

**Development within Multiple Modernities: Place-based Oppositions to Development
Projects along the Ganges River and their Significance**

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Abstract

GEORGINA DREW: Development within Multiple Modernities: Place-Based Oppositions to Development Projects along the Ganges River and their Significance
(Under the direction of Dorothy Holland, Arturo Escobar, and Charles Price)

Building on prior scholarship, this paper examines social responses to development projects along the northern part of the Ganges River and argues that they can be seen as a defense of place, embodied by nature, along a river that is culturally, religiously, and ecologically significant. By studying two development projects along the northern part of the Ganges in the colonial and the post-colonial eras, this discussion attempts to understand the ways that modernity, via colonialism and capitalism, transformed human relationships with the river. By focusing on the opposition to canal irrigation and the construction of the Tehri dam, I suggest that the inhabitants near the river were not against development as long as they perceived they could maintain their varied connections with the river. The two cases indicate, therefore, possibilities for the inclusion of multiple modernities and other ways of being and acting with respect to natural entities.

Acknowledgements

The journey to writing this paper began in San Francisco where I worked with the International Forum on Globalization in 2003. Through them, I was introduced to Dr. Vandana Shiva. I went on to support her three NGOs in India in 2004. The experience was rewarding even as (and arguably because) it was a crash course on Indian culture, politics, and environmental resource management challenges. As the links continued, I later found myself in the fortunate position of entering the graduate program of anthropology at the University of North Carolina, Chapel Hill. A friendly yet rigorous program full of highly proficient and intelligent people, it has fostered my intellectual growth while providing a valued community of colleagues.

Since entering the program, I have received five Foreign Language Area Studies (FLAS) fellowships for Hindi/Urdu through the North Carolina Center for South Asia Studies (NCCSAS). Through these fellowships, I have improved on language skills needed for work in the northern part of India while expanding my knowledge of South Asia in area studies courses. It was through such a course on the British colonial experience of India at Duke with Professor John Richards that I began looking at the history of development projects along the Ganges.

The thanks for the coherence of this paper—if it has any semblance thereof—go to the readers on my primary doctoral committee. Through this process, Dr. Dorothy Holland, Dr. Charles Price, and Dr. Arturo Escobar have provided valuable guidance. Dr. Holland was

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Credit cannot be given for everything, however. If there are any flaws in the theoretical claims or empirical approaches, they are my own. I accept them in the hope that this paper can open up a debate that I believe needs more attention. I offer this paper, finally, in remembrance of activists in India who fight knowing the deck is stacked and in homage to the Goddess Ganga, whatever her health may be.

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“There is just one area of concern... How do we see Ganga?¹ Is it a holy river? Is it a river that is treating millions of acres of land for irrigation and so on or is it just a river that is for hydro power generation?... How are we viewing it? What is in our mind?”(Interview with Swami Janardananda, June 13, 2006)²

“The Indian reverence for rivers and mountains can no more be treated as superstitions. In any people-centered development program, the perceptions of the people assume paramount importance” (Bose 1997: 232).

Part I. Introduction

Anthropologists and other social scientists are increasingly applying their analytical tools to explore relationships between humans and other entities in times of social, political, and ecological change. The socio-cultural study of human intersections with water is one area of budding interest and is one of my primary concerns as an anthropologist working in South Asia. Building on historical and contemporary scholarship in preparation for my dissertation research, this paper examines opposition to development projects along the Ganges. It argues that the opposition movements can be seen as place-based efforts to maintain cultural, religious, and ecological connections with a river that has been an object of reverence in India for millennia. By studying two development projects along the northern part of the Ganges in the colonial and the post-colonial eras, this paper attempts to understand the ways that the distinctive type of modernity brought to India first via colonialism and then

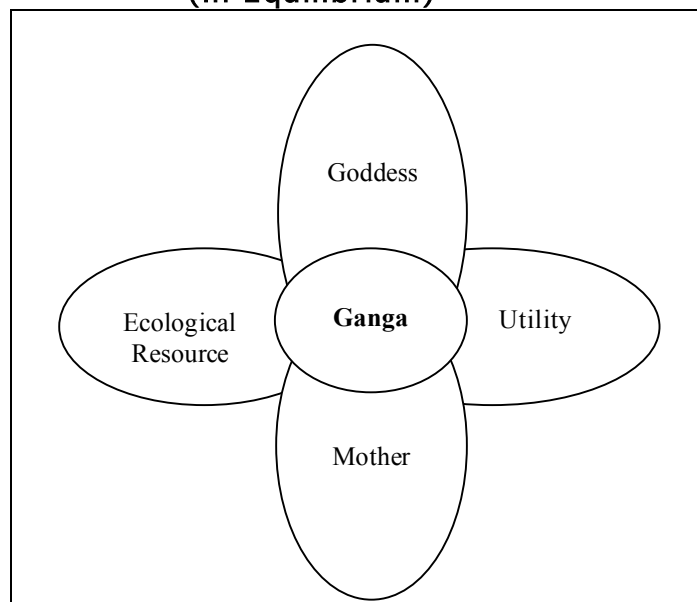
¹ “Ganga” is the common name for the Ganges River in India.

² Interviewee names are used with permission. The research was IRB approved (#06-0115).

neoliberal capitalism has transformed human relationships with the river. The intention is to address the impact of modernity and its projects of development on human connections with natural entities while highlighting proposed and possible alternatives in the case of development along the Ganges.

Based on analysis of the opposition to canal works in the early 1900s and the construction of the Tehri dam in the late 1900s, I suggest that the inhabitants near the river were not against “development” as long as they perceived they could maintain their cultural, religious, and ecological connections with the river while receiving improved livelihoods through the benefits of new technologies. This, I believe, is an indication that the kind of development sought was one that was inclusive of multiple modernities and respectful of the various identifications of the river who, as a multi-faceted entity, is not only seen as a utility and an ecological resource but also an embodiment of the divine and a maternal symbol. Figure 1 below is presented to illustrate some of the main identifications of the river. It demonstrates why the term “nature” alone is inadequate to describe the Ganges River.

Figure 1: Identifications of the Ganges (“Ganga”) River (In Equilibrium)



The choice of topic is influenced by my concerns about the health of our natural environment and my desire to support the equal access of people to natural resources such as water. The motivation for comparing the two development projects is to situate contemporary approaches to water resource management in India within a historical framework. Influenced by the work of subaltern school of thought, I am aware of my position as a white female of American origin writing on issues that occurred in a distant continent. As Guha (1997) reminds us, all attempts at historical explanation are subjectively construed through an interpretation of the past that includes an irreducible ideological component in every account.

The Significance of Water for Social Science

Water is a necessity for all life. As dependent on water as all other life forms, humans have either organized settlements near water sources or they have come up with the technology to harness and channel water in order to support themselves and their livelihoods. While the amount of freshwater available to humans on the planet has remained the same for millions of years the availability of water per capita has declined due to numerous factors such as population growth, polluting practices, and increased demand for water for agriculture and the generation of electricity. In the case of India—where 16% of the human population lives but where only 4% of the world’s freshwater resources can be found—water is in especially high demand and its management is often a subject of heated debate (UNWWDR 2003).

Finding “appropriate” technologies for the management and purification of water resources is complex and it is made more so by the socio-cultural and religious dimensions

surrounding river and other water resources. Of all the rivers in India, the Ganges is often cited as being among the most important in the Hindu cosmology since it is honored in classical texts like the Mahabharata and the Ramayana. Historically, it has provided vital nourishment and transportation for the growth and maintenance of settlements. As part of the colonial legacy (see below) the northern part of the Ganges, especially in the region known as the Doab, has been important for irrigating crops and supporting the growth of human populations. Today, nearly 500 million people are estimated to live in the Gangetic basin (Shiva & Jalees 2003).

While there were historical efforts to channel water from the Ganges prior to the British, I argue that development projects along the Ganges in the 19th and 20th centuries occasioned some resistance because of the increased scale of alteration that they entailed. This paper looks first at the implementation of canal irrigation in the late 1800s to early 1900s and then at the construction of the Tehri dam in the late 1900s. In so doing, I explore the discourses used to describe the river in an effort to understand reactions to development as a project of modernity. In order to situate the arguments, I briefly review some of the anthropological contributions to the study of modernity, development, place, and nature. The paper also includes some of my preliminary ethnographic work on the legacy of development along the Ganges and its role in transforming the way that humans see and act towards the river. I begin with one informant's interpretation of the significance of development projects such as the Tehri dam.

A Post “Development” Encounter in Tehri

On June 10, 2006, I met with Sunderlal Bahuguna at his home just above the rising reservoir next to the newly completed 260.5 meter (855 feet) tall Tehri dam. The highest dam in Asia, the Tehri dam submerged the historic town of Tehri, including the royal palace of the aristocracy that once ruled the region. It dams the Bhagirathi and the Bhilangana Rivers, two of the first tributaries of the Ganges.³ The dam is the result of two and a half decades of intermittent construction. Its completion follows three decades of opposition efforts that, despite a few victories, were unable to block the completion of the dam and the displacement of more than 100,000 people.

