THE LOCAL EFFECTS OF GLOBAL CONSERVATION POLICY: POLITICAL ECOLOGY,

ENVIRONMENTAL JUSTICE AND THE POLITICS OF SCALE IN THE NANDA DEVI

BIOSPHERE RESERVE, INDIA

by

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(Under the Direction of Hilda Kurtz)

ABSTRACT

This research uses the case of the Nanda Devi Biosphere Reserve (NDBR) to examine how environmental policy, articulated by international agencies and translated into action by national governments, is transforming the lives and livelihoods of local communities dependent on the protected resources. It also explores the discursive strategies through which local communities resist these policies and strive to retain their control over resources.

The integration of conservation and development on a global level began in the 1970's with programs such as the Man and the Biosphere (MAB) and World Heritage Convention (WHC) that were initiated through UNESCO in cooperation with and sometimes funded by the World Bank. One site under the MAB and WHC charters is the NDBR. Programs such as MAB and WHC that sought to reconcile ideas of conservation with development, developed policies at the global level that were articulated downward affecting local populations in the NDBR. The policies were influenced in part by the conceptions of nature embedded within them. In this case, humans are seen as necessarily harmful to 'nature' and thus where nature is to be a conserved, human activity, particularly livelihood activities must be abolished. The Bhotiya tribals who inhabit the NDBR have a different view of nature that is complex and places humans somewhere between the natural landscape and the gods whose domain also consists of the natural landscape.

Therefore, the Bhotiya situate themselves within nature, recognizing that nature has no meaning without humans. Within the Bhotiya conception of nature, livelihood activities cannot be separated out as they provide the conduit by which the Bhotiya interact with the landscape around them. These livelihood activities have changed over time and today are an outcome of a global-local continuum in which global events like the designation of the NDBR as a World Heritage site have local effects. Through time, the Bhotiya became keenly aware of the politics of scale and deployed scale as a tool in their struggle against the policies of the NDBR.

INDEX WORDS: conservation, development, protected areas, political ecology, environmental justice, politics of scale

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CHAPTER 1: INTRODUCTION

Since the 1970's the global development community has come to adopt conservation as an integral part of the development agenda, noting that the degradation of natural resources inhibits the stated goal of 'poverty alleviation' (World Bank 1990). To this end, the United Nations (UN) created the Man and the Biosphere (MAB) program as well as the World Heritage program. Both of these programs have been heavily implemented around the world, particularly in developing countries. The World Heritage program was adopted by the United Nations Educational Scientific and Cultural Organization (UNESCO) in 1972. In 1994, a global agenda was set for UNESCO world heritage sites to assure that the list reflects the unique cultural and natural diversity found around the globe. Today there are 730 world heritage properties around the world. The MAB program, also developed through UNESCO is similar to the world heritage program in its goals but it also promotes the sustainable use and conservation of biodiversity through increased involvement of scientists in the policy development procedure as well as fostering economic development in line with local culture (Brown 2002). The MAB program has 408 biosphere reserves in 94 countries. Together, these two programs encompass over 1100 sites in more than 125 countries. In addition to this, countries such as India and China have also implemented their own national level policies establishing protected areas (Brown 2002).

Much of the research concerning protected areas continues to focus on problems of ecosystem management and biodiversity conservation rather than the preservation of an ecosystem in which humans play an integral part (Batisse 1997, Brown 2002). Unfortunately, the role of local people in the conservation process is ill defined both in policy and practice. This has led to conflicts between land managers and local people around the globe (Kuhn 2000, Lynagh

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and Urich 2002). Many times, the declaration of a piece of land as a park or reserve, "may immediately restrict access of the local community to biotic wealth traditionally harvested to meet their daily requirements" (Pandey 1995; 12). Local people often oppose protected areas because traditional economic and subsistence opportunities will be lost. Thus, there exists a tension between globalized conservation efforts and their unwanted local economic and cultural effects.

One of the UN World Heritage sites is the Nanda Devi Biosphere Reserve (NDBR) in the Garhwal region of India (Figure 1.1). The NDBR comprises over 2200 sq. km of Himalayan wilderness surrounding the Nanda Devi peak (7817 m.), the second highest mountain in India. The area is also home to approximately 4000 tribal residents, mainly ethnic Tibetans known as the Bhotiya, living in 19 villages (Rao et al. 2002). The reserve was closed in 1982 following the Indian government's concern that increasing tourist activity, particularly organized mountaineering and nature expeditions, were ruining the local environment.   The NDBR was added to the U.N. World Heritage register in 1988. The biosphere reserve plan set aside a core zone of 645 sq. km. which was to be completely undisturbed by human activity (not only was it off limits for tourism but also for local residents). A buffer zone of about 1600 sq. km. allowed for limited human activities such as farming and grazing of animals (Figure 1.2).

Since the NDBR was not an isolated wilderness area, its creation had far-reaching consequences for the local Bhotiya. The livelihoods of the Bhotiya were traditionally dependent on the use of the biotic resources of the region; they participated in the eco-tourism industry, grazed sheep in the *bugyals* (alpine meadows) and harvested medicinal

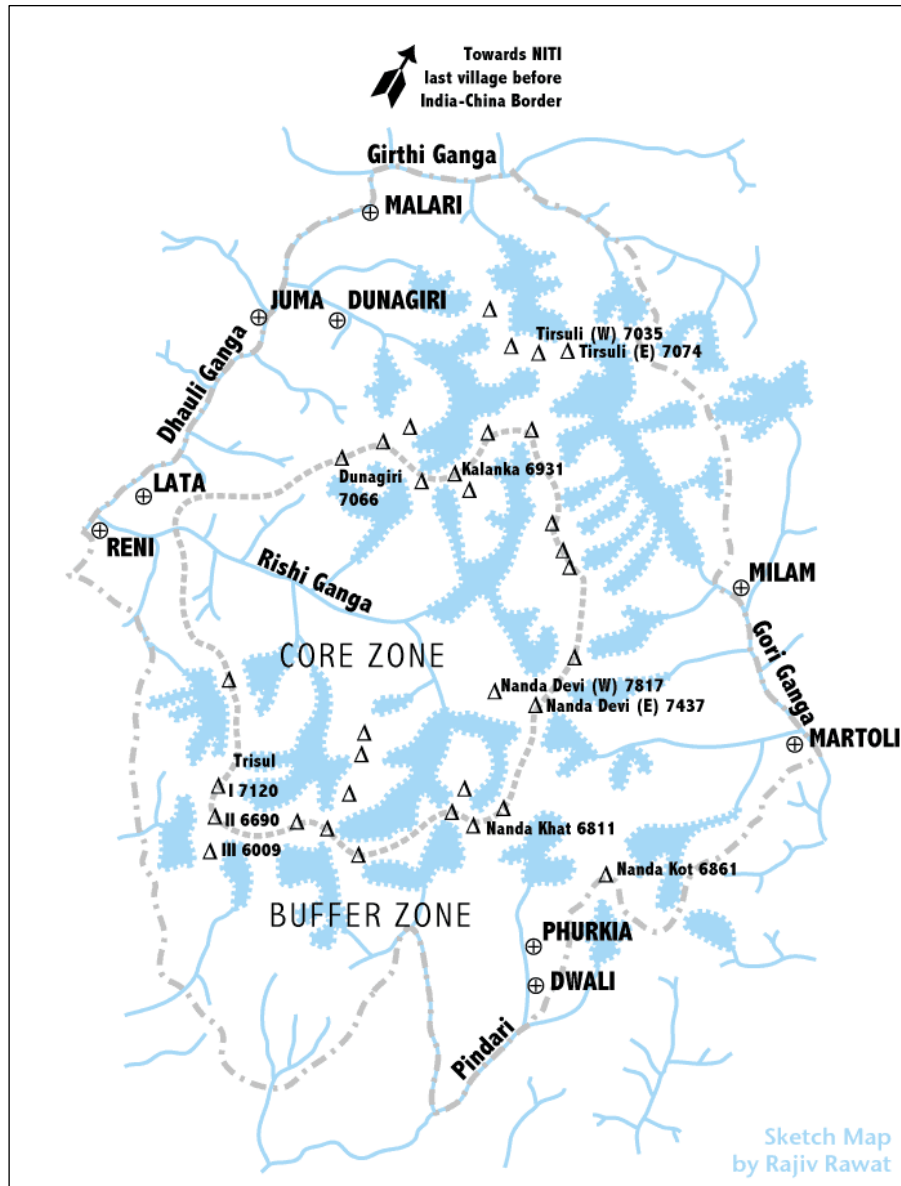Figure 1.1: Location of the Nanda Devi Biosphere Reserve. Map by Rajiv Rawat.

Figure 1.2: Sketch map of the Nanda Devi Biosphere Reserve. By: Rajiv Rawat

The new policies ignored the vertical linkages between activities in the buffer zone (lower elevations) and those in the higher elevations of the core, which was critical to their survival (Maikhuri et al. 2001, 1998; Rao et al. 2000). Since the closure of the core zone, most families have either sold or slaughtered their sheep and goats. Young men have become unemployed and some have left the region. Over the past decade, the Bhotiya have begun to protest the environmental regulations and begun to demand that they be given a voice in how the local resources are controlled. The Bhotiya claim that poaching of flora and fauna by outsiders (the Ministry of Environment and Forests does not have the resources to patrol the core zone) has actually increased since the closure, negating the effectiveness of the closure in preserving biodiversity. They have taken their grievances to the national and international media and used the Internet to publicize their plight and gain support. The Bhotiya used the lessons they learned from the Chipko movement of the 1970's, which began in the villages of the NDBR. Bhotiya women literally hugged trees to stop unwanted logging by outside contractors. The Chipko movement is regarded by many as the beginning of the grassroots environmental movement and some of the women involved in the Chipko movement have also been involved in the current struggle.

In the spring of 2003 local villagers were given limited but explicit control over trekking in the core zone after being banned for 20 years. The approved trekking route is only 9km long and only the last 4km are located within the core zone. Even with this limited success, the struggle for control of local resources continues, and involves a complex set of agents that include NGOs, tourism promoters, and environmental activists.

This research uses the case of the Nanda Devi Biosphere Reserve to examine how environmental policy, articulated by international agencies and translated into action by national

governments, is transforming the lives and livelihoods of local communities dependent on the protected resources. It also explores the discursive strategies through which local communities resist these policies and strive to retain their control over resources. Using insights from political ecology, environmental justice, and literature on the construction of scale, I pose the following questions:

1. How do the conceptions of nature and conservation held by members of the local community differ from those embedded in the global environmental policies governing the NDBR?

   a. How have the policies of the NDBR affected the Bhotiya and what is their general attitude towards the reserve itself?

   b. How do the Bhotiya conceptualize nature?

   c. What are the conceptions of nature embedded in the policies that govern the NDBR?

2. How is discourse being deployed as a political tool by the Bhotiya leadership and the other agents involved in the debates?

   a. How is the struggle against the biosphere reserve policies framed by the Bhotiya and other agents involved?

   b. How is scale deployed as a political tool by the Bhotiya in their framing of the struggle against the policies of the NDBR?

   c. How is scale deployed to perpetuate the policies of the NDBR?

Structure of the Dissertation

This dissertation is structured in a common format. First, I will begin by laying out the background of the study area; in this case, the Nanda Devi Biosphere Reserve. The background

chapter describes the physical landscape of the NDBR, including the flora, fauna, mountain peaks, drainage patterns and climate. Next, I give a description of the cultural landscape of the Garhwal Himalaya in general, including some history of the local inhabitants and of the region itself as a sacred landscape that includes Nanda Devi. I also discuss the history of exploration and mountaineering by westerners and the effects on local people. Finally, I address the livelihood changes brought about through the global-local continuum and the history of struggle for control over local resources.

