest settlements carried out by the then government were meant to restrict villagers to the land they cultivate. However, brewing resentment against the colonial government due to coercive forest policies, they slowly started institutionalizing the common property resources along with the institutionalization of forest and revenue land.

The colonial government institutionalized the common property resources such as Van Panchayats, Gaon Sanjait land, Kaiser-i-hind land and limited rights and concessions in protected and reserve forests. As discussed above these acknowledged CPR went through many changes after independence. For example in the case of Van Panchayat, the forest department has taken back the control of panchayati forest from villagers. People

<sup>5</sup> Union Ministry of Tribal Affairs, Government of India <https://tribal.nic.in/FRA/data/MPRJun2020.pdf>

continue to access rights and concessions granted to them in the reserved and protected forest but any relevant change in the Indian Forest Act, 1927 directly affects forests rights of people. The gaon sanjait and Kaiser-i-hind land have been distributed and encroached substantially. Moreover, there is no data available in the public domain regarding the status of these CPRs. All hard earned CPRs institutionalized during the colonial period observed decline in their existence, governance and community ownership in 4-5 decades.

The idea of community owned and managed community property resources faded after India's independence due to changes in relevant state policies. However, the Scheduled tribe and other traditional forest dwellers (recognition of forest rights) Act, 2006 created a space for a relatively more autonomous and community controlled community property resources. The provisions related to the recognition of Community Forest Rights (CFR) and Habitat Rights (HR) in the law provide many rights, concessions to the dependent communities. It also provides for management of the forest land by community through Panchayats (independent of the forest department). In the case of Uttarakhand, the execution of this law is very poor, so nothing could be delegated to the community.

## 6. The Study Area

For the purpose of this study we have selected two gram panchayats namely Dumak and Kalgoth located in Joshimath block of Chamoli district. Empirical data collected from these two panchayats which consists of five small mountain villages. Both of these villages are surrounded by the Kedarnath Wild Life Sanctuary. However, both of them dwell separate blocks of this forest. The demographic profile of both of these panchayats is given in the following table.

<b>Demographic Profile of Study Villages</b>		
	Dumak	Kalgoth
Total Population-	401	462
Total Number of Households	81	92
Male-	208	237
Female-	193	225
Children below 14 years -	75	87
SC Population-	0	0
ST Population	0	0
OBC Population-	401	462

Almost all households in both of these panchayats are dependent on agriculture and livestock for their livelihood. This occupation makes them dependent on forest and other natural resources. For generations people from these villages have been dwelling forest around their villages. Up until November 1964 this entire forest was under the revenue department as it was classified as class-I forest. Colonial government paid less importance to class-I forest as they were not commercially viable for them. These are mix forests, usually broad-leaved trees. The biodiversity of the forest is suitable for the

subsistence economy. Along with the protected forest villagers have also been accessing van panchayats constituted in both of these Panchayats. The van panchayat in Kalgoth, spread in 72 hectare was constituted in 1972, whereas the van panchayat of Dumak comprises of 105.5 hectare land is relatively new which came to existence in year 2000.

Almost all villagers are small and marginal farmer and highly dependent on forest both protected and van panchayat. It has been observed that out migration for livelihood is not a big issue in both of these villages. Together 12 out of 173 household from these two villages migrated permanently. Moreover, 26 migrated workers came back due to lockdown announced in March 2020 to contain the spread of COVID-19. Since, these two panchayats are among remotest villages in the district not connected with motor road and telephone; so economically well-off people migrate to nearest cities for better health, education and infrastructural faculties.

<b>Livelihood Profile of Study Villages</b>		
	Dumak	Kalgoth
<b>Agriculture/Cultivation</b>		
- Households dependent on agriculture only	0	3
- Households dependent on livestock only	0	0
- Households dependent on combination of agriculture and livestock	69	89
- No. of Large farming households	0	0
- Number of medium farming households	0	3
- No. of small and marginal farming households	69	86
- No. of Farm Labourer Households	0	0
<b>Dependency on CPR</b>		
- No of Household dependent on CPR for their life and livelihood	69	92
- No of households dependent on occupation other than farming and livestock but draws benefit from CPR	0	0
- No. of households dependent on occupation having negligible or no dependency on CPR	5	0
<b>Migration</b>		
- No. of households whose member (s) seasonally migrates for livelihood in the cities	0	0
- No. of households whose member (s) migrated permanently for earning livelihood in the cities	7	4
- No. of worker migrated back to the village after lockdown to contain COVID-19	10	16
- No. of reverse migrated worker, who would like to stay back in the village.	10	16

Major Common Property Resources of these two panchayats includes blocks of protected forest under the Kedarnath Wild Life Sanctuary, two separate van panchayats and number of water streams. These two villages dwells a very large area of protected forest, each village has access to more than 5000 hectare of the protected forest. The details of benefits drawn from CPR by these villages are briefly mentioned in the following two matrixes.