The town of Tehri was once Sunderlal’s home but he was forced to relocate as the rising waters submerged the village. Sunderlal and his wife, Vimala, were among the town’s most famous residents outside of the aristocracy. They gained prominence through their opposition to the construction of the Tehri dam and their prior involvement with the historic Chipko⁴ (“tree hugging”) movement to preserve Himalayan forests in the area.

³ Some believe that the river only becomes “Ganga” at Devprayag downstream where the Bhagirathi/Bhilangana meets the Alaknanda River but this is a point of controversy.

⁴ A pivotal moment in India’s environmental history, the Chipko movement began in 1973. It was the result of efforts by residents, many of them women, in the Himalayas to prevent deforestation. To understand the complexity of Chipko and the mythic proportions that it took on after blocking the destruction of select forested areas, see Ramachandra Guha’s 1989 publication, *The Unquiet Woods*.



Sunderlal's house, a two story building with wide verandas painted in a bright yellow, serves as an ashram. It is an abode for rest, work, and spiritual growth. From the veranda, the hillside view takes in the girth of the first few kilometers of the reservoir. The vista includes abandoned buildings, junkyards of scrap metal, mounds of soil, and the now idle earth-moving machines that were used to turn the river basin into a cratered wasteland that supplied the "rock and sand fill" for the pyramid-like structure that is the Tehri dam (additional photos in Part III).

Although the day was warm and sunny, the house felt gloomy in its perch on the mountainside. In contrast to the sound of heavy machinery and rushing waters that I had heard in my visit of 18 months prior, a conspicuous silence weighed upon the scene. The only distinguishable noises were the occasional chirping of a passing bird and the sounds of distant cars moving along the road above that passes through the government-built town of New Tehri. The lack of noise punctuated the sense of change. The river no longer flowed freely and the dam's turbines were scheduled to start the following month.

⁵ Sunderlal Bahuguna at his residence above Tehri dam. June 2006. Photo by Georgina Drew.

⁶ View of the Tehri dam and the reservoir from the porch looking in the direction of Sunderlal's gaze. June 2006. Photo by Georgina Drew.

I exchanged pleasantries with Sunderlal before asking him what he was doing to pass the time. He responded in Hindi, “Kuch nahi. Betha rehta hoon. Nadi ko dekhta hoon. Ganga mar gayi.” “Nothing,” he said, “I sit here. I watch the river. Ganga has died.”⁷

The statement of inaction was perhaps an exaggeration coming from a man that continues to argue on behalf of the displaced for compensation and for the importance of reforestation. In light of this, his emphasis on immobility seemed to be a statement underlining defeat. While saying that he watches the river, he pointed to the waters of the filling reservoir and acknowledged its physical presence. In referring to Ganga, however, his reference was to the divine embodiment of the river. The Goddess is dead, he was saying. After he spoke, he took another look out onto the reservoir in front of us and shrugged his shoulders.

For people like Sunderlal, the completion of the dam represents a loss that is culturally, religiously, and ecologically significant. In the three decades that he was involved in the opposition, Sunderlal spoke and wrote extensively on these issues (see below, Part III). For others, however, the Tehri dam represented something altogether different. Whereas for opponents like Sunderlal, the dam was seen as a regression and a sign of moral decay in an age of materialism, many of the proponents saw the dam as a symbol of India’s “progress” for its productive capacity to provide energy and water to support the country’s rapid growth and development, especially in urban areas like New Delhi. While the stakes were high and many people living along the area set for submergence faced the loss of their homes, their lands, and their “traditional” means of livelihood, some supported the dam in hopes that it would bring them *bikas* (development). Others saw the dam as a forgone conclusion. Backed

⁷ As well as being the name of the river, “Ganga” is also used to refer to the Goddess Ganga.

by business and political interests, the project ultimately won the support of policy makers despite warnings that the dam would be unsafe due to its location in a dangerously active seismic zone.

An earlier alteration of the river unfolded with different results. In the early 1900s during the time when the British ruled India, a successful campaign was waged to prevent the loss of a culturally and religiously significant place only a few hundred miles down from the Tehri dam in the town of Haridwar. In that time and place, the British attempted to change the course of the Ganges River, impacting the flow past one of the most important places of worship along the river. As we shall see, a successful campaign was launched to prevent the loss of the site of religious connection between the Ganga and her worshippers. While the documentation is scant, the dearth of reports is a reflection of the low rates of literacy among Indians at the time and the dominance of records in English that reflected colonial interests.

The case of canal irrigation adds historical depth to the analysis of water related development projects in India. It indicates a shift in approach and scale in the management of water resources that the British instituted in India. Projects such as canal irrigation, I argue, were a reflection of British notions of their scientific advancement in an age of modernity. Development projects were tools for promoting modernist notions of “progress”.

On Modernity and Development

In academia, the origins and extent of modernity are intensely debated. Following the logic of some scholars who have been referred to as “post-development theorists” (Esteva 1992, Sachs 1992, Escobar 1995), modernity has links to European Enlightenment thinking that conceptualized humankind’s progressive advancement in a forward trajectory from an

inferior past. In this ideology, the values of rationality, linearity, individuality, and the domination of humankind over nature were and are emphasized. Modernity, these scholars argue, shaped the West's encounters with the non-West by bringing scientific and technical innovations as "development" in the name of "progress".

The so-called post-development scholars point to the post-World War II era, with its global emphasis on bringing development to the "underdeveloped", as the birth of powerful discourses that produced subjects in need of the type of development exemplified by Western industrialized countries. The effect of such scholarship has been to encourage the critical examination of the normative salience of development discourses and their limited vision of how the people and resources of the world should be perceived and organized. Given this historical context, *the dominant notion of development is understood in this paper as a project operating within the ideology of modernity to promote a notion of progress through the implementation of technological innovations where the Western experience of industrialization is the model.*

Concurring with Gardner and Lewis (1996), I also take the position that anthropologists studying development should question how development could be otherwise. In their opinion, it is easy for anthropologists to criticize the inability of "development" to deliver on its promises whereas understanding and supporting "alternatives" is a more difficult, but needed, endeavor (156). In other words, "What anthropology has to offer is a continuous questioning of the processes, assumptions and agencies involved in development" (167). By honoring diverse voices, the intention here is also to share other visions of development.

Scholars have offered rebuttals, challenges, and modifications to the critique of development as a project of Western modernity. Some, for instance, question the perception that the West has a monopoly on rationality, individuality, and the dominance of nature. Gidwani (2002) is among those that criticize what he considers the Orientalist logic of post-development scholarship by arguing that, despite attacks on Eurocentrism and modernization theory, such scholarship remains trapped within the “straightjacket” of Eurocentric, modernist thinking. In so saying, he points to archival evidence to assert that “modern” rationalizing processes within economy and society have arisen at different times, over different scales, and in different cultural forms in various regions of the world autonomously of European influence (12). Others complicate the monolithic portrayal of modernist thinking by asserting that India provides examples of “regional modernities” as diverse ethnic, religious, social, and geo-political variations within regions that interact differently with development projects (Shivaramakrishnan & Agarwal, 2003). Arce and Long (2003) also seek to complicate the notion of modernity. In so doing, they call for modernity to be understood as a “heterogeneous dynamism” wherein ambivalence and ambiguity make it possible for differences of interest and knowledge to be contained within provisional arrangements that allow for the resolution of the practicalities of everyday life (3). For them, this means that the actions inspired by modernity can also be appropriated and re-embedded in locally-situated practices. In such processes, the fragmentation and dispersal of modernity enables “constantly proliferating modernities” (1).

The extension of such arguments about modernity to the domain of development has been to call for an inclusion of nuance and even case-by-case analyses. Gidwani, in an essay that examines canal irrigation in the Indian region of Gujarat, suggests that the assessment of

the “goodness” (or lack thereof) of development projects is linked to processes of “place-making” set in motion or enabled by development that can transform places in both liberating and oppressive ways (2002: 26). Other scholars, also drawing from examples in South Asia, use the concept of “transnational development regimes” to problematize the assertion that there is a dominating power dynamic emanating exclusively from the West. Such arguments assert that the “subjects” of development (among others) also play important roles in the processes of development (Sinha in press). These assertions attempt to expand apparatuses beyond the state to include the role of non-governmental organizations and “civil society” while adding multi-scalar analyses to articulate the effects of development.

Sensitized by the questions raised by these approaches, I acknowledge that, in the case of water resource management, the use of canal irrigation prior to the British colonial period indicates pre-colonial rationalizing processes with respect to the control of natural resources. At the same time, however, the point can be made that the colonial and post-World War II periods saw the *high prioritization* of Western conceptions of modernity and reliance on the organizing logic of market driven capitalism to extract the maximum productive capacity from water resources such as rivers. A possible implication of this is that, if non-Western notions of progress and development exist, they do so in an international context of colonial and post-colonial legacies in which Western discourses and models of modernity are dominant. Such an implication, while mindful of the critics, concurs with the post-development arguments identifying the rise of development discourses as a mechanism through which the “Third World” was produced while other ways of seeing and doing outside of Western modernity were marginalized (Escobar 1995).

