

The Effects of Climate Change on Sacred Sites in Dehradun, India

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Abstract

This research examines the biocultural diversity of eleven sacred sites within the Dehradun district of Uttarakhand, India, and the socioecological impacts of climate change to the sacred landscape. These effects include how the sites are engaged with and cared for by local communities, how sacred knowledge is transmitted across generations, and how the ecology is shifting with extreme weather and climate events that are increasing in frequency and intensity. This research asks, how does a connection with sacred habitats inform biocultural diversity and resiliency? This qualitative research was conducted through interviews in English and Hindi in North India from 15 June through 25 July 2024, with preparations over the course of the academic year. The eleven examined sacred sites vary ecologically and culturally. In order of visitation, the sites are Kalu Sidh, Laxman Sidh, Mandu Sidh, Tapkeshwar Mahadev, Manak Sidh, Santala Mata Devi, Baba Bhure Shah, Lakha Mandal, Surkanda Mata Devi, the banks of the Ganga River in Rishikesh, and Paonta Sahib.

Acknowledgements

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My intention for this work and invitation to the reader is to connect this research with your sacred experiences with the earth. We face tremendous socioecological challenges, and yet the possibilities for connection, healing and rebuilding for our local and global communities – and for the generations to come – are greater still.

Participants

June 18

Kalu Sidh: Mehant Ankush Sharma ji

Laxman Sidh: Mahaveer Prasad Painuly ji

June 20

Mandu Sidh: Poonam Bahuguna ji and Manoj Bahuguna ji

Tapkeshwar Mahadev: Ganesh Bejilwan ji

Manak Sidh: Manog Sagoi ji

June 22

Santala Mata Devi: Sumit Sharma ji

June 23

Baba Bhure Shah: Bisharat Ali ji

July 4

Bus station: Thea ji (*her chosen pseudonym*)

July 13

Lakha Mandal: Niraj Bahuguna ji

July 14

Surkanda Mata Devi: Akshy Kumar Verma ji

July 15

Paonta Sahib: Khem Singh ji

July 16

Navdanya Biodiversity Farm: Firoz Ali ji

Research Team

Ms. Deepika Bhatt, Mr. Chandra Bhatt ji, Mr. Ranveer, Ms. Muktawali Bhatt, and Mr. Anand ji.

Support Staff

Mrs. Babita ji and Mr. Sunil ji.

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Introduction

1.1 Background and Overview

This project has been slowly forming for eight years, from first meeting Dr. Vandana Shiva in 2016 when she visited Willamette University, where I was an undergraduate student. My conversation with Dr. Vandana Shiva stuck with me, and her words and books guided me to work on a Biodynamic farm in 2018 and 2019. Working with the land over two growing seasons, I saw the effects of climate change in tangible ways for the first time, as we adjusted irrigation and planting for increasing summer heat. My time on the farm was pivotal for articulating my experience of active relationship with the earth and reconnecting with spiritual ecology. From the farm, I first dreamt of conducting research at Navdanya Biodiversity Farm, the working conservation farm and Earth University founded by Dr. Vandana Shiva. Located in Dehradun, India (see Figure 1), Navdanya Biodiversity Farm and Earth University hosts farmers, researchers and interns both locally and from around the world to learn about biodiversity farming and seed saving practices. Studying with Professor Kassam at Cornell University as a graduate student has gifted the language and broader knowledge of sacred ecology. As described by Berkes, “ecological knowledge is defined broadly to refer to the knowledge, however acquired, of relationships of living beings with one another and with their environment” (Berkes 1999: 6). Sacred ecological knowledge includes the recognition of the land as sacred (Berkes 1999: xiv). Through learning with Dr. Kassam and his research group, sacred relationships with the earth and ecological calendars moved to the marvel of collective *phronesis* (knowing by doing) across cultures and geographies. It is an immense privilege to see this project come to fruition, and it is only possible with the welcoming of the Navdanya staff and community; the guidance of Dr. Preeti Virkar, Dr. Vandana Shiva and Professor Kassam; the collaboration of research partners and support staff Ms.

Deepika Bhatt, Mr. Chandra S. Bhatt, Mr. Ranveer, Mrs. Babita, Mr. Sunil, Ms. Muktawali Bhatt and Mr. Anand; and participants Mr. Mehant Ankush Sharma, Mr. Mahaveer Prasad Painuly, Mrs. Poonam Bahuguna, Mr. Manoj Bahuguna, Mr. Ganesh Bejilwan, Mr. Manog Sagoi, Mr. Sumit Sharma, Mr. Bisharat Ali, Ms. Thea, Mr. Niraj Bahuguna and family, Mr. Akshy Kumar Verma, Mr. Khem Singh, and Mr. Firoz Ali.

In the North Indian state of Uttarakhand, the climate crisis is affecting the natural landscape and the sacred environment. Located an hour outside the capital city of Dehradun – within the Dehradun district – is Navdanya Biodiversity Farm. My plan coming into fieldwork was to focus on four sacred sites of Nag Devta Mandir, Bhadracharya Devta Mandir, Surkanda Devi Mandir, and Shakumbhari Devi Mandir¹. I selected the first three due to their relatively high elevation within Dehradun district, unique ecological features, and tremendous ecological diversity among the sites. The first three sites are at various elevations leading into the foothills of the Himalayas, and the fourth site was requested by Dr. Vandana Shiva for the significance of Shakumbhari Devi to nutrition and food sovereignty. Upon arriving at Navdanya Biodiversity Farm in mid-June, I sat down with Navdanya staff Dr. Vandana Shiva, Dr. Preeti Virkar, Mr. Chandra Shakur Bhatt and Ms. Bhavna to discuss the research plan and schedule. The plan shifted to eleven sites of Kalu Sidh, Laxman Sidh, Mandu Sidh, Tapkeshwar Mahadev, Manak Sidh, Santala Mata Devi, Lakha Mandal, Surkanda Mata Devi, the banks of the Ganga (Ganges) River in Rishikesh, Paonta Sahib, and Shakumbhari Devi. The final project focuses on the first ten, plus the addition of Baba Bhure Shah, but were unable to visit Shakumbhari Devi due to staff scheduling changes.

¹ Shared from Dr. Preeti Virkar in conversation, and in Negi, C.S. 2010. “The institution of taboo and the local resource management and conservation surrounding sacred natural sites in Uttarakhand, Central Himalaya.” *International Journal of Biodiversity and Conservation*, 2(8), pp. 186-195.

This work examines community relations with sacred sites and how the sites themselves and knowledge of the areas reflect changes in the climate. The primary research question is, how does a connection with sacred habitats inform biocultural diversity and resiliency? In what ways do community members use knowledge of the sacred sites to adapt to climate change? The human ecological framework is applied through centering diversity, relations, embodied knowledge, and context-specificity.

1.2 Understanding the Sacred

Conceptions of the sacred are highly context specific. The definition utilized in this paper follows the four qualities of sacred ecology outlined by Karim-Aly S. Kassam from his chapter in *Understanding Climate Change Through Religious Lifeworlds* (Haberman ed. 2011). The four qualities understand that 1) relationships between people and the divine are interconnected with the habitat, 2) ecology is animated and holds agency, 3) experiences of sacred sites vary with the seasons, and 4) geographical spaces – particularly high altitude and high longitude – carry significance and variance (Kassam 2021). For the eleven sacred sites, sociocultural and ecological significance are interconnected with one another and with the spiritual. The stewardship of the sacred site as a whole and the resulting cultural and ecological diversity is key.

The sense of the sacred is deeply connected to the environment through each sacred site. With evidence from the sixteenth century, Sugata Ray illustrates “the importance of seeing or ritually beholding the topography of the region as key to devotional liturgy” (Ray 2019: 13). He points to the example of the Yamuna River, which flows by Paonta Sahib, one of the sacred sites, with “a form of water worship that perceived divine presence not only in anthropomorphic icons but also in the natural form of the river as it flowed through the region. Along with the river Yamuna, rocks, trees, and even the dust of Braj came to be considered charged with immanent energy” (Ray 2019:

13). This illustrates the interconnectedness of the sacred within ecology. Each of the eleven sacred sites of this research demonstrate a sacred relationship with the habitat. The locations of the sacred sites are significant and represent a relationship with place that spans centuries.