## CPR Profile of Dumak

Detail of CPR	Benefits drawn from the CPR	Org. responsible for management	Status of CPR (Degraded or not)
<p><b>Dumak East and West Beat</b> of the Protected Forest- Kedarnath Wildlife Sanctuary</p> <p><b>Estimated Area</b> 5284.5 Hectare</p> <p><b>De-Jure Owner</b> Forest Department</p> <p><b>De-Facto Users</b> All villagers</p>	<p><b>Livelihood</b> Fodder, Agricultural implements, water for flour mill, Grazing area, Grazing of sheep in alpiners in summer, Grazing of sheep/castles in dense forest, loping/pruning tree for fodder. grazing Bamboo for domestic and commercial</p> <p><b>Physical Material</b> Fuel, Timber, Dry Leaves, Water for domestic use, sand, stone, use, herbs for local use.</p> <p><b>Recreational/ cultural/ Religious</b> access to alpiners for cultural festival once a year, collection of flower and bark of tree, herbs etc for religious purposes.</p>	<p>Officially forest department is responsible for the management. However, Van Panchayat and Mahila Mangal Dal play crucial role in management of the forest</p>	<p>The southern part of the forest area is close to the village. It is dense and in good condition. Villagers used this area for all their routine use. The northern part of the forest is alpine pasture land and seasonally accessed by villagers for grazing, collection of herbs, cultural and religious festivals.</p>
<p><b>Van Panchayat Forest land</b></p> <p><b>Estimated Area</b> 25 Hectare</p> <p><b>De-Jure Owner</b> Van Panchayat and Mahila Mangal Dal</p> <p><b>De-Facto Users</b> All Villagers</p>	<p><b>Livelihood</b> Fodder, Grazing area,</p> <p><b>Physical Material</b> Fuel, Timber, Dry Leaves, Water for domestic use, water for floor mill, sand, stone, Bamboo (ringal) for domestic and commercial use, herbs for local use, Grass for house roof (Thatching), grass for broom, wild vegetable, fruits, Fibre for ropes, honey, Thatching grass, clay soil for houses, seasonal cattle camping in the forest.</p> <p><b>Recreational/ cultural/ Religious</b> temple and cremation ground,</p>	<p>Van Panchayat and Mahila Mangal Dal under supervision of the forest department</p>	<p>This area has fewer trees. The area is located on large rocks. A substantial part of the forest is used for fodder and grazing land. However, it is well managed by the villagers to ensure maximum harvest of fodder.</p>
<p>There are seven water streams within the boundary of the village</p> <p><b>De-Jure Owner</b> Van Panchayat and Gram Panchayat</p> <p><b>De-Facto Users</b> All Villagers</p>	<p><b>Physical Material</b> Drinking Water, water for domestic animals</p> <p><b>Livelihood</b> Water of Flour Mill,</p>	<p>Van Panchayat and Gram Panchayat</p>	<p>Reduction in the availability of water has been observed in some of these streams over the years.</p>