While modernity's focus on "progress" via development and capitalism was part of a dominant discourse as per post-development scholarship, the Indian context indicates multi-scalar agency with opposition movements trying to shape the size and form of development projects. That is to say, while hierarchical systems operated to make certain discourses dominant, diverse actors were still able to engage with, and sometimes even influence, the debate over development. I suggest, furthermore, that the cases presented here show how opponents of development projects along the Ganges argued, in effect, for the acceptance of multiple modernities by asking for development to be of a scale that would allow the retention of cultural, religious, and ecological connections to the river. Their arguments point to the importance of place as they were, in my understanding, place-based efforts to defend human connections with the river.

Places in Nature as Sites of Connection

Expanding on Basso's (1996) argument that wisdom sits in places, Escobar (2001) posits that culture sits in places as "the experience of, and from, a particular location with some sense of boundaries, grounds, and links to everyday practices" (152). Rather than being pre-determined, however, boundaries and links to places are constructed in the cultural production of place by groups of people. While place, as such, is not fixed, entities like rivers and mountains are often seen as "natural" boundaries. Raffles (2002), in his work in Igarape Guariba in Brazil, points out that rivers are guardians and betrayers of places. "What's more," he argues, "despite often being themselves the borders that make places, they are places, too, as mobile as can be" (182). In his compelling study of changing lifeways along a river in the Amazons, Raffles also reminds us of the dynamic and unsettled variety of modes

of knowing, imagining, experiencing, and investigating nature. Natural objects such as rivers are always in the “being-made”? as they are indissoluble in place and multiply interpellated. Relevant, but for now tangential, is the assertion that nature “resides in people as fully as people reside in it” (8).

These comments point to the fluidity of notions of place and the possibility that rivers can be seen as places. To this, I add that places in nature such as rivers are experienced as sites of connection that link humans with natural entities in ways that are culturally, religiously, and ecologically meaningful. Since development projects are also place-based and involved in the process of place-making and place-altering, it is this connection that the oppositional efforts to development projects along the upper reaches of the Ganga were organized to defend.

The Importance of Understanding Human Relationships to Natural Entities

Like Raffles, other anthropologists are trying to understand human relationships to natural entities with a growing focus on water resources. A pioneering student of natural spaces in urban anthropology, Alley (2002) has examined the socio-cultural and religious dimensions of wastewater along the Ganges by focusing on ethnosemantics in the town of Varanasi, India. Considering linguistic terms as public, polyvalent symbols, Alley argues that word use and the importation of English words such as pollution (*pradhusan* in Hindi) affect perceptions of the river. Based on ethnographic evidence, she asserts that her respondents in Varanasi thought that pollution/*pradushan* did not transform the river’s essential sacred nature: the water could be dirty without harming the purity of the divine embodied by the river. While Haberman (2006) problematizes this assertion in his study of the significance of

pollution in the Yamuna River, his work also supports the importance of understanding relationships between discourses, perception, and actions towards natural entities like rivers.

A reminder of such scholarship is that social scientists should pay more attention to the lives of plants, animals, and other entities. “We tap into literatures on symbols and meanings, on class and colonialism, on commodification and the penetration of capitalism, “ writes Tsing (2004), “but these literatures do little to help us understand nature: its diversity, its power and constraints, or its multifaceted way of entering human histories” (173). A better approach, Tsing argues, would be to look at the historical and cultural variety of relations between people, plants, animals, and natural entities. In her study of landscapes, the author reminds us that, although colonialism no longer waves an imperial flag, systems of domination continue. Anthropologists can help prevent further subjugation by representing diverse voices along with the conversations that are taking place between human and “nonhuman” actors.⁸

The interviews I took in June of 2006 along the Ganges with followers of the Hindu religion demonstrate that some Indians are also stressing diverse conversations with, and understandings of, entities such as rivers. In one interview, a Swami speaking in his residential home in the Himalayas argued for the importance of nurturing diverse ways of relating to the Ganges River in order to cultivate different approaches towards its management. As the opening quote by the Swami asserts, the issue is one of perception. “How do we see Ganga?” he asked. “Is it a holy river? Is it a river that is treating millions of

⁸ Actor Network Theory (ANT) is a point of analysis that also recognizes agency in nonhumans. While not a central part of this paper, Latour (1991) has persuasively argued for an analysis of human-nonhuman networked connections that exceed the logic of modernist thinking.

acres of land for irrigation and so on or is it just a river that is for hydro power generation?... How are we viewing it? What is in our mind?”⁹ Taking the question as a point of entry, the next section considers the fundamental issue of multiple subjectivities in relation to the river while adding historical complexities concerning development along the Ganges.

The goal of using such points of analysis is to consider other ways of being and knowing outside of a singular framework of modernity. Inspired by the intellectual Manuel Quintin Lame (1883-1967), Walsh, too, argues for a defense of diverse ways of seeing the world that includes learning from nature to “think thought” (*pensar el pensar*). In such a view, nature is a place of knowledge and wisdom with its own epistemological logic and condition (in press, 6). The idea is echoed in literature, as well. One of the central features of Herman Hesse’s 1922 novel *Siddhartha*, for instance, is its depiction of the moment of Siddhartha Gautama’s enlightenment (1998). By living with the river and thinking *with* the river, the mortal passes beyond a bounded sense of self into the wisdom of non-rationality, un-individuation, and non-linearity. Following such logics, entities like rivers have knowledge and messages from which humans can learn. This, I suggest, points to ways that humans can move beyond the dominant notion of modernity that humankind is in a role of dominion over natural resources.

⁹ Interview with Swami Janardananda on June 13, 2006 in Uttarkashi, India.

Part II. Canal Irrigation along the Northern Ganges

The Ganges has inspired millions over the millennia to sing her praise and worship at her banks. In the Hindu religion, she is revered as a living Goddess with purifying and healing powers. The writings of Indian scholars and the accounts of travelers in India support the contention that the river has had a prominent role in the Indian ethos for centuries. With the transition to colonial rule, the British treatment of the Ganges expanded the identification of the river to include a focus on its potential for increasing the productive capacity of agriculture for cash crops. Contrasting the religious significance of the river with its utilization value in canal irrigation, Part II draws upon the historical record to explore the impact that canal irrigation had on the meanings assigned to the Ganges. I argue that place-based oppositions emerged as cultural and religious connections with the river were threatened.

The Ganges River: Physical and Historical Significance

Flowing some 2,510 kilometers (1,560 miles), the Ganges River begins in the Himalayan region of northern India and travels southeast to meet the ocean at the Bay of Bengal. As a source of water for households, agriculture, and transportation, it is the largest and most important watershed in India, with an irrigation potential of 27,350 thousand hectares. A vital source of life, the Ganges made possible the growth of the populations living along its banks and continues to support millions of people that live in the 692 towns

and cities distributed over the length of the ten Gangetic States. As of 2003, 62.5 percent of the land in the Ganges Basin was under cultivation (Shiva & Jalees 2003). Such a feat was achieved through canal irrigation.

For over two and a half millennia, the Ganges has played a vital role in Hindu ceremonies marking important passages such as births, marriage, and death. As a Goddess, she has assumed many roles in the Hindu tradition. She is the child of Brahma; the wife of Shiva; the metaphysical product of Vishnu (she is believed to have sprung from his foot)¹⁰; and the mother of Vasus and Karttikeya (the God of war). Whatever story is told, the Ganges offers a benediction, a blessing to the world.

In one account from the Hindu classic the Ramayana by Valmiki, the origin of the Ganges is associated with her concession to descend from the heavens to purify the ashes of King Sagara's 60,000 sons who died at the hands of a great sage. After practicing great austerities and deep meditation, a descendant of the king, Bhagiratha, convinces the Goddess Ganga to come down to earth in the form of a river. The matted locks of Shiva (symbolizing the Himalayas) break her fall. Following Bhagiratha, the river then carves out a path to the Ocean.

As Ganga fell, she split into seven streams... and the seventh stream followed Bhagiratha's chariot. The royal sage went forward in his chariot and the Ganga followed him... Wherever the king went, Ganga, the destroyer of bad deeds and the greatest of all rivers, went, too. Followed by the Ganga, Bhagiratha reached the ocean and entered the region where his ancestors had been reduced to ashes. He threw the ashes in the river. Then Brahma said to him, 'Best of men, the sixty thousands sons of Sagara have crossed over into heaven and have been saved. As long as the waters of the ocean remain on earth, so long will Sagara's sons remain in heaven with the gods (Sattar 1996: 68).

¹⁰ Brahma, Vishnu, and Shiva are the three main male deities of the Hindu tradition. Brahma is the Creator, Vishnu is the Preserver, and Shiva is the Destroyer.

