

Special Issue Research Article

Climate Change and Social Change in a Himachal Village: A New Road and its Significance

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Abstract

This article looks at a particular Gaddi community living in high-altitude settlements in Chamba District, in western Himachal Pradesh. It focuses on local interpretations and discourses around changes in climate and examines the impacts on local practices and routines. Offering a different perspective to broad-brush depictions of the climate crisis, it seeks to “bring back to earth” and humanize larger statistical analyses. I show how it can be hard to disentangle climate-driven change from wider socio-economic drivers of change because they are so interwoven in local discourse. Drawing on Ingold’s dwelling perspective and his conception of “taskscape,” this account shows how changes in seasonal patterns are integrated into people’s routines and practices and a “new normal” seasonality or temporality emerges. In this process, the primary local benchmark for Chobia’s inhabitants is their new road, carrying the weight of local narratives about climate change as well as moral evaluations about changes in human character, for which Lord Shiva is the ultimate arbiter. It is through the prism of local reflection about the new road that a dynamic co-creation of climate and human society becomes evident.

Keywords

Climate change; local knowledge; impacts on practices; temporality; new road

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Introduction

Himachal Pradesh, “the state of the snowy slope” (from Sanskrit: *hima*, snow; *acal*, slopes), extends from 350m to c. 7 000 m above sea level. It is crossed by three northwest-southeast mountain ranges: from south to north, the Shivaliks, the Lesser or Lower Himalayas, and the Great Himalayas. Like mountain regions worldwide, Himachal’s climate and weather patterns are heavily affected by global warming and climate change. Mountain regions have experienced the greatest increase in temperatures from the increase in anthropogenic emissions of greenhouse gases (Dileepkumar, AchutaRao et al. 2018). Himachal Pradesh, indeed, registered a greater rise in average temperature than any other state in India over the period 1951–2010 (Rathore, Attri et al. 2013). But despite the growing body of evidence for changes in precipitation, vegetation, or glacier retreat, we still know little about the way these changes in climate are observed and experienced in daily life by the people most exposed to them.

Moreover, most studies that have surveyed local perceptions of climate change and its impacts on local practices in Himachal Pradesh have been broad-brush, adopting large territorial scales (Ndungu and Bhardwaj 2015; Loria and Bhardwaj 2016; Rana, Kalia et al. 2021). Such large-scale studies tend, inevitably, to use the categories and indicators of the earth sciences rather than frame their analyses in terms closer to common idioms and usage at a local level. This paradigm too readily slips into seeking to measure the “accuracy” of local perceptions, setting “true” and “objective” scientific understanding on one side and local “beliefs” on the other (Bergeron, Padir et al. 2018). Other studies in a similar vein have an applied focus, identifying adaptive strategies and seeking to measure “progress” in farmer engagement with state-led advice (Meena, Vikas et al. 2019).

This article, a case study of one particular Gaddi community in the Chamba district of western Himachal Pradesh, offers a contrast to these studies. It has a dual purpose. First,

it contributes to our understanding of Gaddi lives in high-altitude settlements.¹ It focuses particularly on the local understanding of climate change and the kinds of adjustments or improvisations that people are making. In doing so, it complements and extends the depiction of contemporary Gaddi life as presented in other articles in this special issue; uniquely, it addresses the implications of a dramatically changing climate. Chobia, the locality I focus on, is situated in the Bharmour sub-district of Chamba. In an earlier article, Richard Axelby and I contrasted two Chamba villages, given the pseudonyms “Nichla” and “Upala,” to highlight altitudinal differences and explore some of the local responses to the changes being experienced in the climate in each place (Axelby and Bulgheroni 2021). Despite the differences between the two settings, in that article we touched on the ways in which climate-related change gets inserted into a range of wider historical, economic, and political narratives. The present article develops those themes and focuses on the larger Panchayat within which “Upala” (here given its actual name, Cow) is located, named Chobia.

My second purpose is to offer a contrast to scientific techno-discourses about climate change impacts, which are grounded in the analytical separation of human lives from their climate. Instead, I seek to show how ethnography in a specific place enables us to portray the human dimension and an intimate daily relationship with the weather and the rhythm of the seasons. Situating climate in local space, I focus on local understandings around changes in climate and examine the impacts on people’s lives. I seek to infuse this relationship with an appreciation of people’s hopes and anxieties, preferences, and knowledge. In doing so, I give weight to the environmental and social impacts of a new road to Chobia that first reached the valley in 2005 and the changes in people’s thinking associated with this increasing connectivity (for a comparative reference from Nepal, see Campbell 2010). I aim, in other words, to offer a different perspective to the often-abstract concept of a climate crisis: to “bring back