## CPR Profile of Kalgoth

Detail of CPR	Benefits drawn from the CPR	Org. responsible for management	Status of CPR (Degraded or not)
<p><b>Protected Forest Area- Kalgoth Beat (South)</b>  <b>Estimated Area</b> 5425 hectare  <b>De-Jure Owner</b> Forest Department  <b>De-Facto User</b> All Villagers</p>	<p><b>Livelihood</b> Fodder, water for floor mill, Bamboo for domestic and commercial use, Grazing area, Loping trees for fodder.  <b>Physical Material</b> Fuel, Timber, Dry Leaves, Water for domestic use, sand, stone, herbs for local use,</p>	<p>Officially forest department is responsible for the management. However, Van Panchayat and Mahila Mangal Dal play crucial role in management of the forest</p>	<p>Dense forest</p>
<p><b>Protect Forest Area- Kalgoth Beat (North)</b>  <b>Estimated Area</b>  <b>De-Jure Owner</b> Forest Department  <b>De-Facto User</b> All villagers</p>	<p><b>Livelihood</b> Pasture for sheep in the summer,  <b>Physical material</b> Herbs for local use,  <b>Recreational/ Religious/Cultural</b> Access to alpiners for cultural and religious celebrations.</p>	<p>Officially forest department is responsible for the management. However, Van Panchayat play crucial role in management of the forest</p>	<p>It is high altitude alpine pasture land mostly covered with snow, negligible tree cover and full with number of herb species.</p>
<p><b>Van Panchayat Forest</b>  <b>Estimated Area</b> 30 Hectare  <b>De-Jure Owner</b> Van Panchayat  <b>De-Facto User</b> All villagers</p>	<p><b>Livelihood</b> Fodder, water for flour mill, Bamboo for domestic and commercial use, seasonal cattle camping in the forest, Grazing area, Loping trees for fodder  <b>Physical Material</b> Fuel, Timber, Dry Leaves, Water for domestic use, sand, stone, herbs for local use, Thatching grass, clay soil for houses,  <b>Recreational/ Religious/Cultural</b> temple and cremation ground.</p>	<p>Van Panchayat and Mahila Mangal Dal under supervision of the forest department</p>	<p>This area has less trees, and commonly used for fodder and grazing.</p>
<p><b>There are nine water streams within the boundary of the village</b>  <b>De-Jure Owner</b> Van Panchayat, Forest Department  <b>De-Facto User</b> All villagers</p>	<p><b>Livelihood</b> Water for flour mill, water for domestic animals  <b>Physical material</b> Water for domestic use.</p>	<p>Van Panchayat and Gram Panchayat</p>	<p>Reduction in the availability of water has been observed in some of these streams over the years.</p>

The Dumak and Kalgoth panchayats have access to 5284 hectare and 5425 hectare forest land respectively under the Kedranath Wildlife Sanctuary. Both panchayats have given limited rights and concession in this forest. Until 1964 this forest was managed by the revenue department. Realizing the importance this forest in the catchment of Alaknanda



River the government handed it to the state forest department for the management. Even after change in the ownership villagers continue to enjoy limited rights and concession given to them. In 1972 the then Uttar Pradesh government constituted it a wildlife sanctuary, primarily for the protection of Himalayan Musk deer.

There are 45 villages inside the sanctuary and 128 villages outside but within five kilometres from the forest boundary. Dumak and Kalgoth are outside the sanctuary, but both of these villages share boundary with the protected forest. According to the management plan of the sanctuary both of these villages are partially dependent on sanctuary for firewood. In addition, the management plan of the sanctuary provides right to collect firewood, fodder grass, thatching grass, dry leaves, ringal (bamboo) and right to use bugyal (meadows) for sheep rearing in the summer. Moreover, it provides concession to the villagers to get timber for personal use (building houses, agricultural tools), free grazing of cattle, green leave for fodder, access to forest grounds for cattle camping (FD, 2000)

The dependency of villagers on protected forest and panchayati forest is not clearly divided, it overlaps many a time. However, broadly the panchayati forest in these two villages meets many of their requirements such as fodder, thatching grass, clay soil, grazing land dry leave, underwood, stone, water bodies, ringal (bamboo), wood of agricultural tools etc. Villagers are dependent on protected forest for things like timber, green leaves for fodder, sheep rearing, cultural and religious activities. Other than sheep rearing in the alpine region of the protected forest, villagers also access that for religious functions and collection of flower and herbs for their religious activities in villagers.

## 7. Community Vs Institutional Protection of Forests

The Kedarnath Wildlife Sanctuary also known as Kedarnath Musk Deer Sanctuary came into existence in 1972 for the protection of a rare wild animal called musk deer found in high altitude of this region. These animals have been exploited for their 'Musk' (Kasturi) for centuries. Other major wild animals found in this region include snow leopard, Himalayan Thar, Black Bear, Brown Bear and Common Leopard. The formation of wildlife sanctuary under the Wildlife (Protection) Act, 1972, substantially changed the way local people were dwelling in forests for generations. Major restrictions on local inhabitants includes following