In chapter three I lay the theoretical groundwork for the project. I discuss three bodies of literature, political ecology, environmental justice and the politics of scale. Each has a unique perspective that partially overlaps with the other two. I will focus on these overlaps and the common themes that emerge. All three literatures use a social constructivist perspective, particularly in reference to nature. From this point of departure I discuss ideas of a politicized environment that result from power relations that control access to the local physical environment. Often times these power relations manifest themselves in discourse and I address the linkage between discourse and material practice within the three bodies of literature.

In Chapter four, I outline my methodology for addressing the two broad theoretical research questions. Within this, I formulate several less-broad research questions that can be addressed methodologically. The first research question addresses competing constructions of nature and the second question addresses the connection between these constructions of nature and the material practices of policy formulation and resistance. I use several instruments to address the research questions. These include: Villager surveys that measure descriptively the local perceptions of the effects policies of the NDBR on livelihoods and culture, A photographic activity and in-depth interviews of local residents in order to partially uncover their conceptions

of nature, A discourse analysis of policy documents relating to the NDBR to uncover conceptions of nature embedded within and an analysis of the discourse and material practices relating to the struggle of the local people against the policies of the NDBR.

In chapters five and six, I discuss the results of the research. Chapter five focuses specifically on the differing conceptions of nature between the Bhotiya and the global environmental policies that affect them. This leads to a discussion of the process of conceptualizing nature and how that affects ideas of how resources should be managed. In chapter six, I with the discursive and associated material practices used by the local people to resist the policies of the NDBR and formulate their own plan for how the NDBR should be managed. I discuss the connections with environmental justice as well as how scale is deployed as a political tool by the local people in order to 'scale up' their struggle.

In Chapter seven, I conclude the dissertation with a summary of the research findings and offer some discussion of how political ecology and environmental justice can be linked through the politics of scale. To begin, I provide a sketch of the landscape, history and people of the NDBR, as well as the livelihood changes they have made in response to global, national and regional events that have shaped land use policy in the region.

CHAPTER 2: BACKGROUND

In order to understand the context within which this conflict has emerged, I provide a sketch of the dynamic physical landscape of the Garhwal Himalaya in general and the NDBR in particular. This landscape influences local culture and is in turn modified by local activities. Therefore, I also sketch the local history of the region and give an overview of how the religion, culture and livelihoods of local people are intertwined with this landscape. The chapter also includes a discussion of mountaineering and exploration within the region by westerners in order to provide a context for the area as a tourist destination.

A unique and isolated landscape

The Nanda Devi Biosphere Reserve, located in the Chamoli district of the newly created state of Uttaranchal, is characterized by its unique and inaccessible terrain. The centerpiece of the entire region, in a physical and cultural sense, is the Mountain Nanda Devi (Figure 1.2). At 7817 meters above mean sea level, Nanda Devi is the second highest mountain in the Indian Himalaya. The main peak of Nanda Devi is joined by a long ridge to its East peak which is 7434 meters above mean sea level (Figure 1.2). Nanda Devi forms the highpoint of a vast glacial basin ringed by high peaks. Several of these peaks exceed 7000 meters in height and these include: Dunagiri (7066m), Trishul I (7120m) and Tirsuli West (7035m) and East (7074m). There are also approximately 27 other peaks in the area that rise above 6000 meters in height. The accumulating snowfall on these mountains has produced large alpine glaciers that feed rivers which help to carve out deep gorges.

The peaks that form the outer edge of what is now known as the core zone of the NDBR have glaciers that contribute to the formation of the Rishi Ganga River which has cut a deep gorge in its westward flow toward the Dhauli Ganga. At its low point, the gorge is only 1900 meters above mean sea level, producing a local relief in the NDBR of almost 6000 meters. The combination of high peaks and deep river gorges makes accessing the region a difficult endeavor. Above the Rishi Gorge is what is known as the Nanda Devi Sanctuary. The sanctuary is a horseshoe shaped area of high alpine meadows and glacial moraine that extends around Nanda Devi on the south, west and north. The sanctuary is so inaccessible that the local people did not venture into it until they accompanied western explorers in the early twentieth century. At the western end of the Rishi Gorge, the Rishi Ganga feeds into the Dhauli Ganga which flows southward into the Alaknanda. The Alaknanda forms part of the headwaters of the Ganges River that flows across Northern India and into the Bay of Bengal. The Dhauli Ganga River forms the Niti valley. This valley extends northward into the Tibetan Plateau via the Niti pass. The Dhauli Ganga forms the western and northern edges of the buffer zone of the NDBR. The eastern and southern edges are formed by the the Gori Ganga and the Pindari Rivers respectively. The beginnings of the Gori Ganga also provide access to Tibet. Both of these passes have been used historically by the local Bhotiya to trade between Tibet and the Gangetic Plain.

The area around Nanda Devi displays a unique combination of microclimates. There are two distinct climate patterns that occur within the NDBR. The Rishi Ganga valley (core zone) and the areas of the park lying to its north (upper Dhauli, Gori and Girthi valleys) lie in the rain shadow of a wall of peaks including Nanda Devi, Nanda Khat and Trishul (Figure 1.2). Overall, this region is generally dry and cold, receiving low annual precipitation and being minimally affected by the monsoon. However, the summer monsoon provides a period of heavy rainfall

during the months of July and August in areas to the south of the Rishi Ganga. The low clouds

and fog of the monsoon contribute to keeping the soil moist and therefore the vegetation is lusher

than is usual for inner Himalayan valleys (Lavkumar 1977, 1979a). Most of the core zone of the

reserve is snowbound for six or more months a year. Elevations above 4500 meters are generally

snowbound throughout the year. Another climatologically interesting observation is that the peak

of Nanda Devi itself does not receive nearly as much cloud cover during the monsoon season as

the surrounding area. This fact has been taken advantage of by mountaineers attempting the

summit. The diversity in climates has lead to an equal amount of diversity and complexity in the

flora and fauna of the NDBR.

The 1993 Nanda Devi Scientific and Ecological Expedition catalogued 620 species of

plants with six of those being nationally threatened species (Samant n.d.). The area can be

divided into three ecological zones. Mixed temperate and tropical forests occupy the lower

altitudes. Bhoj forests lie in a belt extending from Lata to Reni and to Dhibrugheta. These forests

are known for their trailing lichen and under story of dwarf rhododendron. Forests of fir,

rhododendron and birch line the Rishi Gorge.

Above the gorge, the conditions become drier and the forests transition into a mixture of

birch and rhododendron before finally giving way to temperate scrub. Juniper and dwarf

rhododendron can be found above tree line and juniper is especially prevalent on slopes with a

southern aspect. The temperate scrub gives way to alpine grassland at an altitude of about 4300

meters. These alpine pastures consist of some scrub juniper at lower elevations, transitioning into

seasonal grasses and exposed mosses and lichens at the highest altitudes, up to 4500 meters. The

areas in the buffer zone of the NDBR where many of the villages are located are characterized by

thick forests of pine and Himalayan cedar (Deodar) as well as stands of broad leaf forests such as

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maple, walnut and horse chestnut. Villagers rely heavily on the biodiversity of the reserve, using approximately 97 species of plants for a variety of needs including food, medicine, fodder, fuel, building materials and religious rituals (Samant n.d.). These forests and alpine meadows also play host to a number of animal species some of which are threatened or endangered.

Several species of large mammals occupy the NDBR and are perhaps the most conspicuous fauna in the park. Among these, the Bharal or blue sheep are the most common, grazing in large herds in the high alpine pastures. The smaller Ghoral are also occasionally found grazing along side the Bharal. The Ghoral are described as a goat-like antelope. In the forests of the Rishi Gorge and the Buffer zone, Himalayan Tahr can be found. The Tahr are ungulates and are about the same size as the Bharal. However Tahr are easily recognizable by their horns and long hair. Musk Deer are also found in some parts of the NDBR. These shy animals have been relentlessly poached for their musk glands. Although their habitat in the NDBR is restricted to the few birch forests, there is reportedly a quite large population residing within the reserve. Another shy and rarely seen inhabitant of the reserve is the snow leopard. There is no good estimate of the numbers of snow leopards within the reserve but locals do claim to see these animals on a frequent basis and their sign is plentiful. However, this area is also home to the common leopards found throughout India (Lavkumar 1979b). Leopards are a nuisance to the local Bhotiya as they predate their herds of sheep and goats. Himalayan black and brown bears also inhabit the forests of the reserve and as such their signs are plentiful. Bears occasionally raid the beehives of local Bhotiya which are constructed within the walls of their houses. Several species of birds also live within the NDBR. The most notable of these is the Monal Pheasant. Koklas pheasants are also plentiful in the reserve's forests. Above tree line, the Himalayan

Snowcock and Snow Partridge can be found in large numbers. Overall, 114 species of birds were cataloged in 1993 (Sankran n.d.).

The unique and isolated landscape of the NDBR contains a wealth of biodiversity, giving the area significance to the local people as well as to the global conservation community. Within this landscape, the Bhotiya people have made their homes, developing a unique culture and adaptive livelihood activities that utilize and cultivate the unique and abundant biodiversity of this region. The next section will explore the Bhotiya history, culture and livelihood activities that are influenced by the physical landscape but also give meaning to this area as a site of religious and spiritual significance throughout India.

Bhotiya history, culture and livelihoods

Bhotiya culture has developed within the larger context of the history and mythology of the Garhwal region of the Himalaya. From the earliest times, the Garhwal was a holy place. This area has been referenced by the Mahabharata, a 3000 year-old text, as the place where the pandavas (priests) ended their lives by ascending an unknown peak in the Garhwal in an "ascent to heaven" (Agarwala 1994: 8). The Vedas, written almost 5000 years ago, also praised the Garhwal Himalaya as having proximity to the gods. Other Hindu texts such as the Bhagavad-Gita and the Ramayana also described the Garhwal as: "The place where gods lived and mortals meditated for salvation" (Bisht 1994: 18). Holy men began to make pilgrimages into the Himalaya in search of spiritual enlightenment centuries ago, helping to establish the region as a place of religious significance and a pilgrimage destination for Buddhists, Sikhs and Hindus.

From these first pilgrimages sprang a long tradition of visitation to the Garhwal. According to Hindu scriptures, the only way to cross the vast ocean of consciousness is through a *yatra* or pilgrimage to the Garhwal Himalaya (Sopher 1997). Hindu gods have always taken

refuge in the solitary and silent mountain peaks; these are places where the gods performed severe penance to obtain their omnipotence. Lord Shiva, the destroyer and re-creator inhabits this region as does Parvati, his lover who is embodied in the mountain Nanda Devi. From these places flows the *amrita* or sacred life-giving waters of the Ganges (Messerschmidt 1989).

The first inhabitants of the Garhwal were the Kohls, hunters and gatherers who lived in the forest and worshipped the spirits of the terrifying physical environment (Nand and Kumar 1989, Rawat 1989). Subsequently, the Kirat, a mongoloid tribe from the east, entered the Garhwal and began practicing pastoralism on the slopes of the lesser Himalaya. The Kirats pushed the Kohls into higher and more inaccessible areas. Next, came the Khasas, pastoral migrants from the west. The Khasas pushed the Kirats into the higher and more inaccessible valleys of the north where they began to mix with the Tibetans, forming the three groups of Bhotiya existing today. These are the Jadhs of Uttarkashi, the Marcha (traders) and Tolcha (farmers) of Chamoli and the Shaukas of Pithoragarh (Nand and Kumar 1989). The word Bhotiya comes from the word 'Bo' which in Tibetan means Tibet. However, only the Jadhs are Buddhists. The Shaukas have a religion that mixes Hinduism and Buddhism. The Marcha and Tolcha are Hindu and subscribe to the caste system. The Marcha and Tolcha Bhotiya inhabit the NDBR and share Rajput family names. This is due to the penetration of Rajput princes into the Garhwal Himalaya in the middle ages, in an attempt to escape the brutality of the Muslim invaders to the south. The princes offered the local Bhotiya status as high-caste citizens if they would convert to Hinduism, thus the Rajput surnames (Nand and Kumar 1989, Rawat 1989).