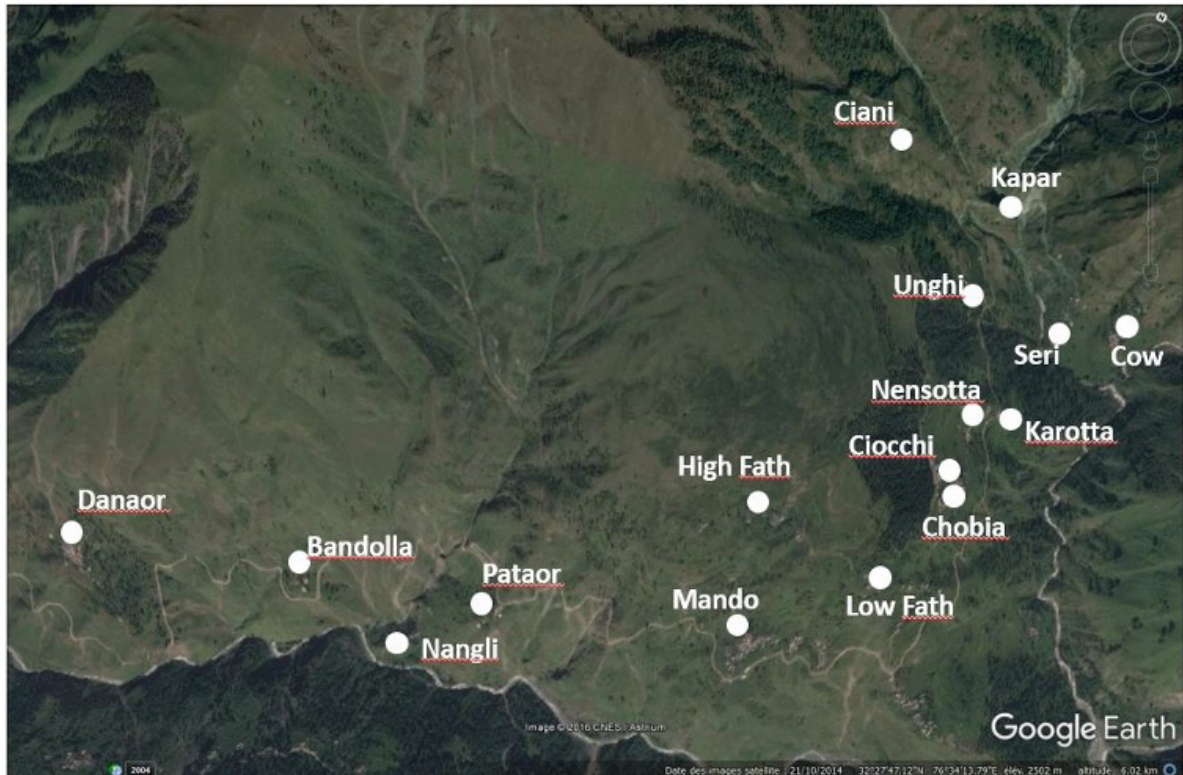
to earth” the larger statistical picture and show how climate change and its discourses can be “peopled” more vividly.

I approach climate change as a phenomenon encompassing local cultural discourse and embodied practices every bit as much as meteorological change or governmental policy responses. As an anthropologist, my epistemological orientation combines a phenomenological approach to culture with the material critique of political ecology. Thus, I contextualize the resourcefulness of social responses to climate pressures and the repertoire of cultural capital people draw upon when needed, exploring interconnections between, for instance, the materiality of land use, social history, spirituality, and morality (Fiske, Crate et al. 2014; Barnes and Dove 2015). I conceptualize impacts on practices as the integration of a changing climate with the daily processes of “dwelling” (Ingold 2000). Specifically, I value Ingold’s (1993) concept of dwelling in “taskscape,” approaching the environment as an ensemble of *tasks*. In a nutshell, as

Ingold has observed subsequently (2011: 95), “We inhabit the environment, we don’t look at it.” I also consider how this engagement with the immediate sensory world links to those larger systems of knowledge that define our global “climate knowledge.” I do not frame external and local knowledge as in opposition but as forming one unique kind of knowledge, manifested in the many conversations of my fieldwork (Scott 1998; Ingold 2000; Ingold and Kurttila 2000).

Chobia Valley

Fieldwork in Chobia took place in four sessions (April–July 2015; October 2015–January 2016; August–October 2017; and March–May 2018). I lived in Low Fath, Chobia, and Cow, three of the sixteen hamlets that form the larger locality (Panchayat), which also takes the name of Chobia (see Map). My research has not been limited to these three hamlets, however, but has included other settlements in Chobia, where, with my research assistant, I often went to visit people. My data come



Map: Google Earth view of Chobia valley and the sixteen villages. 32°27'55.82°N, 76°34'20.01°E, 2016 (© Google)

from interviews, informal discussions, and personal observations. My research assistant and I talked with people of all ages, both women and men. However, it was more difficult to persuade women and the most elderly (women or men) to sit for an interview; they were convinced they did not have the “right” to be knowledgeable about a topic like environmental change (discussed later). My descriptions of pastoralism are grounded in fieldwork with Gaddi herders in different places throughout their transhumant cycle. Fieldwork with herders took place in five sessions (September–December 2012 plus the periods indicated above).²

Chobia’s hamlets lie on both sides of a valley formed by a tributary of the Budhil River. The town of Bharmour, the administrative center of the area, lies on the opposite side of the Budhil River. The hamlets are spread up the valley at varying altitudes (about 1850 - 2600m). Above the highest hamlet and below the alpine pastures (*dhar*), agriculture is impossible. These are some of the highest and most remote settlements in Bharmour and Chamba. They are surrounded by breathtakingly narrow cultivated terraces (*bagdi*) sustained by stoned walls (*danga*) one or two meters high. Around the terraces are grazing slopes, the steepest of which are locally called *fath*. High above the village, the Chobia Pass (4966 m) is one of the main routes for Gaddi shepherds across the Pir Panjal, connecting Chamba to Lahaul. To the east, the sacred peak of Mt. Kailash (5658 m), the pinnacle of the Mani Mahesh massif and the abode of Lord Shiva, is also visible from Chobia—one of the few valleys from which it is visible.