- 1- The green felling for domestic use including bamboo and firewood is completely banned.
- 2- Complete ban on Silvicultural and tending operations
- 3- Regulated collection of firewood
- 4- Complete ban on collection of herbs and other non-wood forest produces
- 5- Highly regulated system for domestic livestock grazing

Local villagers have observed that the restrictions on use of forest and forest produce gradually increased in the last 4-5 decades. Some of these restrictions were completely against local ecological, social and economic requirements. For example, following the ruling of the Supreme Court, dated 14 February 2000, under the famous Godavarman

case imposed restriction even on the collection of fallen, rotten and dead trees, shrubs and grass. This decision was against the provision of the forest settlement where all villages dependent on this forest were allowed to collect wood and timber for various domestic usages such as construction of houses, agricultural equipment, fodder and fuel.

Nearly 10 years after imposition of this restriction, the forest department realized that villagers are losing their interest in forest and wildlife due to such restrictions. They also realized that decreasing interest of villagers has adversely affected the overall mission of protecting forest and wildlife. Therefore, the Divisional Forest Officer, Gopeshwar wrote a letter on 15th June 2011 to the Director of Nanda Devi Biosphere Reserve, requesting to adjust rights and concession of affected villagers in some other forests.

The institutional approach of protecting forest and wildlife in India has always been guided by an idea which attempts alienating forest dwellers. The case of Kedarnath wild life sanctuary is not a different story. The Panchayati Forest (Van Panchayat) in Uttarakhand was an alternative model of forest management and governance. The idea of these forests was to rely on knowledge, skill and capacity of forest dwellers for sustainable management of forest without any involvement of the forest department. However, successive amendments to the Panchayat forest rules diluted the entire system. Currently this forest is also in the control of the forest department.

The protection of forest and wildlife is important, but who imbibes this feeling best other than local forest dwellers. Even before issuance of restriction by the forest department, villagers have their own system of protecting forest and wildlife. The Panchayati forest is crucial for both Panchayats selected for this study. It is mainly used for winter fodder and thatching grass. Both villages close a big part of the grass growing area for a certain period of a year to allow grass to grow well.

Similarly they have rules which are strictly monitored by women groups in both villages related to ban on green felling, forest fire, collection of herbs from alpine region, rationalizing grazing, fuel-wood collection and rationalizing benefit sharing. Formation of these rules and their strict implementation is highly important for local villagers, as it is directly linked to their life and livelihood. Therefore, the idea behind these self-imposed restrictions is to maintain the productivity of resources and create sense of responsibility amongst its user.

For better harvest of forest produce, these informal rules developed by villages make them discipline and ensure sustainability. Moreover, villagers also have several stories, when they fought against external poachers, encroachers, nomads and herb & timber smugglers. For example, in October 1974, villagers came to know that few poachers of musk deer are camping in the alpine region of the forest. Villagers informed the forest department and joined them in arresting poachers. Later the department gifted a memento to Kalgoth Gram Panchayat for this great job. Moreover, villagers have several stories when they informed the forest department and helped them to evict poachers, smugglers and encroachers.

The above illustrated examples suggest that once there was cordial coordination between the forest department and villagers. Most of these examples are from the 1970s to 1980s. People don't remember any such examples of coordination in the last 2-3 decades. Our enquiry to understand this shift in attitude and trust through FGDs enlightened us that after the 1980s people started realizing that the real owner of the forest is the forest department. It took some years for the forest department to assert its ownership in the forest. But, as the control of the forest department increased, people started pulling back from the role of natural custodian of the forest and wildlife.

## **8. CPR and Subsistence Economy of the Study Area**

### **8.1 Sheep and Wool**

Until nearly two decades ago almost every household in these two villages had sheep. Villagers have been enjoying rights and concessions in the nearby protected forest for grazing, camping and collection of fodder for sheep. The alpine region of the Kedarnath wildlife sanctuary is accessible for humans and sheep only from the month of May to August rest of the time it is snow covered. Villagers largely use this time to camp their sheep in these high altitude beautiful landscapes. Traditionally sheep rearing had three benefits- (1) selling them for meat (2) extracting wool for local handloom and (3) using male sheep for transporting goods in the mountain.

The economy around sheep rearing was very elaborate. The residual of traditional handloom can still be found in every household in these two villages. People used to weave their clothes by themselves. They also have a tradition of making warm quilts and waterproof jackets out of sheep wool. Being a tradition, all households were independent in all these activities.