1.3 Dehradun Context

All eleven of the sacred sites have unique place-based contexts. Within Hinduism, they each fall under the sect of Shaivism, honoring Lord Shiva. Shaivism, the second-largest Hindu sect, constitutes around 26.6% of Hindus, with Vaishnavism, the largest Hindu sect in India, at an estimated 67.6% of Hindus². Shaivism considers Shiva as the Supreme Being, while Vaishnavites consider Vishnu (or sub-sects which consider Vishnu's avatars Krishna and Rama) as the Supreme Being. Oneness is an important concept in Shaivism, which recognizes all life as interconnected.

Lakha Mandal, Surkanda Devi, Rishikesh, and Santala Devi are located at the foothills of the Himalayas in the Garhwal – meaning “the country of fortresses” – division of Uttarakhand, in and surrounding the Dehradun district (Berreman 1963: 11). The Himalayas are bordered by Tibet to the north and Uttar Pradesh to the south. The Garhwal district holds religious and spiritual significance and is known as *Devbhoomi* (the land of gods and goddesses). Garhwal was originally called Kedarkhand in Hindu scriptures. As Berreman explains, “Kedarkhand is important in Hindu religion and mythology as the place of origin of the two sacred rivers Ganges and Jumna [or Yamuna] and as the site of the famous places of pilgrimage including Hardwar, Rishikesh, Kedarnath, Badrinath, Jannotri [or Yamunotri, the source of the Yamuna River], and Gangotri” (Berreman 1963: 11-12). The additional sacred sites of Mandu Sih, Tapkeshwar Mahadev, Laxman Sidh, Kalu Sidh, Manak Sidh, Baba Bhure Shah and Paonta Sahib are located at lower elevations

² Johnson, Todd M; Grim, Brian J (2013). *The World's Religions in Figures: An Introduction to International Religious Demography*. John Wiley & Sons. pp. 400.

in the Doon Valley. Despite their relatively lower elevations, Baba Bhure Shah and Santala Devi are at the highest points in the area, requiring steep incline treks of about two kilometers each to reach the temple at the top of a small mountain.

The population of the Dehradun district is 1,696,694 people³. The 3,088 square kilometer area is divided into six blocks, each with its headquarters as the namesake city⁴. The eleven sacred sites fall across these blocks. According to the 2011 Census Report, which was the last to be conducted, the religious demographics of Dehradun City are 83.81% Hindu, 10.83% Muslim, 2.9% Sikh, 1% Christian, 0.84% Buddhist, and 0.4% Jain⁵. It is important to note that this is just for the city limits, which at the time of the 2011 census had a population of 578,420 – far less than half the population of the full Dehradun district – and does not include the northern foothills where many of the field sites are located. Despite religious and cultural diversity, Uttarakhand has been particularly susceptible to a narrative of Hindu nationalism, in part due to the significant Hindu temples and pilgrimage sites in the area, and the narrative of *Devbhoomi*⁶.

In India, the caste (or *jati*) system consists of, in descending hierarchy, Brahmins (priest class), Kshatriyas (warriors), Vaishyas (merchants), and Shudras (laborers). Outside the caste system are Scheduled Castes (*Dalits*), and Scheduled Tribes (Indigenous peoples, or *Adivasi*). *Dalit*, meaning “broken” or “crushed” in Marathi is a more recent term originating in the nineteenth century (Cháirez-Garza et. al 2022: 209). It further emerged as a political identity with the Dalit Panthers

³ District Dehradun, “Home,” accessed May 15, 2024. <https://dehradun.nic.in/>

⁴ District Dehradun, “Statistical Report 2023,” published February 17, 2024. <https://dehradun.nic.in/document/statistical-report-2023/>

⁵ Census India, 2011, “Dehradun Tehsil Population, Caste, Religion Data – Dehradun district, Uttarakhand.” <https://www.censusindia.co.in/subdistrict/dehradun-tehsil-dehradun-uttarakhand-304>

⁶ The Guardian, “How an Indian state became a testing ground for Hindu nationalism,” May 29, 2024. <https://www.theguardian.com/news/audio/2024/may/30/how-an-indian-state-became-a-testing-ground-for-hindu-nationalism>

in the 1970s. *Bahujan* translates to “the majority people” in Buddhist texts, and broadly includes oppressed castes of Scheduled Castes and Scheduled Tribes (Cháirez-Garza et. al 2022: 209-210). Communities are also referred to as *Dalit-Bahujan-Adivasi* (DBA). The term *Adivasi*, meaning “earliest inhabitants,” is used by Indigenous communities in areas of India (Cháirez-Garza et. al 2022: 210). In North India, the term ‘Tribal’ is primarily used to refer to Indigenous peoples due to the association with the legal definition of ‘Scheduled Tribes.’ These communities have been largely “understood as distinct from Hindu caste-based society; their religious practices, modes of production and property regimes, particularly those involving non-sedentary livelihoods like nomadism and shifting cultivation, were labelled as ‘primitive’ to reinforce a civilizational narrative of modernity” (Cháirez-Garza et. al 2022: 197). The 2011 census showed 12.2% of the population of the Dehradun district as Scheduled Caste (SC), and 0.8% of the population as Scheduled Tribe (ST)⁷. Uttarakhand allegedly has the highest percentage of upper caste residents of any Indian state, with Thakurs (within the Kshatriya caste) and Brahmins together constituting an estimated 60% of the electorate⁸.

The earliest inhabitants of the Himalayan region were the Khas, an Indo-Aryan ethno-linguistic group presumed to have entered the area “between 1500 and 1000 B.C. from the northwest” (Berreman 1963: 17). While Khas are in some cases considered a tribe, Berreman disputes this categorization due to the shared religious and caste statuses with the majority population of the region and positions the group as socially privileged. At the time of writing *Hindus of the*

⁷ A Wikipedia citation from September 2011 of the Census India showed an increase to 13.48% of the population as Scheduled Caste and 6.57% as Scheduled Tribe. It also showed a higher percentage for the Muslim population.

⁸ The Hindu, “Thakur-Brahmin combine further consolidated behind BJP in Uttarakhand,” by Manjesh Rana and Bharti Sharma, March 14, 2022. <https://www.thehindu.com/elections/uttarakhand-assembly/thakur-brahmin-combine-further-consolidated-behind-bjp-in-uttarakhand-finds-csds-lokniti-post-poll-survey/article65221785.ece>

Himalayas, Berreman wrote that Khasas largely “define themselves as Hindus who are in some respects culturally distinct from others of their religion and caste,” and while people of Khas descent span castes, the name is largely associated with *Kshatriyas* (or Rajput) (Berreman 1963: 19). Today, the name Khas has largely been abandoned, as the name holds negative connotations⁹.

Methodology

2.1 Methods and Approaches

This qualitative research was conducted at eleven sacred sites in the Dehradun district of Uttarakhand. My focus was to work with people who have close relationships with the land, engage with sacred sites and utilize ecological knowledge. My research questions were addressed through individual, semi-structured interviews in both Hindi and English with translation assistance. This research required flexibility in the approach and focus of this project and aimed to center the agency of participants. My top priority is for the process and results to be beneficial to the communities and individuals involved. This includes adapting the outcomes of this capstone to include an overview of the sacred sites and recommendations for future visitors to Navdanya Biodiversity Farm, as per the request of organizational leadership. Participants include Pujari (or priests, who perform puja and take care of the temples) at the sacred sites, frequent visitors of the sites, and a farmer at Navdanya Biodiversity Farm who grew up in the area. The sacred sites examined in this research are Kalu Sidh, Laxman Sidh, Mandu Sidh, Tapkeshwar Mahadev, Manak Sidh, Santala Mata Devi, Baba Bhure Shah, Lakha Mandal, Surkanda Mata Devi, the banks of the Ganga River in Rishikesh, and Paonta Sahib (see Figure 2). I stayed at Navdanya Biodiversity Farm for the duration and completion of this field research from 14 June through 24 July 2024.

⁹ Singh, K. S. (2005). “*People of India: Uttar Pradesh, Volume XLII.*” Anthropological Survey of India, p. 851.