In this explanation of the Ganges' purifying capacity, the river is recognized as a divine spiritual bridge to heaven. For this reason, Hindus often throw the ashes of the deceased in her waters in the belief that the Ganges will take them to a celestial resting place.

The role of the Ganges in the Hindu tradition is amplified by the importance of water itself. Writes Darian, "Among the many symbols of India endowed with spirituality, water is the most sacred, at once the purifier and the origin of the mystery. It is the real and imagined source of life" (Darian 1978: 14). For those suffering from a lack of water, this essential connection is as much practical as it is ideological. In the hot climate of Northern India, water is an essential part of daily life whose absence is dearly noted in times of scarcity and drought. Even the Katha Upanishad, a Hindu religious text, equates life with being born of water. Thus, for Hindus, devotion to a body of water has real significance; it is both a prayer for water and for life.

British Rule

While the British had been conducting trade with and in India for several centuries, colonial rule is typically marked as beginning in 1757. It lasted until the country's independence in 1947. The rule of the "British Raj"¹¹ as they were called, brought a number of changes to India that included a shift in the management of natural resources. Prior to the British presence in India, numerous systems of water management were in practice that fit the geography, climate, and cultural particularities of each of India's various regions. They included technologies for small canal works dating back to the 14th century that were likely imported from Central Asia. Pointing to evidence such as this, Gidwani (2002) asserts that

¹¹ The word *raj* in Hindi translates to "king".

pre-British India had its own modernist logic since it drew upon scientific models for the control of natural resources such as water.

Whereas the British were concerned with massive irrigation to increase crop production and revenue, pre-British water technologies were more concerned with water-storage. This is evidenced by the fact that, although medieval canals were operating when the British arrived, they were not used as the most important means of irrigation. Explains Verma, “Because of a lurking danger of a freak and fragile monsoon which has the maximum of three to four months duration in the Indian sub-continent, the storage of water as a matter of necessity has always been a deep concern of the people and the state” (2001: 5). For this reason, wells were often used for irrigation prior to the British. Even today, more than 25 distinct irrigation and drinking water systems are found in India’s diverse communities (Shiva 2002: 12).

The transition from well water use to canal irrigation in the region near the Upper Ganges took place in the middle of the nineteenth century. The creation of the Upper Ganges Canal is credited to the work of an Englishman, Captain Proby Cautley of the Bengal Engineers. Noting the frequency of droughts in the Doab (the land between any two rivers) situated along the Jumna and the Ganges, Cautley began conducting surveys as early as 1836 to assess the feasibility of a canal to irrigate the area. These efforts initially met little enthusiasm but after the famine of 1837-8 in which many crops failed in the northern Doab, the East India Company and the Governor General, Lord Auckland, authorized Cautley to continue his survey. Shortly thereafter, officials became convinced that the solution to halt the cycle of famine and drought was through the application of British civil engineering technologies.

The implementation of canal irrigation complemented the ideological as well as economic goals of the colonial rulers. Speaking of British perceptions of India's development, Whitecombe wrote, "The power of the monsoon over the life and death of the land, and the powerlessness of the peasantry to change its course, illustrated India's benighted condition to Western observers. The fickleness with which monsoon irregularities disrupted cultivation could only accentuate this impression" (1972: 5). An excerpt from the *North American Review* in 1853 supports this assertion as well as demonstrating British ideas of superiority: "The idea of making the great sacred river the source of prosperity and civilization to the people who had so long regarded it with superstitious veneration, of making it pour benignant waters over the fields of those who so long ignorantly worshipped its unused stream, is one that possesses a fine element of poetry, which will always add a beauty to its noble practical application."¹² Beyond providing a "poetic" commentary, the British remarked upon the productive benefits of canal irrigation calling them "great moral agents" as "promoters of peace and civilizations" that bring fertility and plenty.¹³¹⁴ An additionally alluring feature of canal irrigation, of course, was the promise of financial returns from increased agricultural productivity and new navigation channels.

With these objectives in mind, Cautley found a location in 1838 that ran under the Siwalik Hills where the canal could direct water down a line to the Indian town of Haridwar. The process of planning was not easy and Cautley had to mitigate multiple concerns:

¹² "Canals of Irrigation in India," *North American Review* 77(161) (1853), 453-455.

¹³ *Ibid.*, 463.

¹⁴ Canal irrigation in South Asia has some parallels with the colonial control of water elsewhere. Lansing (1991), when speaking of the Dutch colonial period in Bali, demonstrates both the symbolic significance of water for the Balinese and the way that irrigation in that country was linked to concepts of Dutch sovereignty and justifications for colonial rule.

Every kind of difficulty had to be overcome: orders and counter orders came from the authorities, civil and military, in bewildering succession. At one moment, it was to be an irrigation canal, the next for navigation only. What was worse, a formidable opposition arose to the idea of the canal at all; notwithstanding the fact that the East Jumna Canal which had originally been built by the Mughals in the eighteenth century had been extremely successful in combating famine in the country which it passed through. It was said that the earthquakes would destroy viaducts, that miasmas would hang over the irrigated land, that malaria would become rife, and that the navigation of the Ganges would be affected (Newby 1966: 61).

Despite the controversies, Cautley began work and the canal was completed in 1854. Within twenty years of its creation, the Ganges Canal was the second largest canal system in India and in the world. It included 5,601 miles of main lines and distributaries. By 1877-8, it supplied an estimated irrigated area of 1,500,000 acres (Whitcombe 1972: 6).

According to some accounts, local reaction to the completion of the Upper Ganges Canal was positive. At least one folk song raised Cautley to divine status in a variant on the myth of the Bhagiratha. The song elaborates that the peasants initially opposed all interference with the river, but were grateful to Cautley for leading the waters into their parched fields.¹⁵ The reverence for the controllers of water resources was evident elsewhere, too. In the area of the West Jumna Canal, local officials of the canal administration were referred to as “Naib-Khuda” or “Deputy God” (10). This indicates that there was a positive reception to the introduction of canal irrigation for the labor saving and productive benefits it brought.

Despite the praise, Cautley’s work eventually came under public criticism when Sir Arthur Cotton announced that the Upper Ganges Canal had been improperly constructed. Among the charges, Cotton noted that there were five fundamental flaws and fourteen minor

¹⁵ I have been unable to find documentation regarding the early opposition to canal irrigation that this song indicates.

mistakes in the canal's design. Cotton cited that the slope designed at Haridwar was excessive and led to increased velocity, bed scouring, erosion, and bank damage (Stone 1986: 53-54). The flaws of the canal's design were a reflection of the inexperience of European engineers in India and the tight budget under which they were operating to build a canal bigger than any in Europe. Thus, "the development of the basic irrigation infrastructure was essentially based on trial and error" (35). As Cautley discovered, it was especially challenging to direct sufficient water flow past the sacred Haridwar ghats during the low season while keeping it from flooding during the monsoon.

With an emphasis on science and scientific methods of the variety approved in Europe, Australia, and the United States, many hydraulic engineers relied on a mathematical discourse of irrigation science that had little value for native knowledge. Writes Gilmartin: "Viewed in mathematical terms, the hydraulics of irrigation channels and the mechanics of dam construction were the same whether applied in California or the Indus Basin. From this perspective, 'local knowledge' counted for little" (1994: 1136). Thus, although British engineers realized that they were new to the Indian context, they assigned their own inexperience little value.

Whitcombe (1972) and Stone (1986) have assessed the effects of canal irrigation differently with the former being more critical of the imbalance created by the technology than the latter. Both accounts, however, indicate that the canal displaced "traditional" types of agriculture due to the implosion of wells and a preference for canal irrigation and the labor saving it provided. As a result, farmers shifted cultivation patterns from subsistence to cash crop production (sugar cane, cotton, indigo, and opium) and soil salinization increased. New concerns over public health arose as subsistence crops were in decreased supply and the

malaria rate rose.¹⁶ Additional areas of concern included the loss of well-based social systems of water management that predated canal irrigation¹⁷ and an uneven distribution of financial gains.

The British failure to fully address the need for long-term improvements illustrated to some the colonial emphasis on financial interests over public welfare (Watts 1999: 154-155). In other assessments, some scholars underscore the economic benefits of the canal as promoters of Indian wellbeing. Such arguments point to the increase in per capita income that was as high as 42% between 1860 and 1914 in some provinces in India (Derbyshire 1987: 522). Such increases, however, were likely due to other factors such as railroad technology and world economic conditions that were favorable to colonial India. In addition to increasing land value, irrigation technology also facilitated revenue collection (Singh 2005: 75).

Despite the economic returns, the Nationalists (Indian proponents of self rule) charged that the British failed to foster significant industrialization or to grapple with land reform. Such individuals would later blame the lack of structural transformation under the British as a reason to call for independence. Instead of promoting lasting development, Nationalists argued that the British preferred to content themselves with half a century of political peace based upon the ‘automatic development’ brought by canals and railways and were oblivious to the problems that would arise because of this passivity (Derbyshire 1987: 544-545).