Official data indicated a total Chobia population of 2243 inhabitants in 2018 (Panchayati Raj 2018). Each hamlet is associated with a single caste: Brahmin, Rajput, and a single “low” caste, Hali. Today, all Hali families live in a single hamlet. The newest settlement is Bandolla (a mere two houses, but locally referred to as a new settlement). This only came into being after a devastating flood hit nearby Nangli in 1995, washing away most of the houses and killing entire families.

After this catastrophe, many of the survivors resettled in Pataor, at a slightly higher altitude, and, after some years, in Bandolla, in order to be closer to the newly built road.

The road, already mentioned, runs above the Budhil River. It reached the Chobia Panchayat in 2005 and was still an unmetalled (*kacha*) track in 2018. But it traverses the Panchayat, and, in 2009, the construction of a bridge enabled the bus to reach as far as Seri and Cow, thereby connecting most of Chobia’s hamlets to Bharmour town. The plan for the future envisages eventual road connections from east and west, not only providing easier access to Bharmour but also an alternative route to the start of the climb for the Manimahesh Jatra, bypassing Bharmour. Before the road was built, Chobia’s inhabitants had an arduous two- to three-hour walk to reach Bharmour. Two daily buses now do the round-trip, taking an hour each way. The bus brings together adults going to the shops, students heading to Bharmour College, people traveling to family ceremonies, and perhaps a sick goat and her herder, all squeezed together—seemingly oblivious to the state of the road and the precipices the bus must negotiate. People were surprised to see me on the bus. No foreigners come to this part of the Bharmour Valley at present.

Even though the new road is seen as bringing enormous change to Chobia, people there still describe their village as a backward place, largely because the opportunities for earning an income remain limited. There is little scope for developing a family business in the valley, whether a small general store, a liquor shop (which would anyway require important political contacts), or a taxi service (although that could change). Moreover, few families see the road as facilitating cash crop production; the minute, scattered terraces, some of which may be half an hour’s walk from home, deter such thoughts, especially as there is waning enthusiasm for cultivating more distant fields. Indeed, the road is already leading to decreasing engagement with farming. With growing reliance on Public Distribution System (PDS) products,

cultivated land has been abandoned in recent years, especially the more distant plots. At the beginning of this century, all of the residents' land was cultivated; today, at least one quarter is unused (*killi*). The number of domestic animals (cows, goats, and horses) has also declined; families now possess about half of the animals they had a few decades ago.

The arrival of the road, along with increased investment in education, has hastened the disengagement of younger men from agricultural work. Indeed, this is part of a wider disillusionment, for work opportunities outside the village remain scarce, and few are qualified for salaried work, which generally requires living away from the village. Even if Scheduled Tribe status allows villagers to benefit from reserved educational places, the educational levels attained in Bharmour rarely prove good enough to secure reserved places. More typically, young men rely on local work in road construction or other public works under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) program. Chobia therefore exemplifies a growing dependence on public schemes, which, accompanied by decreasing involvement in farming and pastoralism, have given rise to a "politics of waiting," echoing a story of "timepass" more familiar from the Plains (see Jeffrey 2010).

Notwithstanding this growing detachment from agriculture, all families in Chobia, regardless of caste, own and continue to cultivate several fields and raise domestic animals. And although there has been a notable increase in horticulture over the last decade, food grains remain the mainstay of local farming. Maize (*macchi*), buckwheat millet (*phullan*), barley (*joh*), beans (*rajmah*), and, at lower altitudes, wheat (*kanak*) are all vital crops. Households grow barley or wheat in the winter and maize, beans, and millet in the summer. Most production is for domestic consumption. And despite greater reliance on PDS products than in the past, families prefer to grow their own food because they value its quality and taste.

Whereas, in the early 1980s, more than a half of the Chobia households owned flocks of sheep and goats, today only a minority continue to do so. The existing flocks typically number around one hundred animals. The highest proportion (and number) of herding households is from the Rajput hamlet of Cow (fourteen out of about sixty). The second highest proportion is in Chobia hamlet (also Rajput) (five out of about thirty). In the Brahmin hamlet of Danaor, there are no herders because, as I was told, "We are a Brahmin village." Yet there are two herders in Unghi, another Brahmin hamlet of about fifteen houses. As in other Gaddi communities, there are no Hali pastoralists, though some Halis own a few animals that are incorporated into the flock of another local shepherd.

Pastoralism is losing its appeal in Chobia as elsewhere, and its difficulties are widely discussed. I met many ex-herders who had quit the activity in the previous five years. Not only is it hard at high altitudes, but it is even harder in winter grazing grounds. Changing social as well as ecological circumstances exacerbate the problems there. Herders speak of having to look out for animal theft, sometimes with the threat of violence. Packs of wild dogs assaulting the herd and killing younger animals add to the danger. And even without such problems, grazing grounds themselves offer scarce nutrition with an ever-present danger of noxious plants.