The majority of interviews were conducted with upper caste Brahmin priests and were primarily with men. The caste, religion and gender breakdown of participants is a limitation of this research, which was restricted by the access and resources available to me. The interviews that deviated from priests at the sites were pivots from the plan of the research coordinators from Navdanya when necessary, and they provided greater participant diversity and depth of perspectives. Scaling up to eleven field sites from the intended four sacred sites limited me to one interview per site. For the sites where Mr. Bhatt, Mr. Ranveer or Mr. Anand were present, the process was for them to speak with the priest, introduce my research, and request an interview. At Santala Mata Devi, Ms. Deepika provided the introduction, and at Baba Bhure Shah, I initiated the interview with Bisharat Ali ji. The interviews with Thea and Firoz Ali were also initiated by me and conducted one-on-one in English. They were also unique in that we had established prior rapport, and both individuals were peers rather than elders.

This research is further limited by language, as well as by the scope of participants. The interviews conducted in Hindi were assisted by translation; the first half with Ms. Deepika Bhatt, and the latter half with Mr. Chandra S. Bhatt. The interview with Bisharat Ali ji was translated by Ms. Muktawali Bhatt, the sister of Ms. Deepika Bhatt and the eldest daughter of Mr. Chandra Bhatt. Four interviews were conducted solely in English, which were with Mr. Manog Sagoi, Ms. Thea, Mr. Akshy Kumar Verma, and Mr. Firoz Ali. Our ability to converse openly with greater flexibility than my limited Hindi abilities allowed for a greater depth of interview.

I am grateful for the guidance of my research team, and for having begun with Deepika as my translator. It was helpful to learn from and follow the movements of a woman, as the procedures in the temples varied between men and women. For this reason, it was also helpful to have a man accompanying our first few site visits. I quickly learned to stand in the back and follow Deepika's

movements through puja to first observe, then to act. On the first day, Deepika arrived at Navdanya to join Mr. Ranveer, Mr. Anand and I in the car. I wore sandals to the temples, knowing I would take off my shoes before entering. I did not consider, however, the consequences of walking on the pavement barefoot in 105-degree Fahrenheit (or 40.5 degrees Celsius) heat. At the first sacred site, we took off our shoes after washing our hands, then walked across pavement to the entrance of the temple. The other three people in our group had worn socks, and I quickly learned why.

2.2 Choice of Sites

The initial choices of Nag Devta Mandir, Bhadraj Devta Mandir, and Surkanda Devi Mandir were based on their relatively high elevation, proximity to Dehradun, and unique ecological features. Choosing sites at higher elevations was important, as engaging with sacred sites at a higher elevation provides a different experience from sites at lower elevations. It is also more challenging to reach the higher elevation sites, some of which include trekking as well as driving hours up mountain roads from the valley metropolis. The eleven visited sites of Kalu Sidh, Laxman Sidh, Mandu Sidh, Tapkeshwar Mahadev, Manak Sidh, Santala Mata Devi, Baba Bhure Shah, Lakha Mandal, Surkanda Mata Devi, the Ganga River in Rishikesh, and Paonta Sahib each hold distinct spiritual connotations for the local community, many of which are noted in the etymology of the site names. The Sanskrit root *deva* means “divine being,” and is used “to designate the supernatural and celestial beings¹⁰.” It appears in the names of many sites in both feminine (*devi*) and masculine (*devata*) forms. *Mandir* means temple¹¹.

¹⁰ Oxford Reference, *Oxford University Press*. Accessed May 14, 2024.

¹¹ McGregor, R.S. (1993). *The Oxford Hindi-English Dictionary*. New York: Oxford University Press. <https://dsal.uchicago.edu/dictionaries/mcgregor/>

Surkanda Devi contains the Sanskrit words *suri*, meaning head, and *kanda*, meaning hill. It is also known as Surkanda Devi *Mata*, meaning mother. The site honors Sati, the wife of Shiva. The temple is believed to be on the hill where Sati's head fell after her body was cut and scattered by Vishnu¹². The variation in the name to Surkanda Mata, roughly translating to the hill-head mother, was intriguing to me, but upon asking visitors of the temple, the only association with the name was given to Sati Devi. Tapkeshwar, a cave temple at the banks of the Tons River, is believed to be 6,000 years old. The name contains the Hindi words *Tapak*, "dripping," and *Ishwar*, "God." The story of the caves is that Lord Shiva allowed milk to stream the cave for Ashwathama, the son of Kripa and Pandava Guru Dronacharya, when Kripa was struggling to feed her newborn.¹³ The Ganga River in Rishikesh holds spiritual significance to Hindus as the goddess Ganga, who provides purification through her waters (Drew 2021: 105). However, the river is sacred to people of all religious and cultural backgrounds. Across the eleven sites, participants and research team members shared their relationships with place-based sacred ecological knowledge. The diversity of sites outlined how climate change is perceived and experienced, and how it varies across geographies and cultural contexts.

The eleven sites represent some religious and cultural diversity. Kalu Sidh, Laxman Sidh, Mandu Sidh, Tapkeshwar Mahadev, Manak Sidh, Santala Mata Devi, Lakha Mandal, and Surkanda Mata Devi are Hindu temples with unique ecological and cultural significances. Paonta Sahib is a gurdwara, or Sikh place of worship, along the Yamuna River. Baba Bhure Shah is a mountaintop temple visited by Sikhs before visiting Paonta Sahib, and is also visited by Muslim, Christian and

¹² Curlytales: A Folk Media Group Co., "Here's How Surkanda Devi Temple in the Lap of Garhwal Himalayas, Uttarakhand Got its Name," by Suchismita Pal. February 10, 2023.

¹³ Dehradun Daily, "Interesting Facts about Tapkeshwar Temple Dehradun," December 25, 2022. <https://dehradundaily.com/tapkeshwar-temple-dehradun-everything-to-know/>

Hindu community members. The spiritual diversity of Baba Bhure Shah temple was significant and unique among the sites. All sites were requested by Dr. Vandana Shiva and included for the benefit of Navdanya Biodiversity Farm. The sites are in different ecological zones, cross different ecological zones along the way, and vary ecologically from one another. Traveling between the sites allowed me to witness the vast ecological and cultural diversity of the Dehradun district.

2.3 Map of Sacred Sites

The following map (Figure 1) is my initial research plan, created with Mr. Keith Jenkins of Cornell University. The below map (Figure 2) contains the complete eleven sacred sites that were visited for this research.