Given the proximity to Tibet and the pastoral history of the region, the Marchas developed a complex system of moving with their herds between the Tibetan Plateau and the lowlands of the Terai region (an extension of the Gangetic plain). This grazing pattern is known

as transhumance or the seasonal migration of people and animals between higher and lower altitudes. Transhumance is practiced in order to take advantage of grazing lands at different altitudes throughout the year. The cyclic movement of the herds prevented overgrazing of the landscape and the Marchas also used the goats as pack animals trading goods such as wool and salt between the Tibetan plateau and the Terai.

In the NDBR, 17 of the 19 villages are of Bhotiya ethnicity and all 10 of the villages of the Niti valley are Bhotiya. The Bhotiya of this region speak Garhwali, a dialect similar to Nepali. Traditionally, 14 of the 19 villages moved between winter and summer settlements and five were stationary. Lata and Reni are the most prominent villages of the Niti valley, being situated near the confluence of the Rishi and Dhauli Ganga rivers. The last village before the Tibetan frontier is Niti and this is the village from which the entire valley takes its name (Figure 1.2). Other villages of some size include Malari, Tolma, Suraitotha and Dronagiri.

In these villages, woolen products have been traditionally spun and knitted by the women in order to supplement the family income. Fields are terraced and worked by men and women. This region is capable of producing two harvests a year; a wheat, barley and millet harvest usually in May and a late summer or early fall harvest that includes local varieties of lentils and other pulses as well as kidney beans and potatoes that are sold as cash crops. Many of the villages also have multiple varieties of fruit and nut trees including apricot, pear and apple as well as walnut trees. Villagers have also traditionally gone into the forests and high meadows to gather medicinal plants for healing and religious purposes. Traditionally, the Bhotiya also hunted ungulates using traps but this activity has all but ceased in recent times. The Bhotiya lived for centuries in this manner until the region became part of the British Empire in 1815 after the British defeated the Gurkhas.

Early exploration of the region by westerners

The British were the first westerners to explore the region now designated as the NDBR. These explorations were often elaborate affairs that required the labor of dozens to hundreds of local porters, thus establishing the adventure tourism industry in this region. Westerners established the route into the Nanda Devi Sanctuary and subsequently, the basecamps of Nanda Devi. Others followed these routes and they became standard approaches. This section outlines some of the early explorations in order to give the reader some historical context for the current promotion of community based ecotourism in the NDBR.

During the nineteenth century Nanda Devi garnered attention as the highest point in the British Empire. British explorers began to make forays into the high Himalaya around Nanda Devi as early as 1830, looking for trade routes into Tibet. G.W. Traill the first Commissioner of the area, made the first crossing of the icefall of the Pindari Glacier in search of a shortcut to Milam village (Figure 2.1) The Nanda Devi region was first explored by western mountaineers in the 1880's, with the earliest expedition being led by W.W. Graham. Graham, accompanied by two Swiss guides attempted to reach the base of Nanda Devi via the Rishi Gorge. He was stopped almost immediately by the rugged terrain of the lower Rishi Gorge. After this unsuccessful attempt, Graham learned from shepherds that there was an easier way into the Rishi Gorge over its north rim, skipping the technical difficulties of the lower Rishi Gorge.
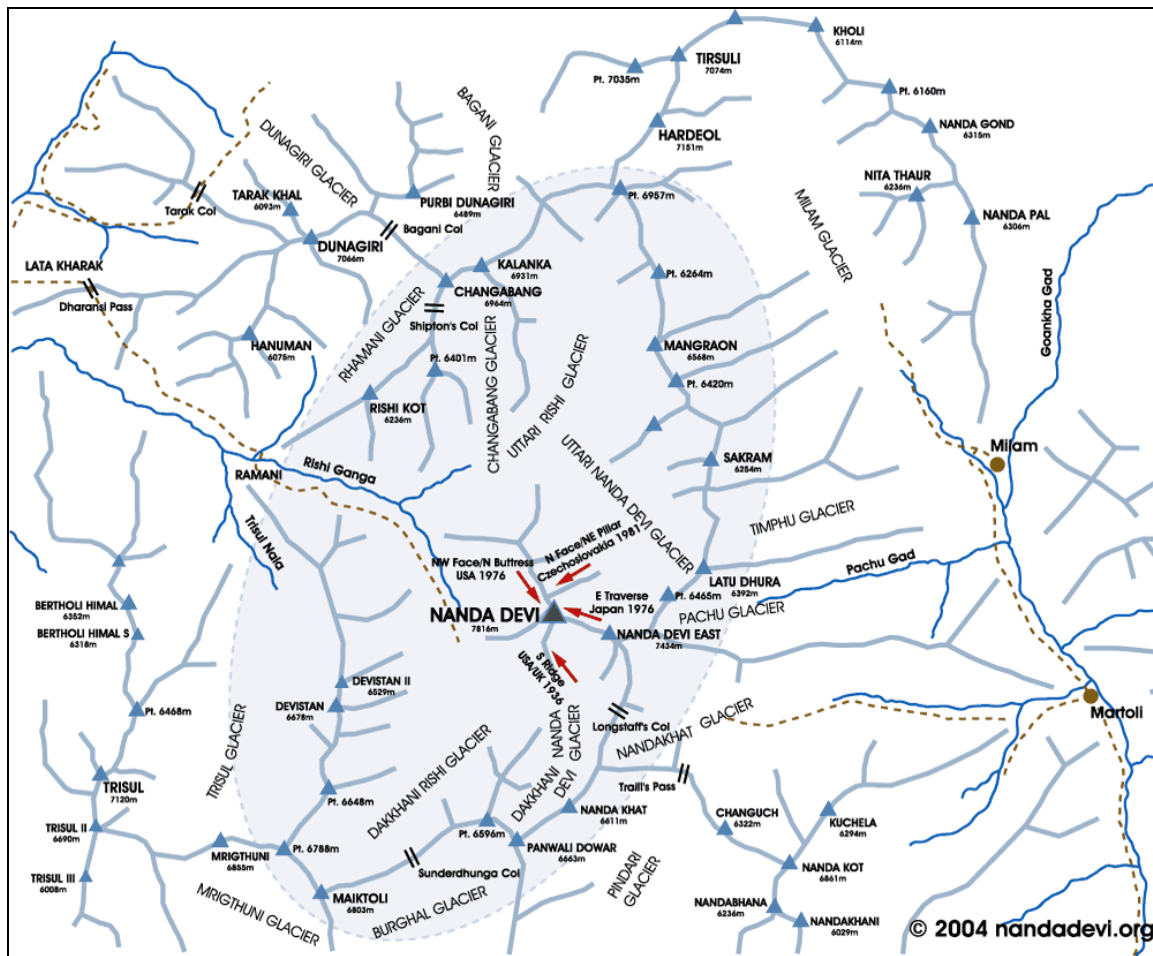
Figure 2.1: Map of Nanda Devi and the surrounding region showing climbing routes on Nanda Devi. Map by: Rajiv Rawat.

Graham was able to reach the campground now known as Ramani but was unable to cross the Rishi to its south bank. In 1905, T.G. Longstaff, accompanied by two Italian guides, was able to look into the Nanda Devi Sanctuary via a col that marks the beginning of the south ridge of Nanda Devi East. This feature would later become known as Longstaff col. However, the sanctuary was not their destination and the descent looked quite formidable. Longstaff returned again in 1907 and attempted the same route as Graham, with the same results. Longstaff was stopped by the technical terrain above Ramani. While Longstaff was unsuccessful in getting to the Nanda Devi sanctuary, he was able to make the first ascent of Trisul with his two guides.

Finally in 1934 British mountaineers Shipton and Tilman negotiated the precipitous Rishi gorge and gained access to the inner sanctuary of the Rishi basin at the foot of Nanda Devi. Having found a route to access the peak, Tilman returned with fellow mountaineer N.E. Odell and made the first ascent of the 7800 meter peak. Tilman originally scheduled Charles Houston as the second member of the summit team but Houston became ill and Tilman took his place thus earning himself a place in mountaineering history. At that time, Nanda Devi was the highest peak that had been climbed to its summit (Tilman 1937). Mountaineering continued in the region until 1962 when the Indo-China war closed the border between India and Tibet. During this time, Nanda Devi East was climbed by a Polish team in 1939 and Nanda Devi saw its second ascent by the French in 1951. Mountaineers regularly observed herds of Bharal and other large mammals that showed no fear of humans. The dramatic scenery and abundant wildlife of Nanda Devi helped to fuel the tales of immense beauty of the area and these tales were furthered by the writings of Tilman in his book about the first ascent. Nanda Devi was quickly becoming popular as a destination for climbers and trekkers. As such, the Government of India declared the entire

basin a sanctuary in 1939 in order to promote conservation (Uttaranchal Forest Department 2003).

The Indo-Chinese War and spying activities on Nanda Devi

In 1962, the Border between India and Tibet was closed when the two countries went to war. Although this war not much more than a series of skirmishes that occurred when the Chinese took over lands in the Eastern and Western Indian Himalaya that they and the Indians both claimed, its effects on the people and landscape of the NDBR are still being felt almost 45 years later. The Chinese took these lands and promptly proclaimed a unilateral ceasefire. The Chinese had achieved their territorial objectives and did not wish to stretch their luck. Each side lost about 500 troops in the war. Between 1965 and 1968 a series of joint expeditions between India and the United States were launched to plant a nuclear powered listening device on Nanda Devi. This device was designed to monitor the rocket telemetry of the missiles that the Chinese were testing on the Tibetan Plateau. These expeditions were comprised of the top high altitude mountaineers from India and the US and were planned by the CIA in conjunction with the India government. The expeditions were kept confidential until 1978. During the first expedition, the team was able to get the device, weighing 38 pounds and powered by 2-3 pounds of nuclear material was delivered to Camp III at almost 7000 meters (Kohli and Conboy 2002). By this time, it was late in the fall climbing season and the climbers secured the device at the camp with a plan to return the next spring to take the device to the summit and set it up. Upon their return in 1966, the climbers, reaching the place where they left the device, realized that it had been swept off of the mountain by an avalanche. For the next two seasons, a large recovery effort was launched without the knowledge of the Indian people. The possibility of having nuclear material seeping into the headwaters of the Ganges was frightening as there was the potential for millions

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of people to be poisoned. After several thorough searches with radiation detectors and other sophisticated equipment, the effort was abandoned and the device was never found. No radiation was ever detected and it was assumed that the device was buried unharmed under the massive debris of the avalanche. No evidence of the device has ever been found. After this unfortunate series of events, it was decided that another device should be placed on a less challenging and lower altitude peak. In 1968, a device was placed high on Nanda Kot. This device functioned for several months until it was buried by snowfall. Overall, much time and effort was spent on an endeavor that produced little intelligence on the Chinese. The area was closed temporarily until concerns about radiation exposure subsided and the area re-opened in 1974. From 1974 until 1982, fifteen expeditions attempted Nanda Devi defining what is now known as the golden age of mountaineering in the Reserve. 1974 is also significant as it marks the year of the Reni action, an integral part of the Chipko movement to save the forests of the Garhwal.