Yet there is another side to the picture. Pastoralism can be a highly lucrative activity. Moreover, financial gains have grown in recent decades. Today, there is money to be made selling animals to traders in Delhi or Jammu and Kashmir (notably Srinagar, with its high demand for meat). Popular demand for meat has also increased with a growing urban middle class, and prices have almost tripled in twenty years. Pastoralism is thus evolving in response to new contingencies. Indeed, I suggest that for the minority remaining in the pastoral economy, it is growing more lucrative and increasingly embracing the logic of the market. Those herds that remain

can be as big as ever, with an increased separation between ownership and workforce. That said, Chobia's remaining flocks correspond more closely to a traditional Gaddi model of relatively small-scale herding.

Climate change experience: observations of change

Exploring local observations of changes in climate should not mean seeking "one single voice," flattening out nuanced understandings, or differing opinions. Different indicators might be invoked to measure change by different people in Chobia, drawing on particular memories. Some indicators are shared—the depth of snow alongside houses or the frequency of frozen taps. Other indicators relate to the body: a contrast between snow once reaching up to the chest while today it reaches the knees.

Over the last decade, people in Chobia have observed major changes in weather patterns. People said that they feel warmer today and told me how the seasons have become highly irregular and unpredictable. They remarked that extremes of weather have increased. While temperatures were understood to have warmed considerably throughout the year, there were also unexpected spells of cold, not only in winter but also at other times of the year. The snow cover in the valley was widely described as having fallen to less than half what it used to be. Some decades ago, the heavy snowfall meant that avalanches were common in winter. Large chunks of hard snow falling into rivers and becoming ice (*haint* or *haine*, meaning a mass of snow compressed to ice) are now much rarer than they used to be.

Numerous observations compared past and present in relation to snow. I was told that in the highest Chobia hamlets, the snow used to reach the roofs of houses, while in the lower hamlets near the river, the snow used to be about three feet deep. Today, snow levels are said to be more like one meter and one foot, respectively, at these different altitudes, and avalanches are rare. The young have themselves absorbed their elders' tales of far greater depths of snow

in a past they have never known. Ravinder Kumar (Chobia, 1st April 2018) told me: "I have heard from my grandfather and my great-grandfather, snow was seven to eight feet at that time. It is what I have heard from my ancestors."

The decrease in the amount of snow in the valley is so significant in local accounts that today winter is said to be better defined by the onset of cold temperatures in November than by the arrival of snow. Other related changes have also been noticed. Most people observed that it no longer snowed for as long as it used to. Week-long snow is a rarity now, with a day or two of snow at a time being more typical. In parallel, many noted that the intervals between snow spells now tended to be longer. One young man from Chobia had also observed a difference in the size of snowflakes, remarking that "snowflakes are thinner, smaller" (Chobia, 4th October 2017). In higher hamlets, or those less exposed to the sun, snow would remain for around four months a couple of decades ago; today it melts in about fifteen days, and even in a single day on the valley floor when exposed to the sun.

People also commented on how the mountain peaks above them hold less snow. Peaks that were snow-covered all year are now without snow during the monsoon season. One peak, however, stands apart from these changes: everyone agrees that, on Mt. Kailash, snow cover has barely diminished. Kailash, it seems, will remain snow-covered until the end of time.

Changes in rainfall patterns are commented on in conversation. Winters are generally seen as being drier than before, and the rainfall in the period preceding winter is less than it used to be. But, at other times of year, it was the unpredictability of rainfall that drew the most comment. Most people remember that the months before the summer monsoon used to be dry in Bharmour, but now the rainfall is often heavy and even incessant for spells from about March–April to June (called summer by some). I often heard the joke or complaint that "on the actual days when you need rain, it does not come."

The monsoon season itself was also seen as less predictable and more extreme than it used to be, varying from year to year, sometimes exceptionally wet and in other years exceptionally dry. But when it rained, the common view was that it was dramatically heavier than in the past. “Sometimes it is like in Dharamsala!” commented Ardeep (Bandolla, 8th December 2015), Dharamsala being noted for its heavy rainfall in the past. (Interestingly, when I interviewed Gaddis elsewhere (in Rakkar, near Dharamsala) in three different years (2012, 2015, and 2017), there was widespread agreement about one predictable new feature of the climate, namely that the monsoon was starting later. For adults, monsoon rains in Bharmour during their childhoods were commonly remembered as continuous and uninterrupted, building to a crescendo and then declining into drizzle. Many also remembered spells of intense fog during the monsoon, apparently a rarity today. In the words of Rajinder Ram: “Earlier, when it used to rain, *duri* (fog) would come down to the earth, day and night, and we were not able to see a person standing one hundred feet from us” (Unghi, 27th October 2017). In the same vein, Surinder (Nangli, 24th October 2017) recalled: “In daytime, like at 11 am, it would look like night is about to start. Nowadays, this fog during rain is only at the top of the mountains, not here in the villages.” An aspect of the unpredictability of the rains was also the variability in intensity, with strong rains interspersed with “tiny rains” (*kini kini*).