In the last two decades, this entire system of sheep rearing has shrunk significantly. Today very few families in these two villages are continuing with this occupation. Mule and horses introduced nearly 15-20 years ago in the area replaced usage of sheep for transportation of goods. Using mule and horses helped a lot in reducing drudgery.

On the other hand in the last 2-3 decades factory made clothes and bed material have completely replaced hand woven woollen clothes. Now sheep brings only cash when sold for the meat. The entire tradition of extracting wool from sheep to processing and adding value in terms of spinning and weaving has disappeared. This highly skilled but cash less industry could not sustain itself in the front of an aggressive and fancy mechanised market. Alternatively, no attempts were made to mechanise and modernise the traditional wool industry of the region.

Villagers were dependent on forest for their main occupation of sheep rearing. Most of the forest is still in good shape and the degraded forest can be regenerated easily. However, this entire occupation has collapsed. The revival of the occupation not only depends on the regeneration of degraded forest around villages, but also demands mechanization and modernization of the wool based industry.

## 8.2 Agriculture

Agricultural productivity in mountain villages is any way very less. The land holding is also very less in these two villages which is around average 0.5 hectare per household. The entire agriculture is rain fed and no irrigated land is available in these two villages. Main crops being cultivated in the region are Amaranth, Kidney Beans and Barley. Amaranth and Kidney Beans have high market value, so both of them are grown as cash crops. Other than these two main crops people also cultivate wheat and potato for their own consumption. However, productivity of wheat is very low. Villagers are dependent on markets for grain such as rice and wheat.

Agriculture in these mountain villages have never been self-sufficient due to reasons like low productivity, sloppy landscape and not feasible for main grains such as wheat and rice. Alternatively this area is highly suitable for horticultural and vegetable products such as apple, apricot, walnut, cucumber, coriander, potato, garlic, cauliflower etc. But due to the geographical remoteness of these villages, horticulture never became an occupation.

While agriculture had been a secondary occupation, it has always been integral to the lives and livelihood of common people in the region. With the collapse of sheep and wool based livelihood in the last few decades, the less productive agriculture has become the main occupation of people in the region. As in many other communities, the cattle rearing are part of agriculture in this region. Even today the cow dung is only fertilizer used in agriculture in these two villages. Villagers have been granted rights and concessions to access protected forest for free grazing, collection of green leaves for fodder and camping ground for cattle. Though agriculture is the main occupation in the region, it is not sufficient as I discuss above. Innovation in agricultural practices and harnessing potential of horticulture can help to make this occupation profitable and attractive.

## 8.3 Village Industries

A handful of families in these two villages also earn their livelihood from traditional village industries. These industries include water mills, bamboo (ringal) craftsman, and ironsmith. In Dumak there were two watermills and five families were dependent on them. On the other hand there are four water mills in Kalgoth. Both watermills of Dumak were washed away in flood a few years ago. In Kalgoth all four watermills are in good condition, but, with the introduction of diesel/electric mills in the village, these traditional water mills have been neglected.

Ringal (bamboo) was another source of livelihood for few families in both the villages. In the forest around these villages four different types of ringals are available; all of them have distinct usage. A particular variety of ringal is used for making crafts such as baskets, mats and agricultural utensils. This variety of ringal is available in the protected forest only. People have been granted rights to exploit them for their domestic use, but for the last few years, villagers have been facing resistance from the forest department. With limited supply of ringal and availability of factory made fancy alternatives, this occupation is also in its last days.

Ironsmiths were there in the villages mainly to make agricultural and related tools. They were heavily dependent on fuel wood needed for melting iron. This occupation has also died due to aggressive marketing of factory made utensils and degradation of nearby forest.

Of these three village industries highlighted above, ringal and watermills still have potential. Modernization of watermills can help generate electricity and value addition in ringal based traditional craft can hit the market especially in the tourist season.

#### **8.4 New Occupations**

The fall of traditional occupations around sheep, wool and village industries changed the livelihood pattern in these two selected villages. In the last more than two decades, the government funding through Panchayati Raj System created lots of opportunities for daily wage work within the village boundary. Almost all households in these two villages work as daily wage labourers under various schemes such as MG-NREGA. This is a relatively new source of livelihood which brings cash directly to them. In a sense, all villagers are part time wage labourers irrespective of their land and livestock holding.