The Chipko movement

The Chipko movement has its roots in colonial times. The British took control of vast areas of forest in the late 19th century after defeating the Gurkhas in 1815 and began a program of logging. Before this, forestland was communally owned. Logging practices caused conflicts among managers and local people. Local people were forced to change consumption patterns. Women were particularly affected as the primary gatherers of fuel wood and medicinal herbs from the forest. Colonial logging practices continued after India gained its independence and scientific forestry practices were enacted in 1960. Deforestation was occurring at a rapid rate and local women were suffering the consequences. In the 1970's the conflict became a social movement. The Bhotiya of the NDBR still reference the Chipko movement when speaking of the

current struggle against the policies of the NDBR. The success of the movement still serves as an inspiration for the current campaign against unwanted government policies.

Devastating floods in 1970 in Uttarakhand caused landslides on slopes that had been deforested. Livestock and crops were lost and many people killed. Instead of trying to fix the problem, the government of India, in 1973, allotted more forest to be logged by commercial logging companies. A site above the village of Reni was chosen for a concession to log 2500 trees. The leader of the Chipko movement at the time, a man by the name of Chandri Prasad Bhatt informed the authorities that his activists along with local representatives would block the logging. However, on the day that the loggers were to arrive, the Chipko activists were tied up in Gopeshwar in meetings with forestry officials. The men of Reni had also been called away to Chamoli, the district capital, to receive compensation for lands that had been taken by the Army in the war with China. It is unclear if the authorities planned these events as a distraction but it is clear that they severely underestimated the women of Reni.

The logging crew was noticed by a young girl who then notified Gaura Devi, the head of the *Mahila Mangal Dal* (Women's group) of their approach. Gaura Devi rounded up 27 women and girls and they headed into the forest. The women stood in front of the trees marked for felling. Gaura Devi addressed the loggers, letting them know that the forests were the source of their livelihood and that if they wanted to cut the trees, they would have to shoot the women. The loggers threatened the women but were met with continued resistance as the women hugged the trees. After a three day standoff, the loggers, mostly men from Himachal Pradesh who understood the importance of the forests, gave up and left. Until the Reni action, Chipko was not characterized as a women's movement. In the case of Reni, the women acted only because the men were away but this action spurred women all over the region to become active in the

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movement. The men, however, continued to be the ideological leaders of the movement (Routledge 1993).

This movement gained significant international attention and led to a reformation of commercial logging practices (Ghai and Vivian 1992, Hannam 1998, Mawdsley 1998, Zurick and Karan 1999). As such, the Chipko movement in general and more specifically, the Reni action became known worldwide as a significant event in grassroots environmentalism and an inspiration for ecofeminism. For the women, it was simply a matter of saving a resource that had sustained their ancestors for centuries and upon which they were dependent. The women knew that if the forests disappeared, they would no longer be able to sustain their families with fuel, fodder, medicinal herbs and other non-timber forest products. Therefore, it was integral to their survival to save the forests surrounding their villages.

The golden era of mountaineering and the closure of Nanda Devi

Nanda Devi was reopened in 1974 and thus began the golden era of mountaineering around Nanda Devi. During this period, 15 expeditions attempted to climb the mountain. Perhaps the most famous and tragic expedition of this era was the 1976 Indo-American expedition headed by Willi Unsoeld and Ad Carter, a veteran of the 1936 Nanda Devi expedition. Unsoeld was a well-known mountaineer, having climbed Everest in 1963 by a new route on the North Face and completing the first-ever traverse of the mountain. He had never climbed on Nanda Devi previously but had seen the peak as a young man in 1949 and fell in love with its beauty. He vowed to name his first daughter after this majestic peak. In 1954, Unsoeld and his wife Jolene had a daughter whom he named Nanda Devi. She was a stunningly beautiful and cheerful woman who spent much time in the Himalaya learning Nepali and Garhwali. The local people of Lata would call her little sister and thought of her as one of their own (Roskelley

2000). Even today, some of the older men in Lata village, who worked as porters and guides on that tragic expedition still recount stories of Devi (as she was called). Their memories of her have barely faded after 30 years. From the beginning, the expedition was marked by strife between Unsoeld and John Roskelly, a predominant young climber at the time. The expedition continued to limp along and eventually the decision was made to attempt a hard new route on the northwest face/north buttress of the mountain. After a long siege in which four camps were set up on the route, John Roskelley and Peter Lev finally made the summit. John Roskelly led the entire North Buttress, a remarkable feat of technical skill and perseverance. Once the route was fixed, other climbers began to move toward the summit. At Camp IV, Nanda Devi succumbed to a gastrointestinal illness and died. Her body was interned in a crevasse. Willi Unsoeld never really recovered from her death and he was killed two years later in an avalanche on Mount Rainer (Roper 2002).

During the golden age of mountaineering on Nanda Devi, the local Bhotiya population played a key role as porters and guides for expeditions. The Bhotiya also used the area for grazing herds of sheep and collecting medicinal herbs. By 1977, the environmental impact of so many expeditions was being noticed. Nanda Devi had become the second most visited Himalayan peak being Everest. In September of 1982, the Nanda Devi basin (630 sq.km.) was named a national park and subsequently closed due to the environmental degradation suffered from the onslaught of tourists. The Bhotiya also suffered from the closure because their traditional grazing areas and community forests became off limits. The area was named a United Nations World Heritage Site in 1988 for its unique biodiversity and renamed the Nanda Devi Biosphere Reserve (NDBR). This designation created the roughly 1600 sq. km buffer zone of the NDBR. In 2000, the state of Uttaranchal was created from the mountainous areas of Uttar

Pradesh and the NDBR came under the jurisdiction of the Forest Department of Uttaranchal.

Also in 2000, the Forest Department expanded the protected area to include the neighboring

Valley of Flowers National Park as a secondary core zone and also expanded the buffer zone so

that the entire protected area now covers 5860 sq. km (Uttaranchal Forest Department 2003). The

designation of the additional areas is unclear as UNESCO does not officially include the

expanded core and buffer areas. However, there has been movement toward designating the

entire area as a UNESCO biosphere reserve. This was all done without consulting people living

in the villages located within the boundaries of the reserve.

Reaction to conservation policies

The designation of the Nanda Devi National park as a biosphere reserve in 1988

increased the area under conservation management considerable. The national park became the

core zone of the biosphere reserve and a buffer zone was created that included village lends.

MAB guidelines leave buffer zones open to traditional subsistence livelihood activities.

However, restrictions were placed on livestock grazing in the area and this caused overgrazing

and a resulting reduction in flocks. With the reduction of flocks there was also a reduction in the

production of woolen products. Restrictions were also placed on the gathering of fuel wood,

fodder and non-timber forest products. The Bhotiyas' livelihood activities became threatened.

MAB policies provided for income generating and development programs. However, these

programs turned out to be ineffective and inappropriate for the Bhotiyas' situation. Furthermore,

the Bhotiya were not interested in becoming dependant on government programs. For example,

chemical fertilizers and pesticides were provided to the Bhotiya who used them for a few seasons

until they realized that soil fertility was declining so they abandoned these technologies for

traditional organic farming. Compounding this situation, the park authorities and international

agencies developed these policies with no involvement or input from the local people. The 'top down' policies of the reserve and inappropriate remedies for loss of livelihood combined to turn the Bhotiya against the policies of the NDBR.

In 1998, after years of going to the authorities with their grievances and getting no response, the Bhotiya decided to take matters into their own hands.

Under the leadership of local activist Dhan Singh Rana, the Bhotiya of the Niti valley (10 villages) organized a forced entry into the core zone en masse. Villagers presented a list of demands to officials. These demands included full restoration of local rights and roles as guardians of Nanda Devi. Many of the women who participated in the Chipko movement were at the forefront of the Jhapto Cheeno movement as well.

The villagers vowed to continue the Jhapto Cheeno movement and present their case anywhere it could be heard until authorities recognized their rights to the NDBR.

For three years the Jhapto Cheeno movement continued with little success. However, in 2001, a series of events would change the struggle in fundamental ways.

In May of 2001 an expedition carried out under the auspices of the Indian Mountaineering Foundation (IMF) and Ministry of Environment and Forests (MEF) gained permission form the state of Uttaranchal to enter the core zone in order to determine the feasibility of opening the NDBR back up to tourism. At first the Bhotiya were enthusiastic about the expedition but soon they became apprehensive, thinking that the government would allow national and multinational tourism operators to take control of tourism in the NDBR, leaving the Bhotiya relegated to roles of porter and guide. This expedition initiated a second wave of activity whereby the Bhotiya sought to use the alliances they had made with social activists and

environmental justice organizations to promote their own agenda of community-based ecotourism.

The Bhotiya succeeded in mobilizing the alliances they had formed and as such, involved Dr. Sunil Kainthola of Jaanadhar, a forest rights organization operating throughout Uttaranchal. Dr. Kainthola coalesced a group of grassroots NGOs into the Alliance for Development. This group helped to start the Vanaadhikar initiative to unite similar groups fighting oppressive policies in protected areas, realizing that the Bhotiya were but one of many groups struggling against the policies of protected areas. The stir created by the Alliance for Development led the state government, MEF and park authorities to realize that the IMF proposal to open the NDBR to tourism was problematic. Two IMF endorsed international expeditions to the NDBR were cancelled by the Uttaranchal government. By the fall of 2001, the Bhotiya had organized a workshop to formalize their proposal for community-based ecotourism in the NDBR. The help of an American, Satish Negi, with ancestral ties to the area was solicited. Satish was able to provide solidarity from his home in San Jose, California by mobilizing various scholars, academics and donor agencies across the world on behalf of the Bhotiya. Satish was able to procure funding for the workshop that was held in the fall of 2001. During this workshop, the local people, their elected representatives and various social activists met, drawing inspiration from local history and international conventions to draft the Nanda Devi Biodiversity Conservation and Ecotourism Declaration (Appendix-1). This declaration outlined the ideals for a community based tourism industry free of exploitation of the environment and the people of the area.

Today, the Bhotiya are still struggling to implement their ecotourism declaration. They have had a website since 2001 that tells their story, posts news and events and offers tour packages to people all over the world. However, the core zone of the NDBR is still closed,

leaving the Bhotiya to carry out their community-based tourism activities in the buffer zone. A single trek into the core zone was opened in 2003 and locals were given explicit control. However, this trek only extends five kilometers into the core zone and access is limited to 500 visitors per year on a probationary basis. The Bhotiya hold a painter's workshop in conjunction with the Alliance for Development every June. Painters are invited to the village to paint. In exchange for the paintings they produce during the workshop, painters are given free room and board for two weeks. The paintings are then sold to provide funds for the community-based tourism initiative.

Livelihood changes and the global-local continuum

The Bhotiya are a hearty and adaptive community who has lived in a harsh environment for hundreds of years. While one may at first assume that their livelihood practices have been sustainable and static over this entire time, that assumption is partially false. The Bhotiya react dynamically to a dynamic environment. This is not just a reaction to the physical environment that they encounter but also various social, economic and political forces that have encountered them over the decades. This type of dynamic adaptation to the environment can be seen most prominently in the era from 1962 until the present as the forces of globalization have crept in and begun to influence the Bhotiya.

Prior to 1962, the Bhotiya were primarily transhumant pastoralists who engaged in the trade of goods from the Tibetan Plateau to the Gangetic plain. Many Bhotiya were quite wealthy from this combination of livelihood activities. The women were adorned with massive necklaces made from silver and gold and many wore ear and nose rings of gold and silver. This all changed in 1962 when India went to war with China over a border dispute. At this time, the Border between the two countries was closed, meaning the Bhotiya could no longer trade with Tibet.

Although this was a major blow to their way of life, the Bhotiya adapted quickly, intensifying grazing on village lands in the summer and conducting trade with the lowlands in winter. The pattern of transhumance was modified to fit the restrictions of the two governments on the Bhotiya's movements.