¹⁶ For a discussion on the politics of Malaria in British India, see Sheldon Watts, “British Policies and Malaria in India 1897-c. 1929,” *Past and Present* 165 (1999), 141-181.

¹⁷ Well irrigation required more labor and more coordination of resources and people.

Canal Irrigation as a Colonial Tool

Whatever the assessment of canal irrigation, its implementation supported colonial interests. As Chapman and Thompson assert, canal systems are designed engineering features and they are also human political structures that direct environmental resources in both good and bad ways. In their assessment, canal irrigation worked better than the irrigation systems that it replaced but it did so within a political hegemony in which the managerial class held great power (1995: 112). Stone supports this political analysis of canal irrigation in India:

As with any technology, canal irrigation was not ‘neutral’ in its effects. It was intended to serve the perceived interests of its masters, in much the same way as the earlier irrigation works were. In its design, modes of operation, and intended effects, canal irrigation was ultimately a cultural expression, representing the priorities and aspirations of its western architects, and was inextricably bound up with some of the most vital aspects of colonial rule. It was related directly to the concern exhibited for the spread of commercial crops—and was thus tied up with official efforts at ‘agricultural improvement’—as well as having an important bearing upon land revenue (frequently regarded as the point of most contact between rulers and ruled), political security, and famine prevention. It existed, in fact, at the very interface between the colonial presence and peasant society: the water trickling into the field kiaris was as tangible as any of the western innovations which filtered down to the village level—and more tangible and pervasive than most (1986: 8).

As cultural expressions, technical innovations such as canal irrigation justified the “civilizing mission” of colonialism while promoting colonial interests. In Gilmartin’s view, the command over environmentally transformative technologies like irrigation was part of an “imperial science” or a “science of empire” that did not link the colonizer with the knowledges of the colonized. Rather, the knowledge that produced these transformations was a universal, yet bounded field of expertise in which local knowledge was assigned little importance in the implementation of new technologies (1994: 1128).

Defending a Sacred Place: The Case of Har-ki-pauri Ghat

In the early 1900s, residents of the city of Haridwar in northern India and other leaders from across the country waged a successful opposition to maintain water flow at the Har-ki-pauri ghat.¹⁸ Located just above the mouth of the Upper Ganges Canal where the canal borders a branch of the Ganges' stream, the site is important because Hindus believe that Haridwar is a gateway to earth for the Goddess. On festivals and holy days, the town swells to enormous proportions and religious activity is concentrated on the Hari-ki-pauri ghat.¹⁹



As previously noted, the construction of the Upper Ganges Canal was faulty. The engineering defects forced officials to close the plant every year for maintenance work. In addition, boulders and shingles settled in the riverbed after the rainy season every September/October. This blocked the river's flow, required additional engineering intervention, and added to the cost of the canal's maintenance.

¹⁸ A Ghat is a set of wide steps leading to water used in bathing and worship.

¹⁹ One every ten years for the Kumbha Mela, a religious festival, Haridwar is said to accommodate millions of pilgrims in temporary settlements along the river.

²⁰ Front view of Har-Ki-Pauri Ghat. June 2006. Photo by Georgina Drew.

²¹ View from Har-Ki-Pauri Ghat. June 2006. Photo by Georgina Drew.

In 1909, with an eye towards improving the function of the canal, engineers of the Irrigation Department of Uttar Pradesh developed plans to create permanent works above Haridwar. They hoped to better regulate the flow of water in the supply channel by constructing a masonry dam across the main stream of the Ganges with a regulator above that dam. This would direct water to the supply channel.

According to Alley, British officials failed to anticipate how the Hindu “community” would react to the obstruction of the free flow of the river.²² She writes, “...the public perceived a drastic shift in canal engineering and responded to that perception” (2002: 101). On June 5 of 1914, opponents demanded that the flow of water past the ghat remain uninterrupted. The government approved the funds for the plan despite public dissent. This increased public agitation and amplified Nationalist demands for self-rule.

The second wave of opposition forced a meeting with the lieutenant governor of Uttar Pradesh on November 5th of the same year. Numerous individuals, including Indian leaders, were present. Attendees included the maharaja of Jaipur; a minister of the maharaja of Alwar; the maharaja of Darbhanga; Justice Chatterjee of the Calcutta High Court, Lala Sukbir Sinha, the secretary of the All-India Hindu Sabha; Mahant Lakshman Das of the Sikh Gurudwara, Dehradun; and other prominent public figures. The pressure from the opposition at this and a subsequent meeting was strong and it attracted the sympathies of some colonial officials.

One Maharaj (king), Malaviya, pleaded in a speech to the government of India that the religious place must be respected. He is quoted as saying that, no matter the costs, the

²² The constitution of “community” is outside the focus of this paper. I want to note, however, that the Indian population is extremely heterogeneous and it is not my intention to present them as otherwise.

feelings of the people should be soothed, as “no Hindu would place his material prosperity above the dictates of his conscience and his religion.” Hindus, he reminded, come from great distances and undergo great discomfort to be with the river as a matter of faith (quoted in Alley 2002: 11). In such terms, Indian leaders stressed the importance of the Ganges in Hindu ideology to contest a reduction in her flow below 1,000 cusecs or the proposed drastic alteration of her physical landscape near the Har-ki-pauri ghat in Haridwar.

Under pressure, the government of India agreed to keep the supply channel opening free from any blockade or sluice, even though some shoaling would have to be cleared annually. Officials also agreed to keep a free opening in the weir over the main stream of the Ganges to allow for the unobstructed supply of water for worshippers and bathers. A final concession was an accord to refrain from lining the canal with masonry in order to avoid it taking on the appearance of a canal.

For colonial engineers, the people demanding the concessions were ignorant of the facts of the situation and the technical needs of the canal. Although they tried one more time to continue with the original plans to divert water, a high-ranking colonial official put the efforts to an end in 1917. As a result, the 1916 resolution that included the concession became a standing order for the Irrigation Department. Even in the twenty first century, the engineers of the Northern Division Ganges Canal in Roorkee follow the orders of the resolution as they are outlined in Appendix I of the *Standing Manual for River Ganges and Ganges Canal*. Now, the Sri Ganga Sabha—an association of mainly Haridwar residents that was formed after the 1916 resolution—makes sure that the Irrigation Department maintains a level of 1,000 cusecs required to make the physical infrastructure suitable to the organization of pilgrim traffic and to keep the space user-friendly and safe for pilgrims.

The example of opposition efforts in response to proposed flow changes around Har-ki-pauri ghat demonstrates that much of the motivation for the opposition was place-based. When the engineering plan threatened to drastically alter a place designated as sacred, people gathered to retain what they believed was a right to maintain cultural and religious connections with the river. The disagreement over the management of the Ganges canal in this instance exemplifies an assertion of religious rights in the face of colonial concerns for profit maximization:

The conflict over the canal works had to do with defending Hindu interpretations of the meaning and use of the Ganga (Ganges) against the scientific-colonial interest in exploiting the river for agricultural gain. The leaders of the resistance were not in favor of diverting the river at all and were especially against rerouting the flow away from Haridwar and Har-ki-pauri ghat. In the early twentieth century, opposition to scientific control of the river aimed to defend sacred space and ensure the unobstructed flow of the Ganga through it (Alley 2002: 118).

While this presentation has attempted to temper the notion that people affected by canal irrigation were completely opposed to it on principle, the example does show that some Indians had limits to the extent of manipulation that they would allow. There were certainly power dynamics at play and the story must be viewed with the recognition that the Nationalist movement was gaining in strength at the time. Nevertheless, the account shows that the alteration of the Ganges was accepted until it threatened to sever what Indians believed was a significant cultural and religious connection with the river. The story provides a backdrop for understanding the case of the Tehri dam where the type and duration of the opposition differed, but, I argue below, the motivation was similar—to maintain place-specific cultural and religious connections between people and a sacred entity. The case of Tehri dam, I argue, also points to a rise in an environmental discourse about the importance of water as an ecological resource. The discussion of the environmental impact of the dam, I

believe, is also used to oppose the post-independence emphasis on neoliberal economics where nature is valued for its productive capacity over its role in creating a healthy place in which humans can survive.

Part III. The Tehri Dam in the Himalayan Mountains

The debate over the Tehri dam has not received as much attention from social scientists outside of India as dam related controversies in other parts of India. The Sardar Sarovar dam in western India, for example, and its main opposition group, the *Narmada Bachao Andolan* (Save Narmada Movement), has been addressed by numerous social scientists within and outside of India. Even when the opposition to the Tehri dam has attracted media or scholarly attention, concerns over population displacement and environmental impact have usually been the focus (Jayal 1998, Sinha 1992, Singh & Sharma 1998) instead of the threats to religious and cultural relationships with the river that I argue also motivated opposition. The point of revisiting the debate over the Tehri dam is to examine how some perceived the development project as altering connections with the river. I focus on what protestors believed was at stake. In order to delimit my focus, I must set aside debates over the idea of community, the literature on communal action, and the nuances of power among the various actors involved.