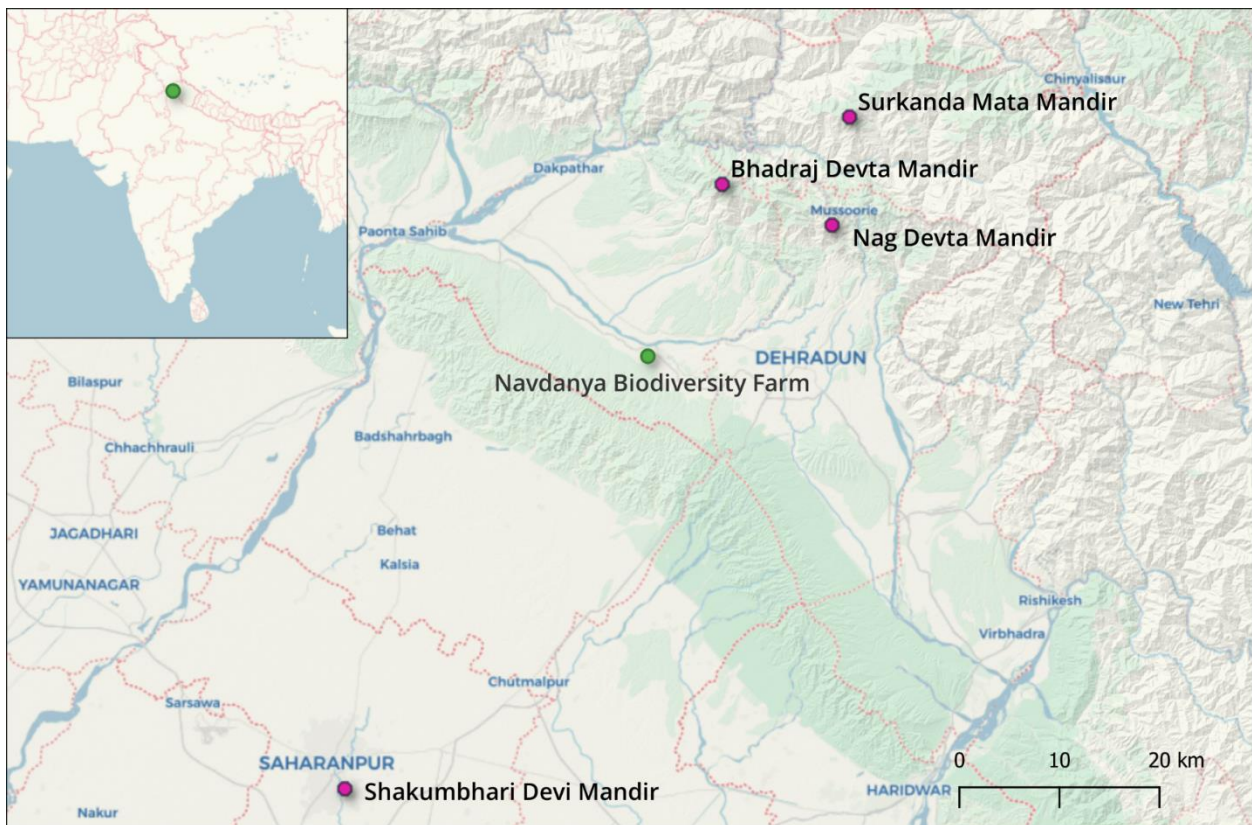


Figure 1: Map of Planned Research Sites. Created by Keith Jenkins and Phoebe Dailey Wagner

QGIS (2024). QGIS Geographic Information System. Open-Source Geospatial Foundation Project. Basemap: OpenStreetMap, and NASA SRTM elevation data. <https://qgis.org>.

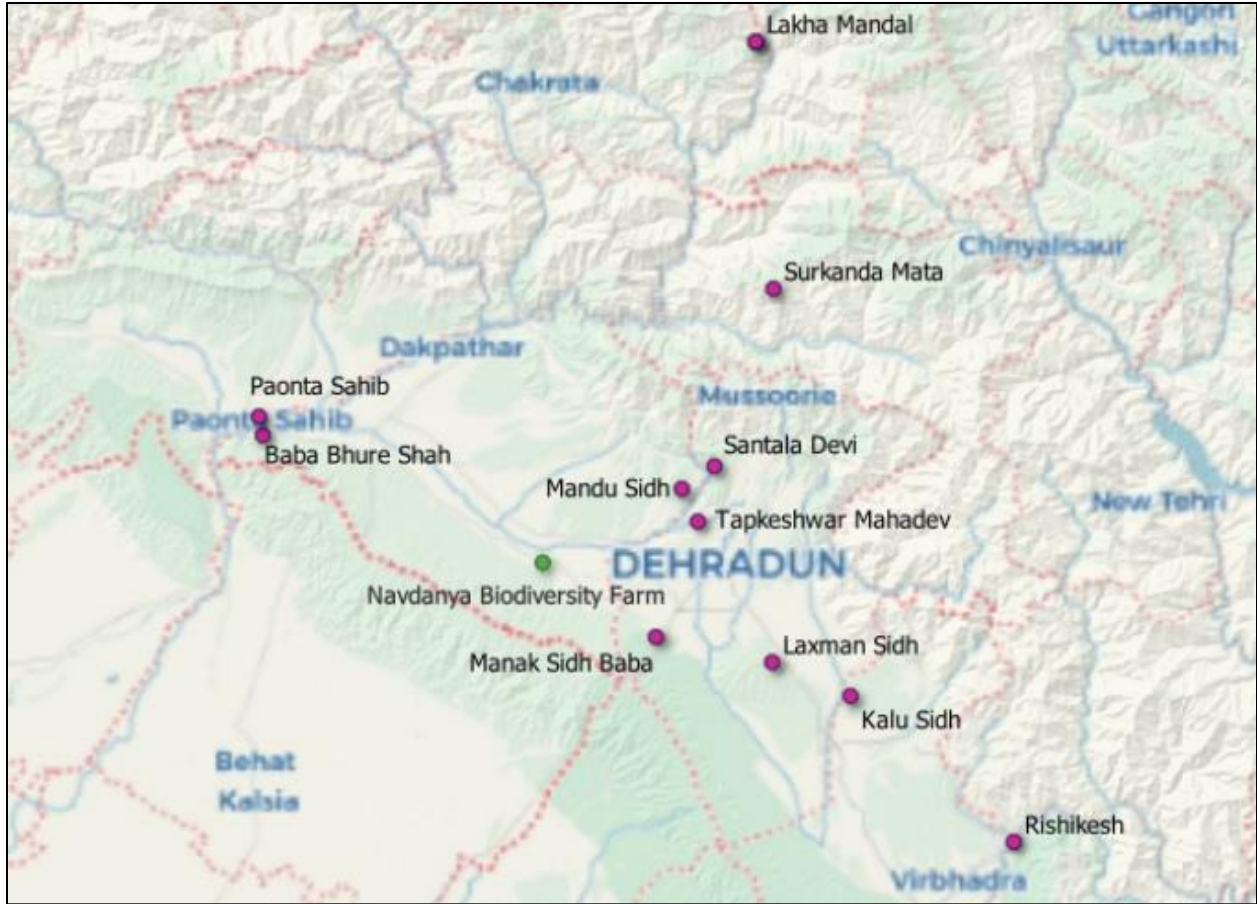


Figure 2: Map of Actual Research Sites. Created by Keith Jenkins and Phoebe Dailey Wagner

QGIS (2024). QGIS Geographic Information System. Open-Source Geospatial Foundation Project. Basemap: OpenStreetMap, and NASA SRTM elevation data. <https://qgis.org>.

Analysis

3.1 Process and Ritual

At each site, our group (the translator, driver, myself, and any visitors who had joined) would first stop to buy an offering, or puja, for the temple. We would go through the process of visiting each area of the temple, making puja offerings (which included incense, coconuts, combs, henna, red and gold ribbons, puffed millet, and small sugar candies) as we moved in a clockwise circle. We touched the floor of the temple steps as we entered; touched the feet of the murti, or devotional statues of gods and goddesses, then touched our ears, chest or chin. We would provide the puja offerings to the Pujari, or priest, bow to him and touch his feet, and receive a tilak, or puja mark on the forehead at the third eye, plus offer a blessed puja (often puffed millet or small sugar balls) in return to consume. Each Pujari had a unique tilak, even when at the same site. Our gestures and movements were reminiscent for me of the rituals in Catholic mass, and when visiting Māori sacred sites. This included brushing smoke or water overhead and touching the body in a pattern. It is special to see the synchronicities in reverence and ritual for sacred sites across the world.

The eldest man in our group (Mr. Anand for the first day, Mr. Ranveer at other times, and Mr. Chandra Bhatt for the second half of site visits) would ask the Pujari in Hindi about meeting with us and would explain that I am a student from the United States conducting research on sacred sites. Each Pujari whom we spoke with was obliging and generous with their time. At Manak Sidh, we visited after lunch as we had seen two other sacred sites earlier in the day, and all the priests at the temple were napping and unable to meet. In that instance, Mr. Ranveer called a friend of his who was nearby, and we were able to conduct an interview about his experiences with sacred sites. The sites that held significance for him did not include Manak Sidh, but the insights Mr. Manog Sagoi provided were valuable. At Surkanda Mata Devi, it was a busy Sunday at a popular site,

with a long line of visitors received by one Pujari. In that case, we did not ask after making our offering and receiving the tilak, and instead sought an interested visitor.