Then in 1974, the Chipko movement further opened the Bhotiya to globalization. While the movement started in the village of Reni and quickly spread through the region, it was for the people, a local movement until it was appropriated by western academics and environmentalists as the first examples of ecofeminism and grassroots environmentalism in the developing world. While the Bhotiya were not reacting to globalization directly with this movement, they were becoming increasingly aware of the global-local continuum and the notion that global issues and events can affect local people and vide versa. This same year, the peak of Nanda Devi was opened up to foreign expeditions for the first time in decades. This led to an immense amount of interest n the peak as a mountaineering destination. Many expeditions came through the Niti Valley on their way up the Rishi Gorge and into the Nanda Devi Sanctuary. The whole affair could take from three to six months. Nanda Devi quickly became a popular destination for climbers and trekkers and the local people began to enjoy an increased standard of living due in part to the wages garnered from portering and guiding for expeditions. The other important and often overlooked outcome of the opening of Nanda Devi was that a route to the inner sanctuary of the peak through the precipitous Rishi Gorge was opened up. This route was well maintained and eventually became suitable for goat traffic. The Bhotiya would simultaneously take loads for expeditions on the backs of their goats (up to 20 kilos per goat) and graze their sheep along the way to base camp. This proved lucrative for the local Bhotiya and many were now enjoying western clothing, cameras and other items. It is interesting to note here that it was the trail made

by international mountaineering expeditions that allowed the Bhotiya to graze their herds in places they never traditionally grazed.

Unfortunately, the area became overused by both the mountaineering community and also by the local Bhotiya. As early as 1977, reports of environmental degradation in the NDBR were being circulated. In 1982, the area was finally closed to all people. During this era from 1974 to 1982, the Bhotiya had largely abandoned farming in favor of working as porters and guides as those jobs paid much more than farming. As part of their adaptive strategy, they also began to graze goats along the path to base camp that was opened up and maintained by largely foreign expeditions.

Beginning in 1982, standards of living dropped. The closure of the park took away vast amounts of pasture, both traditional and non-traditional grazing grounds. This coupled with the limits to transhumance placed on the Bhotiya with the border closure led to a period of economic and cultural decline and further adaptation. With their grazing lands severely limited, the Bhotiya began to sell and slaughter their sheep as there was no alternative. Farming practices were intensified but farmlands were not substantially expanded. Therefore, as sources of income were being lost, other less lucrative sources of income were being re-introduced. This led to a decline in standards of living for many families.

In an article published in 1998, Maikhuri and Rao report on the restrictions imposed on the local people by the Biosphere Reserve authorities. They note that policies have "disturbed the rural lifestyle and economy, doing little to conserve the ecology." The article also states that the village elders are of the opinion that the forests were better protected before the creation of the NDBR. In concluding the article the authors note: "The locals are not familiar with high-sounding terms like biodiversity, conservation and sustainability, but they certainly know the

immense significance if forests, wildlife and medicinal plants" (Maikhuri and Rao 1998:2). As we will see, the ignorance of the locals to the discourse of global biodiversity conservation was short-lived once they began to 'scale up' their struggle.

Then, in 2001 an Indian Mountaineering Foundation (IMF) expedition came to Lata to hire porters for a so-called scientific expedition into the core zone to determine if it was fit to be reopened to mountaineering. The locals were quite happy about this development as many remembered the era between 1974 and 1982 as one of great prosperity. However, a tiff between the local people and expedition members broke out over payment of fees to the village of Lata and the relationship became strained. After finding out that the expedition members were not in fact conducting scientific studies but were assessing the area to be opened back up for tourism under the control of the IMF and tourist companies from Delhi, the Bhotiya began to protest and organize. From this came the ecotourism declaration, an assertion of how the Bhotiya would like to promote locally managed ecotourism as a sustainable livelihood activity (Appendix-1).

The local people have always maintained that the reason for agitation is the lack of economic opportunities caused by the policy restrictions of the biosphere reserve. Even a senior Forest Department official noted: "They never meant to carry out any research in the first place; hence they had no qualms proposing whatever they felt like. The expedition looks like a team of businessmen on a reconnaissance mission for new business opportunities" (Sethi 2001: 21). In response to this, Dhan Singh, a local leader was quoted as saying: "The Forest Department has made thieves out of us in our own backyard. Now they want us to beg before the tourist operators to earn menial amounts. If the NDBR is to be opened for tourism, let the people of the region manage the business and earn off it" (Sethi 2001: 21). The distress of the local people over the possibility that the NDBR would be re-opened for tourism without their involvement led

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to a workshop in Lata in October 2001 attended by local people and the Alliance for

Development. This watershed event signaled the emergence of this struggle from one of local

significance to one of global significance that began to use the discourse of global biodiversity

conservation and sustainable development to further its own goals.

In an article focusing on the conflicts between local people and park management over

crop and livestock depredation, Rao et al. (2000) write about the conflict:

"The experience of top-down conservation programs in recent decades has led to a breakdown of

the local community's relationship to the natural environment and is the cause of the increasing

hostility of local people to conservation. This is especially true with respect to the reserve

management authority" (Rao et al. 2000: 323). The authors go on to write: " It is conceivable

that more effective conservation could be achieved with less government enforcement if some

forms of control were turned over to local villages, as planned for the Annapurna Conservation

Area in central Nepal" (Rao et al. 2000: 323). The first quote expresses the author's opinions that

current management practices are the source of the conflict and that the conflict is primarily

taking place at the local level between the community and local management authorities. The

second quote makes reference to a possible outcome that may alleviate the conflict.

This quote specifically states that local control could both quell the conflict as well as promote

conservation in the area. This echoes the views of the communities that local control will not

only help maintain Bhotiya culture and livelihoods but also promote the conservation of

biodiversity. In another article, the same group of authors concludes:

> "If development interests of local people are marginalized for a long period of time, they
> might adopt actions detrimental to the goal of conservation. Though it will be unrealistic
> to expect biosphere reserve authority to solve all socio-economic problems to the
> satisfaction of local people, people's participation in management planning and
> monitoring could reduce the prevailing conservation-people conflicts" (Maikhuri et al.
> 2001).

Once again, the author's conclude that the top-down policies of the NDBR have ignored the interests of local people and that the conflict can be alleviated through local participation in management. In addition to this, there is a warning that further marginalizing local people will be detrimental to biodiversity conservation and thus contradictory to the goals of the World Heritage Committee and the Man and the Biosphere program.

These events all illustrate the global-local continuum at work within the NDBR. The Bhotiya have had to adapt their livelihood activities to the changes that globalization has brought to their location. On the other hand, the Bhotiya have also seen that the continuum between the global and local is not a one-way street and that they must not only react to global events that change local livelihood activities but also must portray their local struggle as one of global importance. In the next chapter, I review the scholarly literature to provide an examination of how different social constructions of nature can produce different ideas of how natural resources should be managed as well as the power relations embedded in discursive and material practices of resource management.

CHAPTER 3: LITERATURE REVIEW

Introduction

The case of the NDBR offers an opportunity to explore the links between material practices and environmental issues. Specifically, the issues addressed are related to people trying to gain control over local resources in the face of dominant economic and political structures which are seen as marginalizing forces. In order to adequately explore these links I have drawn from several literatures which all focus on several key themes. These literatures are political ecology, environmental justice and the politics of scale. Each offers a perspective from which to view the conflict over resources in the NDBR which is at the same time unique and overlapping with the other perspectives. The focus here is the overlap between perspectives. All three literatures are influenced by a social constructivist perspective. Given this, several key themes emerge. First are ideas of nature as being socially constructed. The social construction of nature as a concept comes from ideas of a politicized environment. When the environment is viewed in this way, power relations become a central focus. The discussion of power relations within these three literatures often centers on challenges to modernity and its accompanying economic and political structures. Given this, the use of discourse plays an important role in how these challenges are framed in order to shift the balance of power. Discourse also provides linkages between material conditions or processes and the social construction of those conditions or processes.

The goal of this literature review is to illustrate the conceptual linkages between political ecology, environmental justice and the politics of scale in order to gain a unique perspective from which to interpret the conflict in the NDBR. First, I will discuss Political ecology as it

provides a broad theoretical base for this perspective. Next, the environmental justice literature will be reviewed with a focus on broadening the definition in order to show that many of the same issues addressed in political ecology are relevant to environmental justice as well. Finally, the politics of scale provide a specifically geographic linkage between political ecology and environmental justice.

Political Ecology

The term political ecology was coined in the early 1970's and although its beginnings cannot be traced back to a single definitive piece of literature, many cite an article by Wolf (1972) which addressed issues of land use practice within a global political economy. The article pointed out the significance of power relations and land tenure structures in managing the environment. Since that time, political ecology has undergone a number of changes which have all contributed in some way to its conceptual and theoretical foundations. This review will outline these changes in order to pull out the most salient and influential ideas which influence this research.

Political Ecology and the 'Ecological Crisis' of the 1970's

Political ecology came about in the late 1960's and early 1970's which was a time of increasing awareness of environmental degradation both at the local level and to some extent globally. During this time, researchers were increasingly focused on ideas of an impending 'ecological crisis' in the third world. While this crisis never materialized as predicted, the attention it garnered was helpful to those practicing political ecology.

Perhaps the most appropriate example of the idea of an impending ecological crisis comes from Eckholm's (1975) work in the Himalaya of Nepal, which reflected the broader state of environmental research in the early 1970's.

Eckholm (1975) claimed that rapidly increasing populations were putting intense pressure on the environment because otherwise marginal lands were being converted to farms, while forests were being decimated by the increasing need for wood for fuel and housing. For Eckholm, these changes in landuse were having dramatic environmental effects. He claimed that human-induced deforestation was causing a noticeable increase in landslides, which were washing enormous amounts of silt into the river systems feeding the Terai and plains, causing them to silt up and thus flood with greater frequency. As alarmist as these claims seem to be thirty years later, Eckholm was not alone in his position that population pressures in mountain environments were causing an impending supercrisis (Sterling 1976; Myers 1986).

However, we know today that these alarmist positions, fed by Malthusian ideas, were overstated. Ives and Messerli (1989) along with others spent years looking into these claims in detail. What they determined was that while there was a looming ecological crisis in the Himalaya, many of Eckholm's claims were unsubstantiated. Landslides occur frequently in the Himalaya and human induced landslides are rather insignificant when compared to those which occur naturally. Furthermore, Tejwani (1987) conducted a study in India which concluded that most human-induced landslides were the result of road construction and it was these landslides that were major contributors to sedimentation loads in nearby rivers, not poor farming practices.

Ives and Messerli (1989) concluded that the environmental issues facing the Himalaya were varied and complex, producing 'uncertainty on a Himalayan scale.' However, Ives and Messerli (1989) did not refute that there was an impending crisis in the Himalaya; just that Eckholms' characterizations of the crisis were problematic. For example, they refuted Eckholm's ideas that the rapidly growing population of subsistence farmers was the cause of environmental problems:

"When reckless development of resources and, for whatever reason, exploitation of the poor, and lack of understanding, or unwillingness to understand, the role of women and the subsistence sector as a whole, is added, together with continuing decline despite large financial inputs, then we feel justified in claiming a state of rapidly developing emergency" (237).

Ives and Messerli illustrated the complexities of dealing with environmental problems and attempted a more holistic approach to their study. Of particular interest was their attempt to integrate economic and social structures into their analysis of environmental degradation in the Himalaya. As the above quote illustrates, many factors must be taken into consideration and fully analyzed before a claim can be made regarding the causes of environmental degradation.

It is important to note here that even though the theory of Himalayan environmental degradation of mountains put forth by Eckholm resulted in massive amounts of aid for countries like Nepal (Guthman 1997), not all scholars subscribed to their theories. Along with Ives and Messerli, cultural ecologists were conducting valuable fieldwork on mountain cultures and their adaptations to the alpine environment (Burns 1963; Rhoades and Thompson 1975; Orlove 1987). These cultural ecologists paved the way for a broader understanding of mountain people and environments, providing ammunition for mountain scholars to refute many of the claims of the theory of Himalayan environmental degradation.