Climate change impacts on farming activities

Changes observed in weather patterns were often associated with impacts on crops. During fieldwork, we often ended up talking about weather through complaints about what was happening to crops and plants, and vice versa. The quality of crops is considered to have markedly declined over the last decade. And I heard frequent complaints about off-season rains, how irregular monsoon rains had become, the generally warmer temperatures, and October rains and snows. Farmers around

Chobia reported increasing crop diseases. Low crop yield and incomplete ripening were also seen as more commonplace, and that was believed to be related to rising temperatures and rainfall irregularity.

Chobia families have adjusted their farming practices in several ways. First, because of the typically later arrival of cold winter weather, there has been a delay in planting the winter crop. The sowing of crops that used to take place in October is now delayed until mid-November. Second, for the last six or seven years, families have started to moderately increase the proportion of land dedicated to vegetable cultivation and have started to grow new vegetables like cauliflower, pepper, or cucumber, which they would not have grown in the past. Third, farmers have increased their use of chemical inputs (“medicine”), the justification being that this helps crops succeed despite the increasingly unpredictable weather patterns.

For those with flocks of sheep and goats, less snow and faster melting have extended the time when it is possible to graze in summer pastures, which is seen as a positive advantage. As mountain passes tend to open earlier after the winter, shepherds now have more latitude in timing migration, although miscalculation is always a possibility and glacier melt poses its own considerable risks. All this allows herders to leave degraded winter grazing earlier and reach the luxuriant summer grazing grounds sooner. Less snow also makes the highest pastures accessible earlier in the summer than used to be the case. By comparison with a couple of decades ago, Chobia herders now head north about one month earlier than previously.

However, although impacts on farming practices and pastoralism are significant, these are not the only—or even the main—impacts that Chobia villagers are experiencing as a result of a changing climate. These consequences need to be seen more holistically.

To give one example, less snow is encouraging the construction of houses with

smaller slates on their roofs—a less costly and more manageable option than the large and heavy slates that roofs were believed to require in order to hold deep snow. Houses are also now starting to be built with higher doors (and greater use of cement). As Rajinder said (Chobia, 8th October 2017): “Houses were [built] with small doors, because if not, the snow would have broken them.”

Most significantly, there is a growing preference for remaining in Chobia through the winter. Reduced snowfall means that families are becoming less inclined to move down to lower altitudes (within Chamba or over to Kangra) for the winter. A few decades ago, most villagers used to migrate from Chobia and surrounding areas during the winter to look for jobs, accompany the flocks, or simply stay in relatives’ houses at lower altitudes. The valley became almost empty for a few months, as only a few people would remain to take care of the small number of animals left for the winter. In the past, “People were meeting and had discussions on which day they had to leave” (Rajinder, Chobia, 8th October 2017). Chamman (Bharmour, 6th October 2017) contrasted past and present: “From Bharmour, they used to go down with the herders. One hundred people used to go by making a big group. We used to take with us animals (cows, horses, goats, sheep). Now only about 15 people go down”. Phunnu Ram and some other older men in Chobia (7th December 2015) recalled the contrast with the present: “Forty years ago, there was no-one in this area during this time of the year. When some families were split between Punjab and here, they could not speak for many months to each other. Now people go down much less during winter.” Thus, more and more families now remain in Chobia and surrounding villages throughout the winter, or leave for much shorter spells. Saran Singh (Chobia, 1st April 2018) commented to me: “Earlier, during [April], there used to be snow. But now no snow is around during this month, so why do people have to stay down where there is the same weather as in Chobia? Weather is the same in Chobia and in the plain.”

Moreover, domestic animals (*ghareri*) can now be grazed outside through all but the worst winter weather, another factor in family calculations.

Today, some of the older Gaddis, if they have the opportunity, will opt to spend the coldest months in relatives’ houses at lower altitude. Others continue to migrate if they have a stake in a shop or the possibility of working in Chamba or Kangra. Still others see the winter as a break, with schools still closing and nothing to do in the fields. “Winter is holiday” and an opportunity to see family elsewhere. What has changed is that today’s Chobia villagers feel they can more easily choose one way or the other; their environment does not drive them to migrate for the winter any longer. And if they go, they can easily go for less time than the four or five months of a few decades ago.

It is also easier to remain in Chobia through the winter if the road to Bharmour and Chamba stays open more of the time. This highlights how a changing climate intersects with other economic changes affecting the valley. People say that reduced snowfall enables roads to remain open in the winter for longer periods. Moreover, the Public Works Department’s efforts to keep the road open during snowfall have enabled the MGNREGA program to keep the main connecting tracks and paths cleared. For instance, cement can now be transported later in the season than in the past, while MGNREGA activity during the winter—such as constructing or renewing paths—has opened up employment opportunities that never used to be available at this time of year.

Chamman (Bharmour, 6th October 2017) pointed out other benefits of the road that helped people remain through the winter: “Earlier there was no food for this period [winter]; today everything is available here.” Rajinder (Chobia, 8th October 2017) noted another advantage that an open road provided: “If a child was sick, it was difficult to bring him to the hospital”. And Phunnu Ram (Chobia, 7th December 2015) reflected not only on the importance of winter road

access but also on the expansion of phones and phone networks, “People can stay here principally because of the road. Also, because today there is more employment during winter [such as MGNREGA work to keep tracks and paths open], and because there are telephones”. He and his friends added to this a reflection about the ethos of the present: “No one today is available or willing to take care of others’ animals... everyone has become more individualistic.” Self-interest thus also leads people in Chobia to remain at home through the winter, for they cannot rely so readily on the automatic solidarity of the past.