In meeting with the Pujari, they would often begin with storytelling. Before I had asked a question (including asking for their name), they would turn to me and tell the story of the deity for whom the temple was dedicated, and often include parts of their own journey in relation to the temple. This was the case with meeting Bisharat Ali ji at Baba Bhure Shah on a beautiful sacred mountain, in a conversation that alone would have made the research worth it. I had not realized at the time, but Baba Bhure Shah was not a sacred site that had been planned by Navdanya staff. It was the last day of my first week of fieldwork, and a few changes had occurred that day. Rather than Mr. Ranveer, another driver (whose name I did not capture) arrived to pick me up. No one was at Navdanya when he arrived (at an earlier time than our usual 9:30am departure), and I was surprised by the change of plans. On our way to the site, we stopped to pick up Ms. Deepika Bhatt, her older sister Ms. Muktawali Bhatt, and their youngest sister. The plan was to go to Paonta Sahib, but the driver informed us that it is necessary to first visit Baba Bhure Shah. As we drove to the base of the mountain, we passed a gravel pit with active construction, and slowly made our way along the bumpy road. We were the only car near the entrance to the trail, and the puja offerings were at a more modest setup than other temples.

The driver chose to stay at the car and rest, and the four of us women began making our way up the trail. Leading up to this site visit, I had felt weak from food sickness, high heat (each day of the first week of site visits reached a high of around 44 degrees Celsius) and having visited six sacred sites already over the past few days. However, I felt a surge of energy at the mountain. I had started walking with the three Bhatt sisters, but as we made our way up the trail, traversing a mix of concrete slabs and dirt path with rocks and roots, I began to pick up speed. About halfway

up the two-kilometer trek, I increased speed and did not stop until reaching the gate to the temple. A broad smile had come over my face, the breeze surrounded me, and I marveled at the view of the Yamuna River and buildings below growing smaller and smaller as I made my way up the steep incline of the path. The trail was exposed to the sun, but the mountain was lush and green, despite still being in the dry season. The banks of the Yamuna were exposed and wide, with the mighty river reduced to a stream awaiting the monsoon.

I sat under a tree near the entrance to the temple and waited for the rest of our group. Deepika, who had accompanied me for the previous six site visits, marveled at the difference in my energy and composition from the past week and even from that morning. I was still beaming when the remaining sisters arrived. We walked through the gates, removed our shoes, and sat down on the long benches lining the temple grounds, overlooking the surrounding tree-lined mountainside. When the sisters had caught their breath, we took our puffed millet offering and entered the temple. The sign over the door held the symbols for Islam, Hinduism, Christianity, and Sikhism, with the Crescent and Star, the Aum, the cross, and the Khanda. There were two priests on site in Muslim dress, and one came into the temple to receive the offering and provide us with a blessed offering of puffed millet in return. The other priest, Bisharat Ali ji, was seated outside on a mat, with incense offerings burning nearby, overlooking the mountainside and the path leading down. Bisharat Ali ji was receiving individuals and families with specific requests for blessings. Deepika and her younger sister waited on the benches, and Mukta wali and I came over to sit by him.

There were only a few other groups at the temple, and Bisharat Ali ji was very open to speaking. When I went through the consent form, he shared that God had already granted our conversation, and that it was meant to be shared. Bisharat Ali ji began with the origin story of Baba Bhure Shah, around 400 years ago during “the era of kings” of the Mughal Empire. He shared that people did

a great deal of evil to the poor and “lower” members of the community, but God would always send someone to help. Baba Bhure Shah was one of these helpers and was particularly focused on helping those without money in the community. At that time, there were 25 rajas who planned to loot the poor, and Guru Gobind Singh sought the guidance of Baba Bhure Shah at the top of the mountain, where we sat, before going into battle. Baba shared that they would win in three days, and when Guru Gobind Singh came down from the mountain, it came to pass. In the decades since, visiting the mountain and seeking the blessing of Baba Bhure Shah is seen as a necessity before visiting Paonta Sahib. Otherwise, the prayers at Paonta Sahib are in vain. Bisharat Ali ji continued that to this day, whenever there is evil in the world, Baba Bhure Shah will send someone to help.

Bisharat Ali was raised in a nearby village and has lived in the area since childhood. He is now 63 years old and has been caring for the sacred site for fifteen years. He has seen many people who have visited the mountain, and who have been cleared once they visited with their wishes granted. His father and generations before used to work here in the same way. At Baba Bhure Shah temple, Bisharat Ali feels much peace of mind. He doesn't know where the time goes when he is here. When he is on the mountain, it is difficult for him to leave since it is so peaceful to his spirit. Bisharat Ali used to come here as a child and had a profound experience on his first visit that has stayed with him to this day. As he climbed up the path, which at that point was more of a bushwhack with no concrete slabs or established trail, he felt as if he was flying up the mountain. He could smell the sweetest orange throughout the whole trek – despite no orchards nearby – and the beautiful smell drew him as he ran up. Upon arriving at the temple, young Bisharat Ali found a small orange waiting there. He asked the priest if he could have it, which he allowed, and he ate it. The smell of the orange then didn't go away for three days. No one knew where the orange had come from, and in the many years since, Bisharat Ali has never had such a good orange.

Around fifteen years ago, Bisharat Ali had a deadly condition. At that time, he thought he only had fifteen to twenty days left to live. As he sat in his home, Baba Bhure Shah came to him in a vision and asked what had happened. Baba was carrying the chimney from the temple on the mountain, and said, “you will be okay and live a very long life.” Since then, Bisharat Ali ji has been serving at the temple. Baba Bhure Shah has been an important guide for Bisharat Ali ji, and he shared that while we only know about ourselves, Baba Bhure Shah knows about everyone. If they come to the mountain with a pure mind and soul, they will be blessed. There were changes that had occurred since he came here as a boy. It used to be a very small place where people would come and ask for wishes. Then when the wishes were granted, they would return and donate money. With that, the caretakers had built the path and paved parts with concrete. The temple as well was built out of concrete with donated money.

When asked about his experience with the sacred site, Bisharat Ali ji shared that “the whole mountain is pure” and sacred. The changes to the environment and climate are evident though, with extremes growing. It is very warm by the Yamuna River, but the wind is nice on the mountain. Bisharat Ali ji elaborated that “This particular place has the same weather throughout the year, but just up on the mountain.” The changes coincide with human development, as thirty to forty years ago, when Bisharat Ali first would come to the sacred site, there was no development. The Yamuna River used to be crossed by boat, not the large bridge that spans it today. There are more shops and food options nearby as well. When his family first moved to the area in 1947, during monsoon season, it was difficult to eat as there were no shops. They would be nearly starving until after the monsoon season, since there were no vehicles to travel in the heavy rain. They would struggle through and drink the milk of their goats. The mountain also used to be nothing but jungle, with a path – which was made by them – that they would climb to the Baba Bhure Shah shrine.

3.2 Temporality and Relationships

The interviews brought forward three themes in answers to the interview questions. The first is of generational connections and temporality. The second theme is the changing ecology of the sites, with increases in infrastructure and decreases in trees. The last is a sense of peace and shift in the way time flows when at the sacred site. Temporality links climate change and ecological degradation with cultural knowledge and the sacred. Both temporality and spatial relationships are subject to climate change. The sacred sites tell a story of time and across time, which is evident through the interviews. The sacred sites represent a non-linear sense of time and demonstrate movement between times. Within the space, the sites often contain conservation of biodiversity that is unique within the surrounding areas. This allows sacred sites to shift across time, both ecologically and in terms of relationships between people and the habitat. There are social implications of the ecological changes, including inequitable impacts across caste. One recent example is of the effect of conservation efforts to forest dwelling communities¹⁴. At multiple sites, the Pujaris implied a resentment towards families and communities who had moved into the area, populating the areas surrounding the sacred sites.

Among the Hindu Pujaris whom I spoke with, there was significant resonance between their interview answers. At Kalu Sidh, Mehant Ankush Sharma ji spoke of being born in the area, and the generational lineage of his father and grandfather working at the temple. When his father passed away in 2015, he began his role at Kalu Sidh. When Mehant ji spoke of the changes throughout the seasons, what came to mind were the fluctuations of visitors to the temple. It was hard to imagine the summer crowds on the quiet Tuesday when we visited, where there were just

¹⁴Sanjana Meshram and Aditya Rawat, "Entrenching Brahminical Conservation," *Economic & Political Weekly*, 58(13), April 1, 2023. <https://www.epw.in/journal/2023/13/alternative-standpoint/entrenching-brahminical-conservation.html>

two other families paying their respects to the altars and teasing the monkeys on the grounds. On Sundays, around 2,000 people usually attend, and that is when there is a community kitchen at the temple. Mehant ji's favorite day of the year is June 2 when around 25,000 people visit Kalu Sidh. Mehant ji spoke of the ecology at the site as "two types of nature," both within and surrounding. At Kalu Sidh, there are trees within the temple which were built around. When I asked about the caretakers of the trees and surrounding ecology, his response was that "trustworthy people" care for the plants. All the area is sacred to Mehant ji. With regards to time, he shared, "When we have holy places, time is going very fast. You don't know the time when you are at the temple."