These two villages are among remotest villages in the district with no road transpiration. Dumak is nearly 18 km and Kalgoth is about 16km from the nearest motor road. The traditional system of using sheep for transporting goods is no more feasible now; so many young people have started rearing mule/horses for transportation of goods. This has become a means of livelihood for many households in these villages; they offer transportation services to other fellow villagers. In total there are 60 mule/horses owned by different households in these two small villages.

In the last few years, these villages have seen a steadily growing trend in the influx of adventure/tracking tourists in the region. Though the number of tourists is still very low, the area has huge potential to attract nature and adventure loving tourists. Many villagers have started working as porters, home-stay owners and guides to these tourists in the region. It is not yet a full time occupation, but many young people do it seasonally.

#### **8.5 Livelihood and Out Migration**

The above data shows that these two villages have access to a large forest and other natural resources to sustain their livelihood, yet people migrated in search of livelihood. Despite marginal degradation of natural resources on which these villages are dependent, the increasing trend of migration can be attributed to two main reasons. The first and foremost is the major disruption in the local economy based on agriculture, livestock and other village industries. These disruptions at the micro level were induced by external factors such as social-economic and cultural pressure and lack of capacity of locals to compete rapidly expanding market. On the other hand micro level factors inducing this economic disruption include poor education, unprepared/unskilled human resource for social and economic change and lack of

technology and innovations. All these factors contributed to the fall of traditional occupations and well established self-sustaining communities. So, while these villagers have huge wealth of natural resources in the form of common property, they do not have means to utilize them commercially.

The second reason for our migration concluded through FGDs conducted in these villages is rapidly changing aspirations of common people. The geographical remoteness of these two villages further restricts them to avail comfort, luxury and opportunity out there for other people. The aspiration such as white/blue collar jobs, better education and health wellbeing makes these people to migrate to cities. To stop distress migration from these two villages both of these factors need to be addressed. During the COVID lockdown, 26 workers returned to these two villages. Our study found that all of them are willing to stay back if better options of livelihood are available within the village.

## 9. Conclusion

In the last two centuries in Uttarakhand, the control over common property resources moved from community institutions to state imposed institutions. Many policies to govern these resources were tried and tested to establish a balance between ecology, commercial exploitation and subsistence economy. Current policies including the Indian Forest Act, 1927, The Environment (Protection) Act, 1986 and Uttaranchal Panchayati Van Niyamawali, 2005 empower state governments to control and manage these resources. While traditional rights and concessions of various communities are recognized, they are regulated and interpreted by the state forest department.

Within this policy framework, gram panchayats like Dumak and Kalgoth of Chamoli district in Uttarakhand have access to huge forest areas rich in biodiversity. This entire accessible forest area is a common property of villagers governed either directly or indirectly (through van panchayats) by the state forest department. The large part of the forest is productive enough to meet local requirements. However, local people believe that their forest has been degraded to a large extent compared to a few decades ago. Villagers have several stories from the 1970s to 1980s when villagers along with the state forest department fought against poachers and illegal herb collectors. In our FGDs, villagers have argued that the shift of ownership from villagers to government has changed the attitude of local people towards nearby forest.

The change in attitude of villagers towards forest is also a result of their inability to harness the potential of natural resources in the changed scenario due to changes in policies governing these resources, market demands and changing aspirations & demands of young villagers (largely influenced by urban lifestyle). With the continuation of their traditional occupations (without any innovation and technology), villagers cannot compete in the highly industrialised, consumerised market system all around. Further they also do not have adequate capital, capacity, training and skills to modify their traditional occupations and explore new occupations using the same resources to satisfy their genuinely changing

aspirations and demands. What they need is a combination of exposure to the outside world, entrepreneurial motivation, and then access to markets, skills and capital. Only then can the natural resources from the common property as well private property be used to generate viable and sustainable livelihoods,

Our field work also suggests that the degradation of natural resources in and around these two panchayats is correlated with the decreasing villagers' dependency on them. Nationally and internationally the role of indigenous people and their knowledge has been recognized to protect, conserve and regenerate natural capital. Therefore it is important for sustainability of communities and ecosystems to recognize indigenous knowledge and practices. In the case of these two panchayats, the state forest department with the help of van panchayats can play a leading role in building capacities of locals and arranging necessary infrastructure to innovate and modify local occupations in a more sustainable manner.