India Post-Independence: Changes and Challenges

After receiving independence from colonial rule in 1947, India underwent several political and structural transitions in a period that was initially marked by uncertainty and religious violence. When the bloody events associated with partition subsided, the new leaders of India faced numerous challenges. Early on, the leadership decided that they could

most expediently overcome the years of subjugation under British rule by becoming a world power.²³

Thus, in the aftermath of World War II and in the context of the call of America's President Truman for "development," industrialization was on the mind of the Prime Minister Jawaharlal Nehru and his staff in India. While Nehru respected his fellow nationalist comrade Mohandas ("Mahatma") Gandhi and his arguments in favor of India's poor, he felt that industrialization was the key to success of the nation. He, therefore, prioritized policies that would achieve this end over the promotion of small-scale or "cottage" industries that he and others associated with stagnation and atrophy in the name of "tradition". Such Nationalists argued that it was necessary to emulate the West intellectually through the infusion of modern science and materially through the adoption of large-scale industrialization (Gadgil & Guha 1992: 183). This Westerly gaze, I argue, indicates that post-colonial India adopted the values of Eurocentric notions of modernity and that they were—either directly or indirectly—influenced by the dominant international discourses of "development" and "underdevelopment".

Beginning first with a socialist pattern of economic development, the government emphasized building economic self-sufficiency through state investment in social services, infrastructure, industry, and commerce. Influenced by the perception that industrialization would lift all proverbial boats, including those of India's poor, Nehru encouraged the construction of dams across the country and famously equated them with modern temples.

The industrialization efforts were lopsided in their distribution of financial benefits (with the rural poor maintaining low levels of income and education) but, within the logic of

²³ For more information on globalization and nationalism in India, see Nayar (2001).

capitalist and later, neoliberal, economics, there were economic “successes”. For its performance from 1965 to 1999, the World Bank listed India among the top fastest growing economies. In 1991, under the economic advice of the Finance Minister, Manmohan Singh,²⁴ the country shifted from the import-substitution industrialization (ISI) policies that sought to build Indian industry to market liberalization policies. By 2003, India was second to China with an annual 7-8% growth rate in its gross domestic product (Assaf 2004: 10-13). The current goal of the administration, one that requires a vast amount of energy resources to service a population of over one billion people, is to become a “developed” country by the year 2020.²⁵ It is in such a context that the debate over the Tehri dam must be situated.

While the government of India undertook these efforts with the goal of modernization in mind, that they were guided by theories of neoliberal economics further indicates their immersion in the larger context of modernity. In the dominant neoliberal economic model, entities like rivers and the services they provide can be bought and sold for profit. The prevalence of the market model is such that many people, operating in spheres where such a model is dominant, do not question its logic.²⁶ The pronounced emphasis on the economic system can, of course, be linked back to the legacy of colonization as outlined in the case of canal irrigation.

²⁴ Manmohan Singh became Prime Minister as a member of the Congress Party in 2004.

²⁵ With over 300 million people below the poverty line and 65% of the population engaged in agricultural livelihoods, the means and the parameters for the achievement of such a goal remain unclear and a source of concern for civil society, environmentalists, and NGOs.

²⁶ For a genealogy of the dominant economic model and an explanation of its “petrification” see Escobar (2005).

The emphasis on industrialization and modernization influenced the cultural construction and orientation of India's rural inhabitants, as well.²⁷ As Pigg writes, "It is important to remember that the ideology of modernization... accompanies the nation's pursuit of *bikas*."²⁸ The politics embedded in the representation of the villager is entwined with the politics of development itself" (1992: 492). Since to be excluded from development or *bikas* means to lose out of the material and economic opportunities it promises, "everyone wants a piece of the development pie" (492). The development mandate successfully infiltrated the rural areas of India even up in the Himalayas to the point that some villagers acquiesce to development projects knowing that they will not bring immediate benefits (such as electricity and water in the case of the Tehri dam).²⁹ For such people, the hope is that the secondary or tertiary benefits will bring them into the realm of *bikasi* (developed).

The Tehri Dam in the Context of Development

In such a historical context, the Ganges was presented as a tool for the country's material advancement and the Tehri dam became part of a nationalist project of development. The dam, standing at 260.5 meters (855 feet) was designed to be the highest in Asia and the fifth tallest in the world. It's designers and proponents boasted that the dam would have a peaking power capacity of 2400 MW, enough to annually generate 6532 million units of energy while providing water to irrigate 270,000 hectares of land and further stabilizing

²⁷ In the case of rural Nepal, Shrestha (1995) draws on personal experiences to discuss the processes and (self) perceptions involved in becoming a development category.

²⁸ *Bikas* is a Hindi and Nepali word for development commonly used in the Himalayas.

²⁹ The electricity produced by Tehri dam is earmarked for the consumption in New Delhi and a pipeline directs large amounts of water to service the needs of the city's 16 million residents.

600,000 hectares of irrigation. Water from the dam would also be used to provide 270 million gallons of water to industrializing locations downstream in the plains with 162 million gallons going to New Delhi to service 4 million of the city's residents. Whereas the initial projected costs of the dam were estimated to be 4 million USD, the actual expenditure was closer to 1 billion USD.³⁰

The dam's construction came in starts and stops and was surrounded by controversy. Despite investigations on the hazards of the dam and concerns over displacement, the Planning Commission approved the project. Although the former Prime Minister Indira Gandhi briefly stopped the dam's construction in the 1980's, operations resumed with the help of the USSR. The state's Irrigation Department was responsible for the project until 1989 when the Tehri Hydro Development Corporation Limited (THDC) was created. In the wake of the fallen USSR, the project even received a period of support from the World Bank. The story of the Tehri Dam's construction cannot be outlined in its entirety here. What I want to stress is that the urgency to complete the dam was often framed in the context of providing needed irrigation, electricity, and drinking water for the "developing" country and voices of dissent were seen as holding India back from reaching its full potential. Taking an extreme position, a manager of the Tehri Hydro-electric Development Corporation (THDC) was quoted as saying of the opposition movements to the dam, "Environmentalists are anti-national and should not be allowed to interfere in matters that engineers know best."³¹

³⁰ For more information, please visit the THDC's website at <http://thdc.nic.in/> and also the International Rivers Network at <http://www.irn.org/>.

³¹ H.M. Vyas, manager of the THDC, quoted in "Tehri: Hanging over troubled waters." In *Down to Earth*, vol. 1, no. 1, May 1992.

Implicit in such arguments is the presumed superiority of rational, science-based approaches to the manipulation of natural objects in the service of national goals.



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Opposition to the Tehri Dam

While the Tehri dam project earned the support of corporations, politicians, and even some segments of the population in the Himalayas, it was also subject to decades of opposition. Chief among the complaints was the threats to the land and the some 100,000 people in the 112 villages and the historic town of Tehri that would be affected by the dam's 45 kilometer reservoir in the Bhagirathi River and the 23 kilometer reservoir of the Bhilangana River. While the concern for the displaced populations was present in many of the arguments against the dam, it is the threats the dam posed to the cultural, religious, and ecological significance of the river that I want to point out here. While displacement was indeed a pressing issue, I believe these other threats did not receive enough attention. The religious, ecological, and cultural arguments to be examined are intertwined, but they will be approached separately (as much as possible) in an effort to outline each position. Similar to

³²Tehri dam before completion. October 2004. Photo by Georgina Drew.

³³The valley above Tehri dam showing the aftermath of the resource extraction for the earth and rock fill dam. October 2004. Photo by Georgina Drew.

the case of canal irrigation, I argue that voices of opposition reveal limits to what they were willing to sacrifice for development.

Although the opposition lasted decades, documentation of the protests in English are scant. For this reason, it is not possible to say how large the opposition was. Dogra (1992) presents the early years of opposition as being organized and effective. The movement began officially in 1978 with the creation of an anti-dam organization known as the Tehri Bandh Virodhi Sangarsh Samiti (TBVSS), known in English as the Tehri Dam Opposition Struggle Committee. Virendra Dutt Saklani was the first Chairman of the committee. Under his leadership, the initial years of protest saw the collection of substantial amounts of dam-related information by the TBVSS from which education campaigns, petitions, and “massive” demonstrations arose (Dogra 1992: 60-63; Mukerji 1997: 15). Over the years, however, support dwindled as the movement failed to make headway and the dam came to be increasingly regarded as a *fait accompli* (15).

A few individuals, however, opposed the dam to the very end. Among the most notable figures involved is Sunderlal Bahuguna (the interlocutor of my introductory ethnographic encounter). It is his speeches and writings that are readily accessible and from which I draw some of my observations about the significance of the dam and its negative effects on connections between people and the Ganges. Critiques have dismissed Sunderlal’s efforts in the context of Chipko for his role as a “rural elite” whose protests gained audiences through “simple, populist narratives that pitted peasants against the state and markets” without adequately addressing the heterogeneity of classes, interests, and constituencies involved (Rangan 2004: 382). While Sunderlal might have been born to an elite class, however, he returned to his native town of Tehri after receiving education in the city to live

an intentional live of austerity alongside the villagers whose lifestyle he admired. As for the narratives he used, I cite them knowing that they do not express the feelings of all the people impacted by the dam. Sunderlal, however, was not alone in voicing the opinions he expressed and I argue that his statements add to our understanding of how some people viewed the dam.