Therefore, various factors combine to make it easier than formerly for Chobia residents to remain there through the winter. More paid work (especially through MGNREGA) and thus more income, more goods being brought in, easier communication to Chamba when required—all point to economic developments that are relatively recent and were not part of the experience of previous generations. All these changes are, however, at least partly a consequence of reduced snowfall. It goes without saying that snowfall is unpredictable. But these economic changes themselves testify to the strength of the trend in snowfall, for they would not have happened without winter generally bringing less snow than in the relatively recent past. Moreover, everyone I spoke to agreed that MGNREGA work would not have been possible in winter with the snowfall typical of the past; clearing such deep and regular snow would have been impractical.

From another angle, growing different vegetables is itself about more than a warming climate, for it reflects new market demands, which in turn are spurred by changing local tastes. Traditional grains—like amaranth (*chola*) or finger millet (*codra*)—are losing ground to rice and vegetables. New and bigger houses are being built in Chobia because there is less snow, but also because the new road makes it easier to bring in cement for more ambitious construction and because of new domestic pressures to create private space within the home. The

changing shepherding cycle, alterations in agriculture and diet, new fashions in house building and layout, and a growing preference to remain through the winter—each reflects the interaction of local changes in climate with wider social and economic influences.

Daily life and climate change

The dynamic nature of the relationship between people and their weather means that Chobia villagers do not perceive a process like climate change as a sudden transformation. Significant changes appear notable in hindsight with reference to an earlier period (a timeframe that was longer for older residents than for younger ones). The point is that the changes observed were not external to Gaddi life in Chobia. They were not something “out there” that had changed while humans were, in some way, absent. Knowledge of their environment evolved within that same environment—an environment in constant flux.

As Ingold argues (2000), daily life ensures that changes in seasonal weather patterns are integrated into people’s routines and practices. Local perceptions of what is “normal” seasonal weather, or a “normal season,” gradually change. I found out for myself in 2015 what this “new normal” meant for the pastoral cycle. I had gone to interview Gaddi shepherds before they crossed one of the Pir Panjal passes from Bharmour to Lahaul. As I had read that herders do not reach the alpine grazing grounds in Lahaul before July, we reached Kugti in early June. But we were late; most herders had already crossed the Kugti pass. I learned from a few remaining shepherds that most now aimed to head across to Lahaul two weeks or even a month earlier than a decade ago (as I mentioned earlier). Indeed, the few herders we met were concerned about being late (even though, by the standards of the recent past, they would not have been). Unseasonal late snow had disrupted the plans of those still in Kugti, highlighting the unpredictability herders always face. “Do you see that mountain in front of us? Usually, at this time of the year, we are there. But this year, every

time that the warm weather starts, it rains. So, the cold restarts and it snows again” (Herder, Kugti, 16th June 2015). One of the delayed shepherds mentioned that he was “surprised” by the snowfall and compared what he saw as an abnormally thick covering of snow with a memorable situation in 1989 (Bharmour, 16th June 2015). However, in 2015, the snow was four to five feet deep, whereas in 1989 it had been over twenty feet deep, as other shepherds whom we met at the same time recollected. In both instances, it was the “exceptional” nature of the two years that was highlighted. In short, while the annual rhythm of Gaddis’ transhumance has always been dictated by the seasons, herders actively live the changes occurring in their environment—both yearly fluctuations in weather and fundamental shifts in climate—and these changes become internalized in their activity.

By “attending to” (Thompson 1974) environmental fluctuations, villagers are continually adjusting their own movements to this on-going perceptual monitoring so as to achieve a “resonance” with environmental fluctuations (Ingold 1993). Harris (1998: 66) refers to this less snow these last four-five years; “it is since these dams here have been constructed: at Karamukh, and more downriver, three coming up from Chamba.” In this section, I explore how people’s interpretation of environmental change relates climate to recent important socio-economic, political, religious or moral changes, each with a certain timeframe, sometimes explicit, sometimes implicit. And I suggest that the arrival of the road in Chobia Valley is an important landmark in this respect: a reference point in local discourse.

With the road, Chobia villagers have started to experience accelerating interconnected changes. Among the many changes associated with the new road has been the increasing prominence of public “development” schemes delivered through the Gram Panchayat—a body whose reach and responsibility have steadily increased (most visibly through the now as “an embodied periodicity.” In this way, new criteria for

change emerge, along with new timeframes within which a change is observed. And the selected timeframes of comparison, between “then” (a remembered past) and now, influence people’s judgments. I was often told that hailstorms have increased in frequency. But this was from people who were usually looking back over a generation or more; by contrast, others noted that there had been fewer hailstorms in the last few (half a dozen or so) years. In the same way, the majority of people observed that the greater extremes of climate today meant that spells of notably heavy rain were becoming more common (as in the comparison with Dharamsala). Yet in contrast, a number of people harked back to a catastrophic local flood in 1995, mentioned earlier, which almost entirely destroyed the hamlet of Nangli, killing many people. For those people, this flood was a truly horrific landmark in time against which present heavy rainfall was seen as diminished.