While Eckholm and others like him were of the mindset that population pressures and poor farming practices were responsible for an impending ecological supercrisis in the Himalaya, Ives and Messerli (1989) introduced a more balanced approach and with it, a new paradigm into the study of mountains. Their results signaled a new direction in environmental research. Researchers began to widen their focus and study environmental degradation in the Himalaya in a more holistic manner, taking into account the social, political, economic and ecological factors behind damaging landuse changes rather than blaming poor farmers. This change was also

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reflected in the broader literature on third world environmental problems and researchers began

to seek out a theoretical foundation for this new integration of politics, economics and

environmental change (Peet and Watts 1996, Bryant 1998). Many turned to ideas of Neo-

Marxism in the 1980's ushering in a new era for political ecology.

Marxism and Political Ecology

Political ecology as a field of study emerged from a tension between Neo-Malthusian

ideas and cultural ecology (Bryant 1998). Critics were, however, increasingly pointing out the

apolitical nature of both approaches. In the late 1970's and early 1980's Neo-Marxism was

gaining momentum in the social sciences and many political ecologists sought to integrate

Marxist thought into studies of environmental change (Atkinson 1991, Bryant 1998). Part of the

appeal of Marxism was its ability to integrate place and non-place based analysis. This allowed

political ecologists to study local actors as well as structural forces such as capitalism and the

state (Blakie and Brookfield 1987). Perhaps the most influential Marxist addressing ecological

issues in the 1960's and 1970's was Murray Bookchin. He saw ecology as a revolutionary

science which was critical of human's simplification of their natural environment and parasitic

tendencies with regard to ecosystems. He also saw that man's domination over nature was just an

outcome of man's domination over man. For Bookchin, the "modern abstractions of work and

commodity were juxtaposed to a concept of human labour as just another facet of the functioning

of nature" (Atkinson 1991:38). As such, both social and ecological problems could be grouped

together. Bookchin envisioned a utopian society which rejected ideas of hierarchy and

domination, in favor of a more decentralized system of 'ecocommunities.' By linking man's

domination of nature together with man's domination of man, Bookchin made a significant

contribution to political ecology. He showed that environmental degradation was necessarily a

social issue. Bookchin also pointed out that the modern capitalist paradigm, in assuming that all people were harmful to nature, led to the conflation of humans with their economic and social systems (Humphrey 2000). Unfortunately, one of the shortfalls of this approach was that Marxist research was unable to focus on the natural environment. This shortcoming can be traced back to the foundations of Marxism which focus on the social construction of environmental limits therefore ignoring the 'natural' world (Blakie 1985). This criticism is a recurring theme in political ecology and is addressed later in this review.

Another shortfall of Marxist political ecology was its monolithic treatment of the state. For political ecologists such as Hedlund (1979) and O'Brien (1985) working in Africa, the State was merely seen as an agent of capital, and local environmental issues were cast in terms of the forces of global capitalism leading to over-extraction of resources. In this light, the role of local actors with reference to issues of access to resources was neglected and no merit was given to the ability of local people to resist their own marginalization.

Despite its shortcomings, Marxism provided political ecologists with two important opportunities. First, the shift to a radical perspective allowed political ecologists to avoid the apolitical sort of analysis of earlier Malthusians and cultural ecologists. Second, Neo-Marxism provided an opportunity to link environmental degradation and social oppression to broader economic and political issues, which relate to questions of production (Bryant 1998). This linkage is important because it paved the way for what Bryant (1998) calls the second wave of political ecology.

Transitioning away from Marxism

This so-called second wave of political ecology marked a period of transition away from Marxism and toward a more varied mix of theoretical approaches. The main thrust of political

ecology in the late 1980's was the search for a more complex explanation of how human-environment interactions were mediated by power differentials. Among the first to examine these issues using new theoretical approaches were Blakie and Brookfield (1987). Rather than focusing on structural dynamics such as those of capitalism and the state, Blakie and Brookfield organized their edited volume from the perspective of the land manager. In this case the land manager could be a peasant farmer, nomadic herder or forestry official. The power in this approach was its focus on individual agents at the local level rather than on monolithic structures such as capitalism. This gave political ecologists the ability to focus more on specific issues regarding the natural environment.

Blakie and Brookfield introduced three important ideas into political ecology. The first is the idea that marginality is self reinforcing. Specifically, environmental degradation is a result of marginalization and environmental degradation disproportionately affects the marginalized, worsening their condition. In their study of Nepali farmers, Blakie and Brookfield (1987) concluded that poverty was the cause of land degradation and conversely land degradation caused poverty. Second, the land manager is pressured by demand for production and as such makes decisions which put excessive demands on the natural environment. Many times land managers are aware that their practices are damaging to the environment but the need for a suitable livelihood outweighs the concern for the environment. Third, Blakie and Brookfield introduce post-structuralism into political ecology by noting that ideas of environmental degradation are based in perception. This means that even the facts surrounding environmental degradation can and are being contested. Such ideas provide a radical perspective on development and conservation which necessitates a rethinking of both concepts.

Scholars such as Peluso (1992) and Guha (1989) incorporated into their studies new ideas from sociology regarding social movements. Specifically, Peluso (1992) studied resistance to state forestry practices on the island of Java. Her study provided crucial insight into the complexities of resistance to state control of resources. Not only was Peluso able to analyze the power relations between villagers and the state, she also studied in depth the interaction of different classes and interest groups within the villages. This highly nuanced study of the social movement against state forestry practices did much to show how even within resistance groups, different actors have different motivations for resistance. In the end, Peluso concluded that although forestry policy was changing, there was no change in the structures of power (economic, social and political) and therefore problems with forest access and control still remain.

The integration of social movements' theory into political ecology allowed researchers to go one step further in studying how power relations can limit access to resources as well as how power relations are involved in resistance movements. In the mid 1990's political ecologists began to turn their attention to post structuralism and accompanying discourse theory. The focus of this new direction was to bring together knowledge and power in the study of political ecology. With this new focus, came a whole set of concepts which provided an avenue for even more nuanced research into the politicized environment.

Discourse and Political Ecology

The recent 'discursive turn' in political ecology has been influenced by post-structuralism and focuses on the social construction of environmental knowledge. The manner in which human-environment relationships are represented by actors, movements and organizations is central to discursive approaches to political ecology (Escobar 1996). Post structural political

ecologists such as Escobar are concerned more with the social construction of environmental knowledge than with material struggles (Bryant 2000). That is not to say that political ecologists are not concerned with material practices. Rather, the focus is on how discourse formation influences such material practices/struggles. Specifically, discursive political ecologists are concerned with how a conception of nature, expressed through discourses of nature, influence material practices such as resource management decisions (Escobar 1998, Neumann 1992). In addition to this, the political ecological paradigm directly challenges the modern essentialist ideas of nature as separate from and dominated by humans (Escobar 1999). In the case of nature and modernity, nature is seen to have certain 'essences' or components that are considered fixed. Essentialism can be held in opposition to constructivism where nature is seen as socially constructed and therefore containing different sets of characteristics depending on the social context in which the term/concept is defined. Modernity in a political ecological sense has "generated risks to humanity which are no longer acceptable" (Alario 1993: 10). These risks include exposure to toxic pollutants that are seen as necessary byproducts of production processes, large scale resource extraction and development projects that remove people from their land and conservation projects such as protected areas that exclude local people.

In 1996, Peet and Watts published an edited volume entitled *Liberation Ecologies.* This volume brought together the most salient pieces addressing issues of knowledge and power with regard to a politicized environment. Their aim was to extend political ecology "through critiques of Western reason and discourse theory" (Peet and Watts 1996: 3). Aside from using discourse theory to critique Western reason, Peet and Watts (1996) also attempted to 'map development discourse' using post-structural theory. Finally, Peet and Watts examined social movements and other forms of livelihood struggles noting that even though these are many times economic

struggles, they are based in the ecological requirements for survival. One of the major contributions of this volume was its critique of development and particularly sustainable development as part of the global capitalist paradigm.

A political ecology focusing on discourse highlights three important concepts within an environmental conservation context. First, nature is a social construct (Proctor 1998) that is always part of and embedded within social histories (Braun 1997). In a conservation context, then, the protection of nature is necessarily a social question, in which nature can be seen as externalized or internalized. The implications of this are very real. When nature is externalized or separate from humans, emphasis is placed on 'man' as the defender or protector of nature, and scientific knowledge is paramount. This often leads to 'top down' conservation policies that privilege scientific knowledge over local experience (Braun 1997). Such a separation is further evidenced in the global discourse of environmental management. Terms such as biodiversity, deforestation and climate change have striking discursive similarities which manifest themselves in similar policy prescriptions and originate from a technocentric worldview whereby resource management decisions are made from the top-down (Adger et al. 2001). Many times the disconnect between humans and nature put forth through these discourses leads to ineffective policy prescriptions and alternate, local and populist discourses. Local people are often portrayed as both villains and victims in the discourses of global environmental management, caught in a downward spiral of poverty and environmental degradation, whereas scientists are portrayed as the heroes, providing knowledge and policy prescriptions that will alleviate poverty and reverse environmental degradation (Adger et al. 2001).

Such a separation of humans from nature is seen by political ecologists as a basic feature of modern society (Escobar 1999). In contrast, when nature is internalized or considered part of

the human experience, the knowledge of locals is paramount to scientific knowledge (that of 'scientists') and the emphasis is on people as representatives of nature (Escobar 1999). Another aspect of the social constructedness of nature is the deconstruction of modern essentialist notions of nature. For academics such as Escobar (1998) terms like 'biodiversity' are only discursive constructs. They do not exist in an absolute sense. What terms such as this do is cement a new nature-society relationship which emerges from within the context of science, culture and economics (Escobar 1998, 1999). Of course, these propositions are based on social relations in which some are empowered while others are not.

Second, the discursive approach to political ecology highlights the political (nature) of moral discourses. In relation to environmental conservation, moral discourse tells us much about what stakeholders on all sides believe is good and proper. This is important because as Bryant (2000: 677) claims "all conservation projects are simultaneously moral observations and agendas." What this means is that conservation projects reflect the series of moral judgments that led to their inception and implementation. This can also be said for those struggling against conservation projects. All stakeholders have an idea what is good and proper and these ideas are often in conflict. This is reflected in the efforts of local activists to assert their moral imperative of democratic local control of biotic resources and the contrasting moral discourse of many natural scientists that biodiversity loss is linked to human-induced extinction and therefore humans should be excluded from protected areas.

Political ecology also addresses the notion of socionatural place, specifically the cultural significance that is attached to many protected areas. Once again, this is a reflection of nature as an integral component of social histories. The cultural significance of place has much to do with how nature is represented and hence managed and given meaning (Wilson 1999). Therefore,

social constructions of place determine how nature is represented. One implication of this is that one locality can become the site of conflicting representations of socionatural place (Braun 1997).

The three concepts outlined above all focus on representations of the physical environment. Contested representations of the environment are a political process involving the application of both power and knowledge. The construction of discourses helps to cement representations of nature and influence material struggles. Such discursive representations are a reflection of the moral agenda of groups who often compete for control over the same set of resources. With this in mind, we return to the criticism that political ecology is more about politics than ecology. Political ecologists do not necessarily see this as a shortcoming of the paradigm. When the focus is on a politicized environment, the primary concern is to unravel the political, economic and social structures which lead to essentialist ideas of nature and the environment. The concern for environment or nature as concrete phenomena becomes secondary when the focus is on unpacking essentializing discourses which construct material objects. This is not to say that environmental change is not a material phenomenon but the human consequences of environmental change are given meaning by people through discourse and associated material practices. In this way, environmental change is never neutral; there are always those who benefit and others who bare the often unwanted costs.