At Laxman Sidh, Mahaveer Prasad Painuly ji shared that "All holy places are important to us, all over the place. Wherever we go we see temples – it's our holy place." For him, the Char Dham Yatra, the four prominent pilgrimage sites in Uttarakhand, stand out as the most significant sacred sites, which he visits every year. Mahaveer Prasad Painuly ji has been at Laxman Sidh for twenty-two years. There have been many changes since his time at Laxman Sidh, including additional infrastructure for washrooms, shops, food and water. When prompted, he also shared that the climate is also getting warmer. There have been changes with the climate, and "every day is another climate." Mahaveer ji spoke of peace (*Shanti*), sharing, "We find peace when we come here. Many people come here for peace." *Shanti* arose in every interview of this research.

We spoke with Sumit Sharma ji at Santala Mata Devi on a busy Saturday between puja offerings. Sumit ji spoke of the changes that had taken place in the years that he had been at the temple since he was twelve years old. The road to the temple was developed in that time, followed by running water, and the addition of shops to buy snacks and drinks. The infrastructure is his favorite part of the area, as 35 years ago there were no rooms, electricity or running water. When he is at Santala Mata Devi, there is no sense of time, and "People come here for peace."

3.3 Ecological Impacts of Climate Change

We visited Mandu Sidh on a quiet Thursday, and the temperature was noticeably cooler in the forested area than the rest of Dehradun. When our small group walked up to the temple, it was empty, so we returned to the stand where we had bought our puja. The woman working the stand was Poonam Bahuguna ji, who shared that she is the wife of Manoj Bahuguna ji, the Pujari. Poonam ji was willing to be interviewed, so we walked back up to the temple and set up on the tiled deck. She first came to Mandu Sidh in 2009, and lives here still with her husband and their family. Poonam ji “believes in God and Baba Shiva.” When asked how she experiences the sacred site, she shared, “After coming here, we feel peace and good feelings. After coming here, we don’t even notice the time and how it is going. We are feeling very good and happy.” During the week, only two to four groups generally visit the temple per day, but on Sundays, one thousand people usually come. The community provides a free community kitchen for all people, where “the village people contribute offerings to the temple and to people.” Each week, there is a team of three to four people whom Poonam ji calls to organize the community kitchen, and they collectively feed the thousand guests. Poonam ji provides the offering.



There is a special peepal tree, or *Ficus religiosa* – also known as a bodhi or sacred fig tree – which is just beyond the temple near the puja stand where Poonam ji works (pictured with Poonam ji). Manoj and Poonam explained that the peepal is significant, as it gives oxygen day and night, offering more than it receives. As seen in the image, the tree has been turned into a shrine. Surrounding Mandu Sidh is a forested jungle area, which Poonam ji explains is why the area doesn’t get very hot.

Regarding the climate and temperature, there has been a “little bit of increase, but not much change.” The landscape, on the other hand, has gone through some transformations. There used to be mango trees in the surrounding area, but the community cut the trees for space to build homes and tents. There are now “less trees than before.” Manoj Bahuguna ji walked up to our conversation at this point, and added that “before, there was more nature, around 15-16 years ago. This time, a road was built. Before there weren’t people living in the forest, now there are. Now people came and are dirty.” I asked for clarification on how they are dirty, and whether they visit the site. Manoj ji said that the nearby community members do visit the site, and they are “good people living nearby.” They are “not cutting trees, and don’t attack.” I was not able to get additional clarification on this meaning. Overall, for Manoj ji, there is a positive gain with the changes felt. As for being at the temple, “After coming here, we don’t even realize the time. We become happy after here.”

Manoj ji shared similar sentiments as other Pujaris, that “all temples in India and other countries are sacred. Lord Shiva is the purpose of this site, and there is positive energy in the nearby temple.” Mandu Sidh temple has been here for around one thousand years, but until recently was a very small temple that was only accessible by walking. He shared appreciation for the washroom and running water that has been added to the site. His favorite feature, however, is the natural spring that is just three kilometers away. There have been a lot of changes since he first came here. Manoj ji shared, “Nobody came here; they didn’t understand. The grounds weren’t here, just a little temple. We built this [gesturing to the additional deck and space]. There was no road, no way to get here. There was a much bigger forest before, around thirty years ago.” At that time, farmers also grew basmati and sugar cane in the area, but now nothing is grown beyond a small amount of wheat by local farmers. The community kitchen began thirty years ago as well, before Manoj Bahuguna and Poonam Bahuguna came to Mandu Sidh. The thirty years of community meals have

been funded by community members. When people visit, they make a wish to the cow statue at the temple. When their wish comes true, they come back to contribute to the community kitchen.

At Surkanda Mata Devi, I spoke with Akshy Kumar Verma ji, a 27-year-old visitor and video blogger who was visiting the temple for the third time. The first time was in December 2018, when he came with colleagues. The second time was in January 2023 with his fiancé, and this time, in July 2024, he was alone. Akshy ji spoke to the change in climate, noting that this time of year should have heavy rainfall, but there has been “less rain and less monsoon in general over the years.” Surkanda Mata Devi has left a strong impact on Akshy ji, and it has continued to pull him back to find peace. He encouraged others to find sacred places as well, sharing, “When you need peace, you should come to holy places like this for fresh oxygen, fresh perspectives.”

In an earlier interview with Thea ji, she spoke of her visit to Surkanda Mata Devi, with experiences that resonated with my observations. She shared, “I had a calling to be there.” It kept coming back to her over a few weeks, and she felt that she was meant to visit.

“When I went to Surkanda, it's a little hike. It was probably like 20 minutes up, and we were sweating. From the main entrance, you have to climb up the hill to go there. So, while I was climbing, I saw a lot of people carrying a goddess [statue]. And as they carry it, they swing the goddess and then they take it up from different villages. They come to take all the different gods and goddesses to meet the Pandavas. It's like they were celebrating her that day. On the day I went, there were people sitting inside. I was feeling a lot of energy [inside the temple] ... I was just sitting and meditating, and suddenly I heard voices – shouting and yelling. I was sitting there and meditating, and I didn't open my eyes. I finished my meditation, and came outside, and I'm seeing that people are playing drums, people are dancing all loose. Some people are crying, some people are yelling, some people

are rolling on the floor. I've seen this happen to people before, but it was beautiful. Because it's not just one person, but so many women, you know, feeling that closeness which shocked me. And when people were crying or yelling and rolling on the floor, seeing their *Shakti* (power or energy¹⁵) and I felt like I was going to cry. I myself am very sensitive. It's like all the emotions come up when you're sensitive, when you're seeing so much energy, all the emotions come up and I was just like, Oh my God – it's just a lot. This is so much energy. Like your heart is lighter. You know everything wants to come up. I felt that.”

We saw a similar scene at Surkanda Mata Devi, with lively drumming and group dancing.

During the six weeks that I was conducting fieldwork in India, the effects of climate change were evident. When setting my fieldwork schedule upon arriving at Navdanya Biodiversity Farm, my research coordinators were concerned that I would not be able to reach the higher elevation field sites due to landslides and road closures caused by the monsoon season. Although the rains should have already begun upon my arrival, the dry season had extended, with temperatures reaching 44 degrees Celsius during my first ten days in Dehradun. Both the temperature and the air quality index were close to that of Delhi, although it is a recent phenomenon for Dehradun to reach such high temperatures. Staff at Navdanya shared that a highway had recently been built between Delhi and Dehradun, which cut through the hills and eliminated a large portion of the tree barrier, causing a path for hot air and pollution to make its way up from the metropolitan area. When the monsoons did arrive in mid-July, they came in short bursts which would dry quickly. Dr. Vandana Shiva shared that for most of her life in Dehradun, the monsoon rains would last for days, and it is only recently that the monsoon arrives later and lighter.