A new road, modernity, and climate change

In the “co-construction of a new normality” among humans and non-human agents, what establishes the beginning of a change? A landmark event may provide a reference point for assessing change—the flood in Chobia in 1995, for example. Equally, several interlinked changes may be cited rather than a single landmark event: one woman from Bharmour (6th October 2017) had little doubt in her mind about the factors that were connected: “There is ubiquitous MGNREGA schemes mentioned earlier.” The road has also brought villagers better communications infrastructure; not least, the road has allowed people to bring a TV to their homes. That instantly linked Chobia to politics and wider public debates, including those on global climate change. With increasing connections to external information and a more widely educated younger generation, a new discourse on global warming has reached Chobia villagers. Indeed, awareness has increased over the last decade, with younger Chobia residents becoming connected to a larger virtual “space” of social networks through

smartphones. Moreover, travel to other parts of Himachal and beyond—say, a two-day trip to Chamba or a four-day trip to Kangra—has become much easier. Some people now claim they have learned (through TV or at school, especially) about the “global warming issue.” (I found that the term “climate change” was unknown.)

However, it should be clear from the earlier sections that the lack of familiarity with the term “climate change” does not reflect unawareness or ignorance of the realities that the term denotes, as has been well shown by Kvanneid (2018) writing on the Shivaliks. But there is an issue around the politics of knowledge here, for the familiarity with certain words also highlights who has the “right” to know about this “issue” (those who are educated and men in general) and those who may feel that they do not have this “right.” These individuals (generally older and female) feel excluded from the power that comes with the new knowledge. Shilpa, a 56-year-old woman in Chobia, spoke for many (3rd December 2015) of her generation: “I do not know [why these changes are happening]. I am illiterate”. But she went on: “The young here say it is because of pollution and because there are more people. Today, everyone uses chemicals in fields—fertilizer, spray for crops.”

Shilpa’s words also point to the recent and growing awareness about environmental pollution and its effects in Bharmour, largely talked about as *pradushan*, a new part of the local vocabulary. Moreover, a sense of this pollution has come to Chobia with the road. Cars have reached the village, and the pollution from traffic, in Chobia but more especially in Bharmour, is now mentioned as a cause of the changing weather patterns. Hydropower projects around Bharmour were seen as a second source of *pradushan*, with implications for the climate. A third factor cited was the large-scale logging authorized by the Forest Department for road construction and hydropower projects, along with more general tree-cutting for domestic use. This last is associated with a growing population,

which is itself seen as contributing to warming temperatures. With the road, the use of cement has increased everywhere, along with plastics and chemical inputs. External knowledge feeds easily into local observations and narratives without distinction between the educated and the uneducated, creating local meanings. “Glacier,” an English term widely known (again, especially by men and young people), is translated by many as “when the ice melts.”

But there is a further dimension to these observations and understandings. Kvanneid expresses this well. Popular concerns were not expressed in stories about climate change or global warming. They were expressed instead in another cosmological framework, one of religious morality and changing social relations in the face of “progress” (Kvanneid 2018). It is this moral and ultimately religious dimension that I go on to now.

It is not only environmental pollution that has arrived in Chobia residents’ lives and consciousness, but, as a result of the road, new possibilities to earn money and an increasing role for residents in local management of their immediate environment (alongside government schemes of social support) (see Agrawal 2005). For some, there is a sense that a new individualism and corruption have arrived in the valley. A common narrative is that, in the past, people used to help each other more, and corruption did not exist in Chobia. And thus, just as weather patterns are changing, so are human beings, one mirroring the other. People would speculate about this. “I don’t know why there are all these changes in weather!” Ghiata, a young woman (Low Fath, 22nd September 2017) remarked. She answered herself: “Because people have changed. People today go to school and have a job.” I heard many similar comments. “Because humans have changed, so monsoons have also changed”, was the suggestion of a 45-year-old woman from Ciochi (26th October 2017). Others were still more explicit about a possible link between human morality and climate

change. Ran Singh (Chobia, 18th September 2017) saw humans becoming more individualistic, saying the desire for each person to have a “single room” (each nucleus with its own *chula*) results in less snowfall.

In addition, parallels were drawn between changing human behavior and animal behavior. One herder (Ram Singh, from Rakkar, near Dharamsala, 7th September 2015) reflected on how shepherding dogs were not as capable as they used to be. “Dogs are not able to care for the flock anymore: before, one dog could protect 600 animals; today, two dogs are not able to protect 300 of them! Why? I do not know why! It is the same as parents who are not able to take care of ten children any more, but only two or three, you know.” And in Chobia, one resident noted that wild animals now approach closer to people’s houses because “they have become smarter, less respectful, you know, like humans have become smarter” (Man Singh, Ciocchi, 8th December 2015), with that ambivalent reflection on smartness entailing a loss of respect.

Recent understanding by local people of how humans may negatively impact their environment did not mean they felt that Shiva had lost his power. Shiv Ji, looking down on Chobia from Kailash and deciding upon the weather, is also an agent in this multiplicity of interwoven changes. By common consent, it was Lord Shiva who sent the devastating Chobia flood of 1995 in anger at the way people behaved during the Manimahesh Jatra, going there to party and (in the words of another person) to do “dirty [i.e., sexual] things” beside the lake. This was a recurring moral motif. Several individuals told me that Shiv Ji’s anger was felt due to people’s scandalous behavior at the annual pilgrimage to Manimahesh. Rajesh and his mother, from Chobia (5th December 2015) reflected that “climate is changing because people used to pray more sincerely. Now they are not so sincere, and the rain doesn’t come good. During Manimahesh Jatra, people go up to party, not to pray! They bring alcohol, they scream, they leave rubbish everywhere!”