Now in his eighties, Sunderlal is one of India's leading environmental activists. He was greatly influenced by Vinod Bhave and Mirabehn, two of the most prominent followers of Gandhi. Sunderlal adopted the Gandhian way of life as a youth by emphasizing the spiritual journey above the acquisition and consumption of material goods. Such an approach supports small-scale industries; rural and "traditional" Indian livelihoods; and nonviolence as the foundation for a healthy society. Due to his involvement with the Chipko movement, Sunderlal was already a visible character on the national scene by the time construction on the Tehri dam began in 1978.

In his opposition to the dam, Sunderlal combined political experience and a Gandhian approach of non-violent dissent to write articles, meet with prominent political figures, hold town meetings, embark on long *padyatras* (walking journeys that go from village to village to raise awareness about issues), and endure extended fasts.³⁴ Unswayed by the project's aim to provide water and electricity for the urban residents of New Delhi hundreds of kilometers/miles away, Sunderlal and other members of the opposition framed the dam as taking away from rather than adding to the Himalayan region. Like the environmentalist position commented upon below, they also questioned the logic of building Asia's tallest dam in an earthquake prone area while displacing over 100,000 people. An argument that

³⁴ Records indicate that Sunderlal took several fasts of more than 40 days in duration over the two and a half decades of resistance to the dam.

features prominently in the words of Sunderlal and his peers, however, is the appeal to oppose the dam on religious grounds.

To Dam a Goddess... and a Mother?

For many followers of the Hindu faith, including Sunderlal, the river is a true Goddess. One of the central reasons for opposing the Tehri dam was the threat it posed to the river's deity. The Goddess-centric arguments predominated in the speeches and writings of people like Sunderlal. They pointed to the river's divinity in Hindu holy texts and the cultural traditions that worship the divine embodied by the river. The defense of the river as a Goddess recognizes that, in the Hindu tradition, God takes multiple forms. Some of these, like rivers, are observable in nature. Importantly, the Ganges as Goddess is also equated as a motherly figure that is constantly giving to her children unconditionally and with unending love (Sunderlal 1997; Alley 2002; Haberman 2006). In one interview, Sunderlal described the Ganges by saying, "Ganga is a Goddess because like a mother she feeds everyone. She is always prepared to come for her children, but when you dam a river and change its course, you deny people and other beings access to their mother" (Haberman 2006: 71). According to such a perspective, the Tehri dam threatened to break this connection between humans and the Goddess/Mother.

In describing the Tehri dam Sunderlal also positioned it as a manifestation of evil:

The dam is a battleground between the gods and demons. Dams are the expression of demonic power. The dam will kill the goddess because the water will not be flowing. Only flowing water is alive; dammed water is not. The dam will take the energy out of the water. The dam will kill the *shakti* [divine life force] of the river." (72).

Using strong language to argue that the dam would kill the life force of the river by stopping its flow, the description given by Sunderlal shows how significant he perceived the battle against the dam to be. Arguing on behalf of the Goddess, the fight was presented as one between her and the “demons” (forces of “materialistic civilization”). Because of the human dependence on nature, the threat to the river was also presented as a threat to the human right to livelihood in the Himalayas (71). Development projects such as Tehri, after all, disrupt what Kothari calls “sites of spiritual regeneration” as well as sites of livelihood.³⁵

As the ethnographic encounter mentioned earlier indicated, for Sunderlal, the completion of the Tehri dam signaled the death of the Goddess Ganga. When the Tehri dam was finished, Sunderlal performed a *shradda* ritual (a funeral rite that a son performs on the occasion of his mother’s death). This, I believe, provides a powerful image to support the argument that, for the resistance, the very foundation of religion was at stake (Bose 1992: 235).

While Sunderlal and the people that supported his approach were against large-scale dams, they were not opposed to the obstruction of rivers especially if such projects were not designed to drastically alter water flow. Dams, as long as they were small-scale and built with the intention of providing electricity and water resources for surrounding areas, were understood as serving a need for the betterment of human livelihoods. These were presented as less damaging to the health and *shakti* of the river and its tributaries. This affirms that people like Sunderlal were not “anti” development. In arguing for the implementation of small hydro-electric schemes, Sunderlal himself once wrote, “Not a single source from which power can be generated should be left untapped” (1997: 23). The issue, prominent in the

³⁵ Interview with Smitu Kothari on April 29, 2007.

ecological debates as well, was thus over the scale of development that should be pursued. Following Gandhian ideals, the vision for the Ganges that people like Sunderlal had in mind was one that would support the co-existence of the Goddess while implementing smaller hydro-electric projects that would be of most benefit to the people living closest to the river.

Ecological Concerns

Before and during the dam's construction, several feasibility assessments were conducted. Many of the reports that assessed the viability of the Tehri dam, such as the Environmental Action Plans, cautioned that the construction of the dam was unwise and that the project should be abandoned (Rao 1992). Among the major concerns was the dam's location in a seismic zone. While the dam's architects argue that it can withstand an earthquake of 7-8.0 Richter (M) in magnitude, the area has experienced an earthquake of 6.1 as recently as the early 1990s (Jayal 1998). If the dam were to break, a flood of water would inundate the two Hindu holy towns of Rishikesh and Haridwar within an hour's time. Beyond the seismic movement that already occurs in the area, another fear is that the reservoir created by the dam will induce seismic activity, a phenomenon that has been observed in 30 percent of dams within the height range of 150-200 meters. Since the Tehri dam is 260.5 meters high, the risks of inducing seismic activity are even greater (Dogra 1992: 82).

In response to these concerns, another group voiced opposition on environmental grounds. Like Sunderlal, the environmentalists who participated in the debate over Tehri dam accepted the need for development projects in order to provide forest resources, roads, minerals, and other items to meet the demands of a growing country. They were, however,

very concerned about the ecological impact the dam would have and the wisdom of building a dam in a seismic zone. The environmentalists' vision of development was one that was methodically phased, small scale, and based on precautionary principles with concern for the best interest of the Himalayas and its inhabitants. These included prescriptions for reforestation; soil and water conservation; the strengthening of agriculture and animal husbandry; and the implementation of measures to reduce the hazards of landslides in the mountainous area (72).

A prominent feature of the environmentalist approach argued that development projects should be pursued with the intention of promoting sustainable ecologies. Such positions emphasized the Ganges River as a vital resource needed to support a healthy ecosystem. With such a focus, the concern was over the potential adverse impacts of the dam's reservoir such as the loss of fertile soil and increased landslides due to added moisture in the area. Biodiversity, it was argued, would also suffer with a corresponding impact on social justice as, "Biodiversity and social justice are closely linked to each other. Sustainability becomes meaningless unless it is laden with the value of justice, not only for human society, but, indeed, for all living beings" (Singh 1998: 62). The arguments to convince the government to build small-scale dams instead of the massive Tehri dam were, thus, also linked to an environmental discourse that draws from Indian religious traditions emphasizing self realization through unity with all beings.³⁶ Such ideas draw inspiration from the Vedas.³⁷ This concern was even extended to the river's beneficial bacteria, a likely cause

³⁶ See Arne Naess (1974, 1995) who covers the rise of environmental discourse and the influence of Mohandas Gandhi in the growth of the "deep ecology" movement.

³⁷ For a discussion of possible links between the Vedas and Himalayan development, see M.L. Dewan and B.D. Joshi (1993).

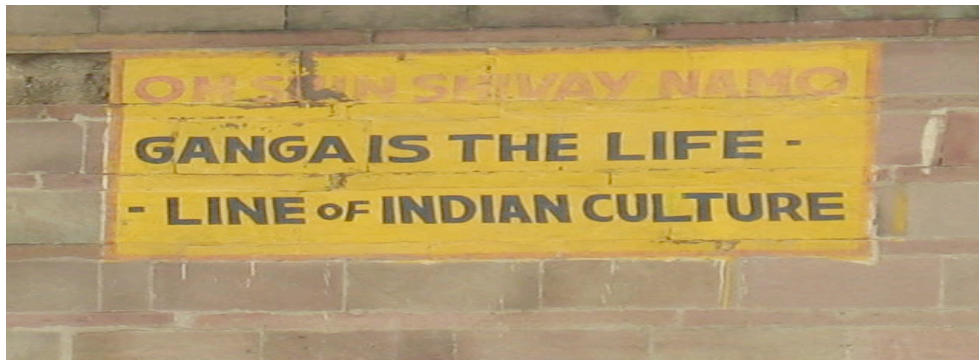
for the extraordinary self-purificatory capacity of the river, which some feared—and fear—will be diminished or destroyed due to the massive obstruction in the water’s flow and increased siltation.³⁸ The focus in such articulations of the environmental opposition was, thus, on sustainable ecologies as a form of justice.