¹⁵ McGregor, R.S. (1993). *The Oxford Hindi-English Dictionary*. New York: Oxford University Press.
<https://dsal.uchicago.edu/dictionaries/mcgregor/>

Discussion

4.1 The Sacred as Explanation

There were several experiences at the sacred sites that explained both spiritual and ecological phenomena. At Tapkeshwar, Ms. Deepika, Mr. Ranveer and I went through the caves and offered puja, then came back out and walked along the Tons River. Deepika pointed out a small cave opening – natural without the smooth white coating of the main temple – and told me to follow. Even at my short height, I had to crouch over, and as the path turned, it was suddenly pitch dark. Deepika turned on her phone torch, and I expressed that I wasn't sure about this. "It's alright, I'm scared too," Deepika replied, only adding to my concern. We were the only people in the passageway, as far as I could tell, and Mr. Ranveer was far enough behind that I couldn't hear him. Then, the tunnel opened to a small cave, where a Pujari, Ganesh Bejilwan ji, sat next to a shrine. The shrine was roped off and held large murtis, or deity statues. I was relieved to be out of the passageway, and we knelt to offer puja. Deepika gestured for us to sit at the side of Ganesh Bejilwan ji, as Mr. Ranveer began introducing us and the project. The cave quickly filled with sounds and movements as a large family climbed out of the tunnel, with two crying young children. One of the adults took a selfie with me, and then the group left the cave. Mr. Ranveer resumed speaking with Ganesh Bejilwan ji, when out of the corner of my eye, I noticed two women enter the larger cave opening that the family had just exited. My focus returned to Ganesh Bejilwan ji, when suddenly, one of the women sprinted the short distance of the cave, screaming at the top of her lungs, and collapsed in front of the shrine. Instinctively, Deepika and I grabbed one another and huddled together. My first wave of shock turned into fear that we were in danger as the woman continued to shriek. I began to scream as well, but Deepika assured me it was fine. The whole time, Ganesh Bejilwan ji was entirely unphased, and soon the women left.

In the later interview with Thea, she mentioned similar experiences, and explained what had happened.

“When you were in the cave and there was a goddess and then someone came and felt that energy, there is one [possible] reason. It could be because her ancestors have been rooted with that goddess and they've been praying over for generations, and the goddess is very much in connection with her bloodline. So, when she goes there [to the cave], the goddess wants to welcome her. She comes to her and then people feel that energy. When they feel too much of the goddess' energy close to them and shout, it's basically Kali. Kali is coming into them. They're letting it out and they're letting her in. It could be because they're very sensitive inside. It's usually women. Women are very sensitive inside, so when you have so much energy shocked in front of you and you're sensitive, it wants to come.”

It was helpful to learn about Kali, the goddess of destruction, change and power in Shaktism, and have additional context for the cave incident at Tapkeshwar.

At Paonta Sahib, my interview with Khem Singh ji began the way most did, with the Pujari sharing the story of the temple. It was similar in many ways to the story Bisharat Ali ji had shared at Baba Bhure Shah temple, as the origin of the sacred sites are interconnected. When I pointed this out, Chandra ji said, “I don't know why you went there – that was just the driver's idea. They [Muslims] are the enemy to the Hindus and Sikhs. People forget because now everyone lives in harmony in India, but we used to be at war.” This narrative contradicts the recognition of interconnectedness and respect for all sacred sites and temples around the world. I found this to be a challenging disconnect in interviews, with a perceived exemption of oneness to Muslim community members.

Khem Singh ji shared that he first came to Paonta Sahib in 2001, when he came for the job. He is the eldest brother of three and had suffered financial struggles in his early life as his father passed away when he was young. Now, he is happy at Paonta Sahib. He feels safest within the temple grounds, and shared, “I don’t like going outside the boundary.” In the years since Khem Singh ji first arrived, there have been many changes, both to the buildings and the nearby Yamuna River. Before, the river would come up to the steps of the temple, but now it is far from it. When we visited in mid-July, it should have been the rainy season, but the powerful river was still reduced to a mere stream. Khem Singh ji walks to the banks of the Yamuna daily to meditate. He “feels peace” when he spends time there, and “gives respect to the river, because the river also respects the Guru [Gobind Singh].” With regards to the changing climate, Khem Singh cited the shift to concrete buildings, causing the temperature to rise. The Yamuna also “used to be clean, but now, because of people, it is not. There is more pollution too.”

Khem Singh spoke of the Yamuna River in tandem with Paonta Sahib, indicating the health and relationship with the river as part of his caretaking role for the temple. The river is integrated as central to the sacred site, as the Ton River is with Tapkeshwar, and the Ganga River in Rishikesh. Religious beliefs are “embedded in sociocultural and ecological networks and relationships that shape, and are shaped by, a confluence of phenomena. Although climate change continues to complicate the form and scope of the confluences at hand, personal and individual encounters and interpretations will remain significant in influencing how people respond” (Drew 2021: 119). In this way, the spiritual traditions and sacred practices can be informative of changes to the habitat.

4.2 Hope for the Future

After a month at Navdanya, I was interested in interviewing Firoz Ali, a staff member who grew up nearby. Firoz was happy to share his experiences and perspectives more generally with a sacred connection to the earth, and the impact of climate change on the area. As he shared,

“I have seen many changes here. When I was younger, there was nothing. Fields were there, but lots of empty space. That changed in the past ten years. People have come from outside, cutting trees. In my life, I have seen many changes. Mainly about the hotness [of the weather]. Last year, there was less heat, but every year there is more higher temperatures. I think it’s about cutting the trees and making the buildings. Now buildings are everywhere when there was nothing. We should plant trees as much as we can and build houses not with concrete.”

Firoz spoke of the climate diversity in and around Dehradun, and how at the Forest Research Institute (FRI), just twenty kilometers from Navdanya, there used to be snow in the winters. When I visited FRI, I also observed in the photo gallery that FRI at times would be blanketed in snow during the winter. Firoz shared that this has changed in recent years, and he no longer sees snow in the area. As a child, Firoz went to boarding school in Mussoorie, a neighboring area that climbs into the Himalayan foothills. “Even in Mussoorie, there is much less snow than twenty years ago. It is more hot now.” Later in our conversation on sacred relationships with the earth, Firoz returned to Mussoorie.

“I mostly like Mussoorie; in there is a peaceful area. I like being in the mountains. I go there by bike [his motorcycle] and go every one or two months; it depends. Now that I’m doing the job here [farming at Navdanya] and I only get one day off, it’s harder to get the

time with only Sundays off. Mussoorie is a peaceful area. Most people around here are very educated and like to be peaceful here. In other areas there is fighting, but not here. People are kind and have good behavior in Mussoorie. It is very crowded now though.

Mostly when there's snow, we always go there, and also to Chakrata. I studied in Mussoorie for two or three years when I was little. I was around seven, eight years old. Now I am twenty-five. We were in a kind of boarding school. Around us was jungle. Then a road was brought in going around, with lots of trees cut to build hotels and resorts since it's a tourist area. When I went there before, there was nothing. Now it's totally changed. There is a lot of pollution too. Now it's very warm."

For Firoz, the most important sacred space is the mosque, where prayer happens five times per day. There is a mosque on either side of Navdanya, and the calls to prayer echo across the fields and next to the housing block. Firoz emphasized that "every mosque is important, and every mosque is oriented towards Mecca." He continued, "Every mosque has an Imam, behind who everyone prays. In the area there is a mosque; then the people in the village pay the Imam's salary. Every day, it changes where he eats, as the food comes from everyone. He does not prepare the food; it is on us to take care of the Imam." We spoke briefly about my conversation with Bisharat Ali ji at Baba Bhure Shah, and Firoz clarified that he is not an Imam, as the Imam is only in the mosque. Bisharat Ali ji is considered a caretaker of the site. "Every religion has faith there and goes to pray for him [Baba Bhure Shah]. Baba had a good relationship with Allah, so we can talk through him to Allah."