Political ecology had its beginnings in the idea of an 'ecological crisis.' The critiques of this idea provided the insight that there was a need for a greater understanding of the political, economic and social factors leading to environmental degradation. The introduction of Marxism provided political ecologists with a radical perspective from which to critique capitalism and as well as social structures. Marxism also introduced politics into political ecology. The

shortcomings of Marxism, namely its monolithic treatment of social structures and its inability to focus on the physical environment led scholars to search for other theories. Among these were theories of social movements. Social movements' theory provided an opportunity for political ecologists to focus on local actors as representatives of broader social structures and as such overcame the shortcomings of Marxism in treating these structures as monolithic. In the early 1990's poststructuralism and discourse theory were integrated into political ecology providing both a radical critique of the discourse of modernity as well as an opportunity to show how struggles over the environment are tied into the application of knowledge and power.

Environmental Justice

In 1978, Robert Burns and his two sons spent two weeks traveling along the state roads of North Carolina discharging liquid contaminated with polychlorinated biphenyl (PCB's). They managed to contaminate the soil along 240 miles of roads creating a potentially serious public health problem. The state, in an effort to clean up the mess as quickly as possible bought land from a farmer in Warren County, North Carolina who was facing bankruptcy. Although the site did not meet the requirements to be used as a hazardous waste dump, the state decided that it could be engineered to work. Citizens organized and began to protest the siting of the dump in their County. However, these initial protests were based on the idea that the contaminated soil should be trucked to Alabama where there was a facility which could contain the hazardous material. Most of these first protesters were white landowners. Realizing that their efforts were unsuccessful, these first protesters built a coalition with civil rights leaders in the area and the problem became framed as one of environmental racism. Warren County was composed of a majority black population and was one of the poorest counties in the state. Under this frame, the focus became the inequitable distribution of environmental risks with the poor and minorities

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bearing most of the costs of toxic waste (Bullard 1994). At the heart of this struggle was anger over potential toxic exposure resulting from a Locally Unwanted Land Use (LULU). The protest used lessons learned from the civil rights movement in order to organize its protests and rhetoric. Although the protest was unsuccessful in its goal to stop the landfill, the mobilization efforts gained widespread attention and gave rise to the environmental justice movement in the US (Bullard 1994; McGurty 1997, 2000). The Warren County protests however, not the first or only social movement against locally unwanted landuses. I argue that the Warren County protests and the resulting environmental justice movement are similar to the grassroots environmental movement in the developing world. Both movements hold local control over the environment as necessary for equity and justice. The environmental justice movement in the United States is focused on LULUs that produce unequal patterns of toxic exposure and the grassroots environmental movement in developing countries such as India focus on LULUs (such as protected areas or development projects) focus on cultural and livelihood losses associated with landuses that prohibit access to local resources. The Chipko movement is an example of this. The Chipko movement has been referenced and understood in many ways and was influential in developing ideas about ecofeminism and deep ecology (Hannam 1998). This too was a movement about local control of the environment and a struggle against a LULU, yet it was not framed as a fight against environmental (in) justice.

Although on the surface the environmental justice movement and the Chipko movement are dissimilar, they in fact have much in common. If we look beyond how the movements were framed by participants and academics, it becomes evident that similar economic and political structures were at work to remove people from control of their local environment. By comparing these two movements I will attempt to expand the narrowly used environmental justice paradigm

so that environmental movements in cultural contexts other than those found in the US can be analyzed using the conceptual framework of environmental justice.

Environmental justice focuses on the inequities associated with the control of natural resources and the uneven distribution of the costs of environmental degradation. The term "environmental justice" originated during the fight against a toxic waste landfill situated in Warren County, North Carolina, and was for a long time synonymous with anti-establishment, grassroots movements on behalf of the poor and disenfranchised (Bullard 1994). However, in recent years, the term has been appropriated by the establishment itself; indeed the U.S. Government now posts a definition of environmental justice – "the fair treatment and meaningful involvement of all people, regardless of race, ethnicity, income or education level, in environmental decision making" – on its own websites (US Department of Energy 2000).

Environmental justice is also a research paradigm which arose from the movement. As such, environmental justice researchers have looked at social movements which sought to protect minority communities from things like toxic exposure and workplace hazards. Although the bulk of environmental justice research has focused on communities in urban areas of the United States, many of the concepts are useful in analyzing the struggles of marginalized groups for control over their environment. To this end, scholars have called for an expansion of the definition of environmental justice on the basis that different people understand the environment differently (Holifield 2001).

Once we move away from toxic discourse which is central to environmental justice scholarship and activism in the United States, several key concepts emerge which I argue are central to understanding environmental justice issues particularly in rural areas and in the Third World. These concepts include; challenges to modern, essentialist ideas of nature, moral

economy, social constructedness of nature and the concept of agency. Environmental justice activists challenge the modern notion that pollution is a necessary byproduct of production and in doing so, challenge modernity through the acknowledgement that nature is socially constructed (rather than having certain essential qualities) and thus human interactions with the environment will depend on conceptions of nature. Environmental Justice activists also realize that they cannot frame their issues in economic terms so they attempt to eclipse the monetary economy by relating their problems in terms of religious and human rights; a moral economy. These key concepts provide a lens through which to view local people's struggles to gain/retain control over their environment.

Toxic Discourse and the Environmental Justice Lens

In this section, I will construct an environmental justice lens with which to view Third World resource conflicts by divorcing environmental justice discourse from toxic discourse. In doing so, a broader concept of environment is developed and will be explored within the context of how human-environment relationships shape claims for environmental justice. Also explored in this section are the fundamentally anti-modern aspects of environmental justice discourse which arise from a broader concept of environment. For this review, searching for a unified definition of environmental justice is not as important as recognizing the analytic power of environmental justice concepts. However, it is possible that the application of such concepts to struggles against unwanted landuses in cross-cultural contexts may help to reconstruct the definition of environmental justice.

Environmental justice research is often couched within toxic discourse (Buell 1998, Szaz 1994). Buell (1998) outlines four topoi within toxic discourse with regards to environmental justice. These formations come from the ideology and cultural background of US society. First,

the cultural construction of US communities both in suburbia and in urban settings is infused with pastoral in imagery and values. The vision is of clean and safe neighborhoods and communities. Such images are manifest in the green lawns of suburbia as well as the garden parks and window boxes found in urban areas. Second, toxic contamination disrupts this vision. From this disruption comes the vision of a world with no oasis from toxic exposure. This vision has been used successfully in the discourse of environmental activists and is manifest in apocalyptic portrayals of environmental destruction. Buell's third formation of toxic discourse builds on the first two by linking ideas of a contaminated world with the capitalist economic system that is portrayed as the source of contamination. In this way, environmental justice activists construct an 'us versus them' discourse where the poor and disenfranchised are juxtaposed against the 'industrial machine' which produces toxics. This formation has been successful in combining environmental reform with social justice. The final formation of toxic discourse is its tendency to become gothic when focusing on specific cases. Buell (1998) gives several examples of people who have been the unwilling victims of toxic exposure and had to suffer horrible consequences which included permanent injury and death. By focusing on such specific cases in which people become toxified by their environment, environmental justice discourse permits the victim to claim authority. In this way, the victim gains a sense of agency by acting as a tour guide to the world of toxic exposure.

The formations of toxic discourse provide important insight into the ways in which environmental justice activists assert their claims. However, the core elements of environmental justice are not necessarily tied to toxic discourse. While environmental hazards have been the impetus for the environmental justice movement in the United States, the movement is larger than the toxic discourse it uses. The environmental justice movement is a social movement

which in some forms, directly challenges modern essentialist ideas of nature as separate from humans. This can be seen in the shift in the movement from NIMBYism (Not In My Back Yard) to not in anyone's backyard. NIMBYism assumes that industrial production as a human activity is necessarily environmentally destructive and thus the pollution must be distributed equitably. However, no one wants a landfill in their backyard. Therefore, some environmental justice activists began to argue that pollution is not a necessary byproduct of industrial production (human activity). This shift attacks basic assumptions of modern essentialist ideas of nature; such as man's separation from and dominance over nature, which influences the state and further empowers capitalist economic structures. Toxic waste is not a necessary byproduct of production. Instead it is a byproduct of economic and political structures, which are inherently racist and therefore produce patterns of toxic exposure, which have racial bias (Lake and Disch 1992).

Viewing environmental justice as a challenge to dominant political and economic structures allows for it to be de-linked from the toxic discourse predominant in the movement in the US. I say this because the dominant economic and political structures have an effect, which is more far reaching than the siting of landfills or hazardous waste incinerators. Therefore environmental justice, in challenging these dominant structures, produces effects, which are more far reaching than the anti-toxics movement. Environmental Justice is a multi-faceted social movement and therefore encompasses many perspectives. One perspective on environmental justice is the rejection of dominant (and modern) political and economic structures. These structures essentialize nature as something separate from humans. Environmental justice often views nature as a social construct rather than an ontological category. This rejection of modern

views of nature by environmental justice is further elucidated through the idea of a 'moral economy.'

When addressing capitalism within an environmental justice context Harvey (1996) addresses both the standard view of ecological management. "Concerns for environmental justice (if they exist at all) are kept strictly subservient to concerns for economic efficiency, continuous growth, and capital accumulation" (375). At the same time, "There is an acute recognition within the environmental justice movement that the game is lost for the poor and marginalized as soon as any problem is cast in terms of the asymmetry of money exchange" (388). While addressing the disdain each side has for the other, Harvey is also speaking of capitalism as an oppressive structure, which oppresses the poor. The poor realize that they cannot gain power while working within the system and refuse the losing proposition brought about through the exchange of money. Instead, as previously stated, the environmental justice movement uses a moral economy to challenge the capitalist system. Often in environmental justice discourse, ideas of a moral economy are embedded in discourse that references civil rights, religious conviction and basic human rights. These rights are considered paramount to the accumulation of capital and thus usurp the power of capitalism.

With reference to the concept of the constructedness of nature, both Harvey (1996) and De Chiro (1996) also address the differences between the traditional environmental movement and the environmental justice movement as a result of the power differential between the white middle class and the often non-white lower classes. "In part, this (differential) is due to the dominance of the mainly white, middle class and uncritically 'preservationist' political culture from which mainstream environmental thinking has developed" (Di Chiro 1996; 300). The connection that the traditional environmental movement has had with political power coupled

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with the limited view of environment of traditional 'preservationist' environmentalists that has caused tension with environmental justice. At the core of this tension are competing definitions of nature. Traditional environmentalists have a modern view of nature as separate from and dominated by man, hence the preservationist view. Many in the environmental justice movement reject the modern view of nature as external. Instead, the environmental justice movement integrates the "histories and relationships of people and their natural environments" (Di Chiro 1996; 317). For DeLuca (1999) the constructedness of nature provides an arena for environmental justice activists to reject modernism and offer a radical critique of industrialism. Essentially, for these authors, environmental justice discourse challenges (through the use of specific rhetoric and tactics) the assumptions of dominant economic and political structures, which oppress minorities and the poor.

When environmental justice concepts are removed from the toxic discourse they are couched within, it becomes apparent that environmental justice is a social movement which, in some forms, challenges the assumptions of the dominant political and economic structures. Taking these concepts from their discursive context allows environmental struggles previously considered outside the realm of environmental justice to be more specifically addressed thereby expanding the current definition of environmental justice.

Harvey (1996) and Di Chiro (1996) approach environmental justice issues from a structuralist perspective, focusing on how political and economic structures produce conditions which promote environmental injustices. Many scholars also view environmental justice from a social constructionist perspective. Within this perspective, discourse and rhetoric become important tools for groups to frame their struggles and take action against perceived injustices. In the next section I will address this further using Bullard's (1992) framework for illustrating the

discursive responses of environmental justice activists have to the underlying structural forces addressed by Harvey (1996), Di Chiro (1996) and De Luca (1999). By applying Bullard's framework of characteristics of environmental justice groups in conjunction with concepts from the social constructionist perspective, an environmental justice lens can be created with which to study events currently considered outside the realm of environmental justice.