Threats to the Loss of Cultural Heritage

Concerned about environmental catastrophe from the likelihood of the dam’s rupture, appeals emanating from participants in the opposition also reminded policy makers and civil society that the country’s cultural heritage was at stake. Often denouncing the business and political interests who stood to benefit financially from the project at the risk of the nation’s cultural preservation, such accusations were meant to mobilize public involvement and protest. In such a vein, Rao (1992) passionately pleaded that the environmentalists, intellectuals, and the people’s representatives debate the ecological and economically disastrous consequences of the Tehri dam project. If not, he argued, they would be disabling the government from taking a “right” decision. Such an oversight would, he feared, lead to the destruction of millions of people living the Gangetic basin if the dam were to break. This would also signal the loss of numerous sacred places and temples of inestimable value to the cultural heritage of the nation (3). Such appeals were a reminder that lives, property, and places of cultural significance were at stake. Another writer put it thus: “...the river worshipped as ‘the holy mother Ganga’ represents an apex of human experience through times immemorial based on the symbiosis between mankind and life support systems.” As

³⁸ For more information about this bacteria, see: D.S. Bhargavan, Sunita Gakkhar, and Babita Tyagi. “Mathematical Modeling of Stream DO-BOD Accounting for Settable BOD and Periodically Varying BOD.” *Environmental Modeling and Software* 14(5), 1999: 461-471.

such, “The conservation and preservation of this unique heritage is therefore a national responsibility” (Bahadur 1998, xx).



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Focusing on the Himalayas, Sunderlal equated the success or failure of the opposition to the Tehri dam with the very survival of the region. Linking its importance with verses from the Mahabharata, he lamented the loss of the Himalayas as a place of inestimable cultural importance as the former abode of the gods; a symbol of divinity; and a place of penance where sages and saints meditated over the problems of humankind. Damming its rivers, he wrote, would sound the death knell to the dying Himalaya while making its inhabitants “refugees of development.” For Sunderlal, the loss of human’s relationship to the free flowing river was symptomatic of the country’s moral and cultural decay. “The rivers,” he lamented, “have no more remained our mothers” (21).

Pritish Nandy, in agreement with the sentiments of Sunderlal, wrote that a country willing to destroy its rivers, mountains and forests has nothing left to live for. “If the Tehri dam is indeed built,” he elaborated, “if these two rivers are strangulated by the neck till they choke into a godless and dead reservoir, we shall have one reason less to have children, one reason less to hope. If the murder of the two rivers and the wonderful green valley through which they now pass is development, what remains thereafter?” (1992: 11). In such a

³⁹ Sign along the Ganges in Varanasi, India. July 2004. Photo by Georgina Drew.

perspective, the Tehri dam threatened to break vital connections of human relationships with the river and, thus, disrupted the idea of development-related progress implicit in the dominant notion of modernity.

Development within Multiple Modernities?

What I have attempted to provide here is a sense of the ways that canal irrigation along the Upper Ganges and the Tehri dam project brought out a place-based defense of the Ganges River who, as per Raffles (2002) can be seen as a boundary of place(s) and a place herself. More than just a utility and an ecological resource, many participants of the opposition asserted that she was also a Goddess and/or a Mother. Even if they only used these terms to point to the river's religious and cultural importance, the arguments show how, for the various parts of the opposition, the type of development demanded by the dominant Western model of modernity was lacking. While questioning the progress brought by development projects, they also envisioned a different form and scale of development. Recognizing the cultural, religious, and ecological significance of the river, the attempt was to promote development projects that would not sever any of these connections. While the opposition at Haridwar ghat in the early 1900s was successful whereas the opposition to the Tehri dam was not, I argue that the debate was framed in terms of seeking improved livelihoods that honored the diverse connections with the river. In both cases the argument, in my view, was for development within multiple modernities. Such assertions extend from the ideas presented by Arce and Long (2000) who believe that the ideas and practices of modernity are appropriated and re-embedded in place combined with arguments from Gidwani (2002); Shivramakrishnan & Agrawal (2003); and Sinha (in press) that challenge us

to include diverse agency, regional specificity, and multi-scalar processes in our analyses of development projects. While it remains to be seen if there is something beyond modernity, this paper indicates how the articulation of its diversity can illuminate possibilities for other ways of engaging with the project of development and the implementation of development projects.

Part IV. Looking Forward: The Implications of Honoring Diverse Connections with Natural Entities

While not using the language of “modernity”, others are pointing to the possibility of different ways of inhabiting and cohabiting the world outside of the dominant modes. Further above Tehri, in the town of Uttarkashi, Swami Janardananda speaks from the vantage of Hinduism to question the value of the progress brought by development projects. While people can enjoy the electricity made by dams, he argues, the fact that most of the financial benefits of such projects go to a minority of the population in a system with rampant corruption does not mean that the quality of life is better. In his estimation, having electricity is not an improvement if people no longer have access to the river. Like the Gandhians, the Swami asserts that the benchmark should be the improvement of life standards for all. Using the metaphor of a plant, he reminds that the roots (symbolizing the multitudes) must be watered and nurtured for the plant to grow tall and bear fruit. Conversely, if there is growth but faltering support from the roots, the foliage will weaken, not strengthen, the organism.

The way to reconnect the roots according to the Swami is to engage in a project of “social engineering” that teaches people at an early age about their intrinsic relationship with entities such as rivers. In his opinion, people should move beyond dualisms to engage in the world as a part of an interconnected whole instead of a fragment. When Swami Janardananda asks, as he did in the introduction to this discussion, “How do we see the river?” he is not only pointing out that our perceptions of the river shape our actions toward her. He is also

suggesting that we should not see the river as external to ourselves. Rather, we should also engage in the work of identifying *with* the river itself.⁴⁰

Other sources, based on popular, democratic movements that demand more active voices in the development process, use somewhat less spiritual language to call for “alternatives” to modernity-centric development projects. Growing in numbers, such movements also decry the loss of equal access to nature that the alternatives they propose seek to reclaim.

Environmental movements have grown all over the country not just to protest these ‘developments’ but also to define an alternative model of development that respects democratic and decentralized decision making and restores the access and control over productive natural resources to local communities. They argue that it is only through strategies that sustain and strengthen local economies and ecosystems can sustainable development be achieved. This therefore points not to tinkering around with the present system but a transformation which evolves out of (a) holistic understanding of natural processes (Kothari 1998, 69).

While somewhat optimistic, Kothari reminds us that the present situation looks grim if the mark of success as a nation continues to be the standards of the West. “As long as the Indian middle classes and our planners continue to aspire towards higher levels of affluence based on foreign models, there is no escape from being integrated into the global market economy, whose terms are largely determined outside of our borders” (70). What comments such as this suggest is that the alternatives, while also seeking to reestablish human connections with natural entities must also strive to question the very benchmark of success. Gibson-Graham (2006) offer some insight into ways that economies, livelihoods, and even alternatives are being practiced outside the dominant models of modernity and neoliberal economics. What they offer is a “weak” theory to “other” ways of being and acting in the

⁴⁰ Excerpts from an interview on June 16, 2006 and from additional informal communications.

world. The inclusion of diversity implicit in their use of weak theories and their emphasis on “queering” alternatives is the strength of their argument for it leaves the scope of possibilities open and malleable.

The ideas presented point to the significance of place-based oppositions to development projects and to the value of recognizing and respecting diverse human connections with natural entities. What the cases also support is that, even in the era of “globalization”, the importance of place has not been erased. As Escobar (2001) reminds us, “While it is evident that ‘local’ economies and culture are not outside the scope of capital and modernity, it also needs to be newly acknowledged that the former are not produced exclusively by the later; this place specificity... enables a different reading of culture and economy, capitalism and modernity” (141). Following such logic, the challenge for development is to honor diverse ways of engaging in the world in various locations. Social scientists, I believe, can contribute by examining the cultural, social, religious, and ecological implications of development while also documenting and helping to amplify other visions of the world. Examples of possible entry points for such analyses might include Blaser’s (2004) approach, which looks at “life projects” that disrupt assumptions regarding the universality of development. By highlighting the uniqueness of people’s experiences of place and self, life projects trace the “threads” of landscapes, memories, expectations, and desires (26).

As for the impacts of development projects past, one is inclined to think of the adage “what goes up must come down”. With the dam’s potential lifespan of 30-100 years, and in the perspective of time’s expanse, the river that once flowed freely may do so again. If Sunderlal is right and the Goddess has indeed died to this world, then maybe she will return when she is able to once again move freely to purify the sins of the imperfect humans upon

whom, it is said, she showers unconditional love. In the meantime, there remains much work to reexamine our past, our present, and the courses we are taking for the future with particular attention to the influence of dominant discourses and the possibilities of other ways of being and behaving in the world. By honoring diverse voices and other visions of development, we keep open multiple approaches to engage and inter-act with natural entities.

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