Today, although Shiva is “outside change” (and the snows on sacred Kailash are not melting as they are on other peaks), he is nevertheless believed to participate in the changes Gaddis observe. He participates directly: “The wind is very much stronger than 10 years ago! So weather changes faster. It’s the will of Shiv Ji!” (Dharam Chand, Thalla-Palni, 19th June 2015). Two women in Chobia (6th April 2018) also told me: “In the past, Shiv Ji gave more snow; today he’s giving less.” Sumna Devi, from Fath, was another to mention the loss of snow and its ultimate cause: “Shiv Ji makes less snow fall because we do not care any more about our [domestic] animals. We leave them alone outside. This is why Shiva makes temperatures increase and snow decrease” (Low Fath, 17th October 2017). In this way, there is a common view that the climate is changing because of the *Kali Yuga*³.

Therefore, different discourses work in different registers to help “explain” the impact of climate change as it reaches the Budhil valley. These registers, or indeed cosmologies, coexist and even interpenetrate; they are not seen in Chobia as incompatible in the way that a scientist engaged in climate science would assume them to be. Climate changes are understood as part of an acceleration of societal changes in which multiple elements are brought together as an ensemble of interacting agencies.

Conclusion

Looking into the local temporality of climate change, this article has sought to illustrate how such changes are integrated into social practices and a “new normal” seasonality emerges. Local interpretations of changes in climate (whether built on direct local knowledge or external sources of information) gain meaning through practice and unfolding activities—the Gaddis’ “task-scapes” (Ingold 2000). The immediacy of weather patterns is a facet of the activities of daily dwelling, in which attending to the ebb and flow of unpredictable weather has always been culturally ingrained for Gaddis. In this way, the new temporality of

changes in climate is readily absorbed as “normality.”

In this paper, I have highlighted how understandings of a changing climate are embedded within an apprehension that change is accelerating more generally. In this, the local benchmark for Chobia’s inhabitants is their new road—it serves as an ambiguous symbol and a rhetorical object with material agency (Campbell 2010: 277). At once an enormous and long-overdue improvement in people’s lives, it is also a source of diffuse unease. The road carries the weight of local narratives about climate change as well as moral evaluations about changes in human character, in which Lord Shiva is the ultimate arbiter, his summer abode visible from the village acting as a constant reminder to all.

At the same time, something political is clearly going on. As local participation in public schemes increases, particularly through MGNREGA, the beginning of an identity as “environmental subjects” (Agrawal 2005) is appearing in Chobia. Agrawal’s research in Kumaon highlighted governance processes that do not wholly fit the Bharmour area. But in one key respect, they do: Agrawal argues that new modes of thinking about the environment create a new kind of environmental agent or subject, one with investment in decisions about the immediate future. We see this starting in Chobia, and the trend will only strengthen with time.

To a degree, causal connections are invoked in the interwoven threads of thoughts and ideas with which Chobia people grapple. For instance, people—and businesses and the government—pollute their local environment, and that is linked to people no longer praying with sincerity. A growing population is linked to declining snowfall, which in turn makes the road more viable but also increases traffic, which then adds to the warming effect. Yet at the same time, the reduced snowfall makes it easier to remain in Chobia throughout the winter.

But, from another perspective, the patterns observed are not necessarily seen as

causally connected but rather as mirrors or parallels, leaving questions of causation to one side. Thus, today’s changing climate simply mirrors changes in the economy or in people. Even if people in Chobia are uneasy about the current changes, few villagers would like to go back to the deep snow of the not-so-distant past. The weather of the past may have been better for traditional crops, but tastes have changed and people prefer a more varied diet. Kanta, a 50-year-old woman from High Fath, expressed this mirroring in relation to livelihoods: “Rains are irregular because everything has become irregular: wages, life. Before, we knew how much food and money we would get in one year. Today, you can earn a lot of money one year and be without the next year” (21st October 2017). From a similar perspective, another woman from Low Fath, also around 50 years old, spoke eloquently: “Today, changes in weather happen suddenly: there is sun and directly after the rain. Things have become unpredictable. This is the same that is happening to humans: meanings have collapsed, the role of relatives has changed, and the transformations in society happen fast, without following the patterns we were used to”. In this dynamic co-creation of climate and human society, climate can be better considered as part of the process of life. The gods get drawn into the picture. “Because people have changed, so gods have changed nature to meet with changes in human [nature], to make them match,” was the verdict of Sandjia, a woman in Chobia (25th September 2017). She added, “It is not a good change.”

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Endnotes

1. For an account of a neighboring Gaddi village by an anthropologist of an earlier generation, see Newell 1967
2. Others have also looked at aspects of Gaddi pastoralism; see, for instance, Axelby 2007; Chakravarty-Kaul 1998; Phillimore 1982; Saberwal 1999; and Sharma 2013.
3. In Hindu mythology, Kali Yuga is the last of the four ages of the world. It corresponds to the darkest and most distressed era.

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