Firoz ended our interview with a message to all. He shared,

“I would like to give advice to everyone. This earth is our home, and it’s our responsibility to keep it safe. We should be planting as much as we can and should not be polluting. Using electric energy is better. There is trash in the river, and it’s really bad. We should keep Mother Earth safe, protect the atmosphere, but it will only happen if everyone cares about it. [For farming,] If you do organic, it’s very good, but it’s more expensive. Most people are depending on farming, so they use the chemicals to survive. After using the chemicals, the soil becomes infertile. That’s how it’s harmful. No one should be using it – it’s poison. Before, we did not have a lot of diseases, and food was simple. There wasn’t cancer. Now, there are many diseases, and were eating the chemicals. My parents used to do farming, and we never used pesticides. People didn’t even know about it. Now it’s advertised with higher production. Around fifteen years ago, my parents left farming, and now there are homes there [where the fields used to be]. We do grow the vegetables sometimes. That’s how I came here [to Navdanya]; I had the knowledge of farming. In a village, everyone had a hut. Everyone had grass roofs, but it’s now concrete. There weren’t mosquitos. There wasn’t electricity even twenty years ago in the village of Singhniwala [just outside of Dehradun]. We are all from here – my grandfather – everyone is from here. We had really clean and good water in the river; now it has also died. I think it's because the temperature keeps going higher and higher. When everyone knows that this is our home – the earth is our home – then it will be fine.”

Firoz speaks to the interconnectedness of life, the fundamental role of diversity, and of collective earth stewardship. Our choices in livelihoods, building materials, energy and food have climate implications. Perhaps greater still are the impacts of our values and community building. Respect is at the heart of Firoz’s message, for the earth as well as for our neighbors.

4.3 Generational and Ecological Shifts

My visit to Lakha Mandal deeply moved me. At 1150 meters (3773 feet), the surrounding mountains provided a stunning welcome. The interview with Niraj Bahuguna ji revealed that Lakha Mandal is unique in function as well in geography from the other sacred sites. It is cared for by three priest families, who divide the responsibilities between family members in an annual calendar. When not serving as a caretaker for Lakha Mandal, they care for the livestock. When I asked Niraj Bahuguna ji about his favorite feature of the sacred site, he pointed to a green mountain behind the temple. He explained that it is where the family lives in the summer with their sheep, goats, cows and bulls. The families are Bahuguna, Kala, and Gaur, further divided between 15 Bahuguna, 10 Kala, and 13 Gaur. Each family has four months of the year, and within that, the responsibility is divided between the eldest sons. Niraj ji has one month and two days at Lakha Mandal, which he took over from his father two years ago. Niraj ji spoke of the peace of the place as well, and of the growth over recent years. He shared, “Many years ago, the village was small, and there was no concrete. It was only the local architecture, with local materials.” This consisted of only wooden buildings with slate roofs. Now, there is a law against getting wood from the forest. The climate is changing as well. “The snow is not like last year, and the summer is hotter.” At the top of the mountain, a minimum hour and a half trek from the temple, “the cool air still comes in summer” as the animals are grazing. The family stays on the mountain with the animals for six months, and they stay in temporary sheds on the mountain. Niraj ji’s family was there at the time of our interview, except for his wife, one-year-old daughter, aunt, and father, whom we met after our interview. The family lives in a 300-year-old home that has been in the Bahuguna family since it was built. Niraj ji shared that the mountain is seeing warmer winters with less snowfall, and less water in the summer. He shared his concern for groundwater in the years to come.

Conclusion

Sacred sites can support a capacity for understanding biocultural diversity and context-specific adaptations to increasingly extreme climate and weather events. The path forward to uphold biocultural diversity and adapt to climate change is to approach the sacred, build a human ecological stewardship ethic, and prioritize the transfer of knowledge to the next generation. The necessity of diversity and cross-generational knowledge transfers stand out as the crux of continued sacred ecological knowledge at these sites. In valuing diversity and supporting a stewardship path for future generations, our human community will be more capable of mitigating climate change and facing social challenges. Through collaboration and collective implementation of place-based ecological knowledge, there is hope for addressing social injustices and the climate crisis (Kassam, Charles, Johnson 2023a: 3). The importance of oneness and interconnectedness stood out throughout this research. The simultaneous values of oneness and diversity demonstrate the biocultural strength of sacred ecology and sacred ecological knowledge. In recognizing and honoring sacred ecology, responding to climate change becomes a collaborative effort for the healing, repair, and survival of all beings; honoring those who came before and ensuring life for generations to come. In closing, I share the Hindu proverb as told by Chandra Bhatt ji at the banks of the Ganga River:

The trees do not eat their own fruit. The river does not drink its own water. And people with big hearts do everything for the sake of others.

पिबन्ति नद्यः स्वयम् एव न अम्भः स्वयम् न खादन्ति फलानि वृक्षाः ।
न आदन्ति सस्यम् खलु वारिवाह परोपकाराय सताम् इव भूतयः ॥

Appendix:

6.1 Photos of Participants

June 18

Kalu Sidh: Mehant Ankush Sharma ji (and Ranveer ji, Anand ji, and a friend of Sharma ji)



Laxman Sidh: Mahaveer Prasad Painuly ji (with Anand ji, Deepika ji, and a friend of Painuly ji)



June 20

Mandu Sidh: Poonam Bahuguna ji and Manoj Bahuguna ji (with Deepika ji, and Lucie Blum)



Manak Sidh: Manog Sagoi ji (with Deepika ji and Lucie Blum)



June 23

Baba Bhure Shah: Bisharat Ali ji



July 4

Bus station: Thea



July 13

Lakha Mandal: Niraj Bahuguna ji and his father



July 14

Surkanda Mata Devi: Akshy Kumar Verma (with Mr. Ranveer)



July 15

Paonta Sahib: Khem Singh ji (and Chandra S. Bhatt ji)



6.2 Interview Questions

Answers to interview questions:

1. Foundational

Which sacred sites are important to you?

How often do you visit them?

How do you get there?

When was the last time you were there?

How long do you usually stay there?

Do you go alone?

2. Embodied Knowledge

When were you first there?

Do you have some experiences that come to mind?

Have you visited with family or loved ones? How was their experience?

What changes do you feel when you visit the site?

How does time flow when you are there? (Does it go fast or slow?)

How do you feel the experience?

In what ways has your experience of the sacred site changed over time?

What about the site is sacred to you?

What are those sites known for?

3. Ecology and Climate

What is your experience with the space of the sacred site?

How does the sacred site change throughout the seasons?

Do you have a favorite feature at or near the site?

How has it changed since the first time you visited?

1. मूलभूत

आपके लिए कौन से पवित्र स्थल महत्वपूर्ण हैं?

आप उनसे कितनी बार मिलने जाते हैं?

तुम्हें वहां कैसे मिलता है?

आखिरी बार आप वहां कब थे?

आप आमतौर पर वहां कितने समय तक रहते हैं?

आप अकेले ही जा रहे हैं?

2. सन्निहित ज्ञान

आप पहली बार वहां कब थे? (याद)

क्या आपके पास कुछ ऐसे अनुभव हैं जो मन में आते हैं?

क्या आप परिवार या प्रियजनों के साथ गए हैं? उनका अनुभव कैसा था?

जब आप साइट पर जाते हैं तो आपको क्या परिवर्तन महसूस होता है? (शरीर तक जाना चाहते हैं)

जब आप वहां होते हैं तो समय कैसे बहता है? (क्या यह तेज़ या धीमी गति से चलता है?)

आप अनुभव कैसा महसूस करते हैं? (शरीर)

समय के साथ पवित्र स्थल के बारे में आपका अनुभव किस प्रकार बदल गया है?

आपके लिए कौन सी साइट पवित्र है?

वे साइटें किस लिए जानी जाती हैं?

3. पारिस्थितिकी और जलवायु

पवित्र स्थल के आसपास के क्षेत्र के साथ आपका अनुभव क्या है? (इसके साथ काम करें)

- प्रवेश की परतें - घर से निकलने के क्षण से अनुभव का मानचित्रण।

पवित्र स्थल हर मौसम में कैसे बदलता है?

क्या साइट पर या उसके आस-पास आपकी कोई पसंदीदा सुविधा है?

जब आप पहली बार आए थे तब से यह कैसे बदल गया है

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