

Water Equity and Tourism: A Case of Nainital District, Uttarakhand

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1 Static Analysis - Collective action

This study is based on fieldwork that was carried out in Uttarakhand over the course of a few years since 2014 under two projects; originally with the intent to ascertain the impact of climate change on the livelihoods of mountain farmers. The current case is based on findings specific to ten villages in two blocks of the Nainital district in Kumaon, Uttarakhand, India. Urbanization and the increase in tourism infrastructure in the district over the past decade has resulted in a conflict over water access and equity. An increase in tourism operators in the region has led to a change in the social and cultural fabric of the norms that had been in place for decades. The development of tourism infrastructure entails putting pressure on an already fragile mountain ecosystem, and necessitates the inequitable sharing of an extremely limited natural resource. At the village level, the local self government or the Panchayat is tasked with dealing with conflicts that arise from the mis-appropriation of water. The key resource relevant to the commons dilemma faced by the community is the availability and access to groundwater and spring water for irrigation and domestic purposes.

1.1 The Commons Dilemma

The potential appropriation problem/ poor coordination of appropriation of resources: The potential appropriation problem was been overcome, however not entirely. According to the national water policy, water as a natural resource belongs to the nation and no one individual can claim rights over a water source, even if it the water source falls under the area their land. Fencing off the land, and subsequently water sources, by a number of tourism operators is suggestive of the potential for over exploitation of a scarce resource, as well as depriving the locals their fair share of appropriation.

The potential under provision of public infrastructure: The potential under provision of public infrastructure has not been overcome. Natural spring water heads, rivulets, hand pumps and tube wells are usually provided by the state government. However, the quantity, quality and access to this infrastructure is not proportional to the water demand within the district. Evidence of public infrastructure being enclosed within boundaries of privately owned land, a practice initiated by city-dwellers, exacerbates the potential under-provisioning of public infrastructure for equitable appropriation of water.

1.2 Biophysical Context (IAD)

1.2.1 Natural Infrastructure

The ten villages are located in the Kumaon region of the North Indian state of Uttarakhand, India. More broadly, the study area is located in foothills of the Central Himalayan region in India. The agriculture practiced in these villages is usually subsistence, predominantly rainfall dependent agriculture. Uttarakhand gets much of its water from natural springs, snowfall and glacial melt. However, the geographical disposition of the study sites, climatic stressors (unprecedented rainfall, increased temperatures, increased frequency and intensity of landslides) and non-climatic stressors (market linkages, increase in tourism infrastructure and urbanization) serve to exacerbate the water scarcity.

1.2.2 Hard human-made infrastructure

Public hard human-made infrastructure: Identification and construction of spring water-heads, hand pumps, pipes to draw water from rivulets, tube wells (in some areas) and water storage tanks are provided by the state government, and managed by the self-government within the villages (also known as the *Panchayat*).

Private hard human-made infrastructure: With an increase in the number of city-dwellers buying land in these villages and using it for personal and tourism purposes over the past decade, boundary walls and fences have been observed as hard infrastructure indicating demarcation of private property.

1.3 Attributes of the Community (IAD)

1.3.1 Social Infrastructure

Resources Users- The appropriators consist of two categories of people: the locals (who are usually also subsistence farmers with small plots of land) and tourism operators (city dwellers who have bought land in the villages and using it for tourism purposes). Each group within itself is fairly homogeneous. However, there is a sense of a divide between the two groups. The shift from an informal soft infrastructure of collective ownership and responsibility for management of a scarce resource, to a sense of individual ownership of the resource has created a rift between the resource users over water access and equity.

Public Infrastructure Providers - The State Government and the self-government or the Panchayat are tasked with provision of public infrastructure and coordination of activities for equitable distribution of water. There is no mention of the imposition of a sanction in case of the violation of the rules-in-use. While there is knowledge within the community of the appropriation process, there is evidence of inequitable water distribution practices that favour tourism operators and larger farmers. It can be inferred that it is likely that tourism operators attempt to bribe self-government officials to allow for over-appropriation to meet increased tourist demands, particularly in the summer months.

1.3.2 Human Infrastructure

The capacity within the local community has deteriorated over the past decade, with a notable increase in tourism infrastructure in the villages. The social and cultural fabric that reinforced collective utilization and management of water is threatened with the change in water appropriation practices. There appears to be knowledge among the locals (and

tourism operators) of the water governance mechanisms and the by-laws, but that has not deterred the practice of fencing off properties, and subsequently the water sources. Lack of support from public infrastructure providers have further served to impede capacities of appropriators.

1.4 Rules in Use (IAD)

- **Position Rules:** Sarpanch (head of the Panchayat) and Panchayat Committee (usually 5 people) are elected by the members of the village. Patwari (village revenue clerk) is appointed by the District Magistrate.
- **Boundary Rules:** The water sources are open access but are generally restricted to locals within a certain villages.
- **Choice Rules:** The ownership of land in a village does not lend absolute rights of water withdrawal. On achieving efficient utilization of water for domestic and irrigation purposes, any individual is permitted to appropriate water from said water source. However, leasing, renting, selling, transferring land is permitted to non-locals and the boundary rules transfer to anyone deemed by the original owner of said land. Additionally, the relationship between the locals and the tourism operators also dictates choice rules in action.
- **Aggregation Rules:** Members of the Panchayat (ranges from five to a maximum of nine members) elect their leader, the Sarpanch.
- **Scope Rules:** There is a legal measurable aspect that impedes the choice rules, but only as far as the locals take the matter to a court of law. The district court and higher courts have sanctioning power as far as mis- or over-appropriation is concerned. There is no evidence (so far) of fines imposed. At the village level, the Panchayat does not have sanctioning power, and it remains unclear as to how such a rule is imposed at a local level.
- **Information Rules:** No evidence was found during the study that knowledge or information was actively shared among the locals and the tourism operators; although the Panchayat is tasked with dissemination and enforcement of such information. Informally, rules of collective action dictate that even if the water source was on a private land, any individual from the village legally has access to the water after the owner of the land utilized it for personal and irrigation use. Any water spill or running water from a natural source cannot be claimed by an individual or group of individuals.
- **Payoff Rules:** There are no formal sanctioning tools such as fines or taxes that are imposed for mis- or over-appropriation. By default, there is no evidence of incarceration or penalty of any kind for violating the rules-in-use. However, if a dispute is taken to the district court or any higher court, the ruling will necessarily be in favour of equitable access and distribution of the available water.

1.5 Summary

Historically, the villages in the two blocks scoped in the Nainital district had been faced with a varied water supply through the year, due to their geographical disposition. Given

this situation of water scarcity, following the government by-laws and social norms that date back to centuries, the villagers followed a system of community ownership of the available water sources. The foundation of this strong social norm appears to have eroded over the past decade with the influx of tourism operators in the villages. These operators are usually city-dwellers, who buy land (predominantly agricultural land) from the locals and use it for personal and tourism enterprises. They brought along with them a practice of building boundary walls demarcating their land, effectively fencing off the locals from accessing any water source that happened to be on their land. This led to a shift from a sense of community ownership to individual ownership of the limited resource. A great number of locals attribute this shift in attitude to aspects of land tenure in Uttarakhand. This has allowed for sale of agricultural land to non-locals, which, in some cases, threatens to erode the social and cultural fabric of community ownership and management of a common pool resource. With an unprecedented increase in frequency and intensity of climatic stressors, this aspect of urbanization puts an immense pressure on an already fragile mountain ecosystem.

2 Case Contributors

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