Discursive strategies of Environmental Justice groups

Many environmental justice scholars take a social constructionist perspective. From this perspective environmental problems are necessarily social problems which are: "Socially constructed claims defined through collective processes" (Taylor 2000: 509). In this way, groups conceptualize and define environmental problems through the development of shared meanings and common interpretations of certain issues. Groups do this through the use of rhetoric which is the use of language which aims to persuade others. One way environmental justice groups try to persuade others to support their cause is through framing. Framing is how these groups and individuals first identify then interpret and express their grievances both social and political (Capek 1993). Simply put, framing is how groups purposefully package their ideological beliefs. By linking their rhetoric with framing, environmental justice groups create collective action frames (Snow and Benford 1988, 1992; Taylor 2000). These frames are action-oriented and express the group's sense of agency. Groups who exercise agency feel a sense of empowerment and believe they can change their condition and/or alter policy. The question then becomes: How do environmental justice activists exercise agency? More specifically: What discursive strategies or tactics do environmental justice activists use to mobilize against LULUs? Bullard (1992) offers some characteristics of how black communities in America have responded to environmental threats; they focus on equity, challenge the mainstream environmental movement,

emphasize the needs of the community, have a populist stance and rely on a democratic ideology. Bullard (1992) sees these characteristics as part of a new form of environmentalism that has emerged at the grassroots level in response to the threat of toxic exposure. In this case, Bullard paints a picture of the poor and people of color as caught between the interests of mainstream environmentalism and industry. Ultimately, he concludes that environmental equity depends on the mainstream environmental movement embracing social justice and other redistributive policies.

In addition to collective action frames, some groups use environmental justice as a submerged frame which Taylor (2000: 516) defines as "underlying ideological packages that are not made explicit by movement activists." In this case, the group may resemble any other group who claims to be part of the environmental justice movement but the focus of the framing of the issues may be on some other issue such as social justice. For Taylor (2000), these groups may be making claims about the environment and inequality but they do not connect the two in a unified frame and thus do not label themselves as part of the environmental justice movement. Although environmental struggles in developing countries may use the same discursive tactics as environmental justice groups, their issues are not explicitly framed as those of environmental justice. In the following section, the idea of ideas of environmental justice acting as a submerged frame is combined with some key concepts from environmental justice in order to expand upon the potential for cross cultural applications.

Cross Cultural Applications of Environmental Justice

Environmental justice has traditionally but not exclusively been studied within the context of American society. However, issues of justice and the environment are not limited to the developed world. Many developing countries must deal with similar issues of the poor and

disenfranchised bearing the costs of environmental degradation. Dawson (2000) when referring

to the environmental justice frame argues that it is much more general than the American

literature suggests.

> "Rather than being restricted to ethnic and race-based groups, the frame may be extended to apply to any well-defined sub group in society that seeks to right social injustices while simultaneously pursuing a crusade for improved environmental conditions for their subgroup. Groups defined by religion, gender, national identity, or class may all provide the basis for environmental justice movements" (26).

Dawson's argument suggests that the environmental justice movement is not about race but

instead about the struggle of a self-defined subgroup. The toxic discourse couched within the

American environmental justice frame is a limiting factor. However, once toxic discourse is

divorced from environmental justice, it becomes evident that the core of the movement is about

self-defined groups of people struggling to gain control over local resources in the face of

dominant political and economic paradigms which are seen as marginalizing forces.

This section will discuss issues involved in a cross-cultural application of environmental

justice, using India as an example. On the surface, social and political structures in India are

different than those in the US and those superficial differences will be outlined in order to

uncover some of the conceptual and empirical issues which emerge from environmental conflicts

in India. Superficially, environmental justice in India is different because the focus many times is

on ethnicity rather than race. The other empirical issue which arises is the difference in threats.

In the US the focus is on toxic exposure while in India, threats to livelihoods are the main issue.

The legal framework for environmental protection in India is similar to that of the US. In

the early 1970's, India realized that its level of development necessitated a legal framework to

protect its citizens and the environment. The water prevention and control of pollution act of

1974 was the first statute of environmental law in India. In 1976, the 42nd amendment to the

Indian Constitution introduced explicit environmental protection principles. This amendment was a bit confusing, it obligated the state to protect and improve the environment while simultaneously imposing the same responsibilities on individuals. The amendment also transferred jurisdiction over protection of forests, flora and fauna from the states to the national government. Parliament was also given power to uphold India's international obligations to international environmental initiatives and law (Divan and Rosencranz 2001).

The environmental protection measures take by the Indian government resemble, in concept, those in the US. However, in India, enforcement is a major problem. The lack of enforcement led to major problems with water pollution, air pollution and deforestation. India's legal reaction was to relax the rule of *Locus Standi*, (the right of an individual to be heard) in effect creating public interest litigation. This form of litigation allows for the rights of the community to be taken into account rather than just those of the individual. Before this, community action against polluters and other environmental hazards was virtually impossible as only individuals had the right to be heard if they suffered some sort of damage. As with the US, the judicial system in India is the main route used by those pursuing environmental justice. While both countries have enacted similar laws and procedures for environmental protection, the social context from which litigation is approached is quite different.

India is an explicitly stratified society. The caste one is born into does not change and often determines one's path in life, from profession to marriage partner. To further complicate things, India also has a large population of what are called 'tribal' people. These tribal people are ethnically different than most Indian Hindus and are sometimes Hindu and sometimes not. Historically, the defining factors in India with reference to local control of the environment have been poverty and the dependence on the natural environment. This lies in sharp contrast to the EJ

movement in the US which has traditionally been defined by racial inequalities in the exposure to toxics. However, race and poverty are closely connected in the US (Pulido 1996). In India, often poverty and dependence on the natural environment are closely connected with tribal or indigenous populations. India is still an agrarian economy in many aspects. Farms are family run and rely on human inputs of labor rather than machinery. Surplus can be high at times but income is dependent on the market demand. When the environment is threatened in India, those directly dependent on the environment for their livelihoods (in many cases tribals) are also threatened. This connection between livelihoods and the natural environment is the defining factor in differentiating environmental justice in India from that in the US where toxic exposure permeates environmental justice discourse.

This leads to empirical questions with reference to environmental justice in India. If environmentally justice is conceptually different in India, than what does it look like? Many times, environmental justice in India manifests itself as indigenous movements to retain local control over resources in the face of development. Two examples of this are the Chipko movement of the 1970's and the fight against the Tehri dam.

During the 1970's, the government of India initiated the Tehri Dam project. The Tehri dam project is located at the confluence of Bhagirathi and Bhilangana rivers. Work on the dam began in 1978 and continued for 25 years amidst constant protests by local people. The dam has been criticized for its considerable environmental impact, unsuitability and limited economic benefit. Once the area behind the dam is flooded, 100,000 people will be displaced and 27,000 hectares of land will be lost. Compensation has been promised but the people of Uttarakhand have yet to receive any money. The government has also ignored the fact that the dam is being built in one of the most seismically active areas in the world. A large earthquake could cause the

dam to collapse and kill literally thousands of people. Huge amounts of water are needed to fill

the reservoir depriving towns down stream of much needed water for drinking and irrigation.

The power generated by the dam will not go directly to the people of Uttaranchal but instead will

be added to the general power grid. Originally, the dam was supposed to last 100 years,

providing power for India, recent estimates conclude that the dam will silt up within 30-40 years.

The government of India has ignored the criticisms and protests of local people and the reservoir

is currently being filled, inundating villages and farmlands with water. Cracks have already been

discovered in the dam and repairs are underway (Chander 1998, Pearce 1991, Zurick and Karan

1999).

In the case of the Tehri dam, the project is seen as a LULU that has displaced a large

number of tribals. The tribal populations have struggled against the dam project in much the

same way environmental justice activists in the US might struggle against an unwanted landfill

or chemical plant. However, environmental justice in this case and in the Chipko movement is a

submerged frame that is implicit in the movement but explicit in the discourse. The Chipko

movement and the struggle against the Tehri dam have discursive similarities to the

environmental justice movement in the US, however, participants in these struggles do not

identify themselves as activists for environmental justice. The empirical examples of

environmental (in) justice in India highlight the adjustments which need to be made within the

environmental justice paradigm in order to expand the definition of environmental justice to

include developing countries. In the next section, I build on the notion of social constructivism

illustrated in the social construction of nature by addressing the social construction and

deployment of scale or what has come to be known as the politics of scale.

Politics of Scale

Inherent in the political ecology and environmental justice discourses is the notion of a spatial hierarchy, conceptualized as the global, national, regional and local. These scales of analysis are often used as fixed "containers" within which environmental policies and discourses are framed and debated. A growing number of researchers however are challenging the unquestioned use of these discrete scales of analysis. This is because when we refer to "global" environmental problems," or to "regional" violence, or "local" unemployment we automatically privilege particular frames of reference over others. In thinking about environmental problems as global, for example, local actors and outcomes become relatively powerless. Likewise by referring to unemployment as a local issue, we shift our gaze from the structural problems within which this unemployment occurs (Smith and Dennis, 1987; Smith, 1990; Cox, 1997).

To overcome discrete scales, social agents continually seek to produce and reconstruct scale in a manner that will help them attain their political goals. Numerous case studies illustrate scale as socially constructed. Herod (1997), for example, illustrated how labor unions deployed scale to their advantage in contract negotiations. Sometimes it is more advantageous for unions to negotiate local contracts knowing that they could draw on the support of union members across the US. Kurtz (2001) highlighted the use of scale politics in the controversy surrounding the siting of a petrochemical company in a predominantly poor, African-American parish in Louisiana. Whereas the company management and the Louisiana governor sought to cast the issue as highly localized and questioned the motives of the activist organizations, the environmental justice advocates repeatedly framed the controversy within the more universal language of civil rights and family/community to appeal to a larger audience. These and many other examples reveal that agents often negotiate their way within and between scales and often

"jump scales" as when local actors "go global." Therefore, scale is both discrete, acting as a fixed container and a social construct. As such, actors move between and within scales such as those imposed by administrative units and simultaneously construct scale as the examples of Kurtz and Herod Illustrate.

In this section I will give a brief overview of scale and how it has been defined by geographers. This will lead into a discussion of the 'politics of scale' as they are broadly defined. After providing this background we will move into a discussion of how scale is theorized as both a fixed container and a social construct. This is a rich debate which demands some attention. Next I will address specifically issues of the politics of scale in environmental problems. Within this, the use of scale in both political ecology and environmental justice research will be explored. Finally, I will offer some conclusions as to how scalar discourse is used in both paradigms.

Defining scale and the 'politics of scale'

At first glance, the concept of scale seems straight-forward. We all use it in our everyday lives when we talk about things like the federal government or globalization. Geographers also work regularly with scale in their research, whether it is with a regional housing authority or a watershed management program, most research projects are defined at a certain scale. Delaney and Leitner (1997: 91) define scale as, "referring to the nested hierarchy of bounded spaces of differing size such as the local, regional, national and global." However, scale is much more complicated than the level of analysis of a research project. Scale was once thought of as an ontological category, meaning that it exists somewhere in the 'real' world. Recently however, geographers have begun to question this categorization and see scale as an epistemological structure, a way of knowing about the 'real' world (Jones 1998). This is because scale both exists

materially and is a social construct. As a social construct, scale becomes fluid, an outcome of an ever-changing series of events which continually produce and re-produce scale. When addressed from this perspective, scale becomes a reflection of space and power relationships (Delaney and Leitner 1997). Scale inhabits these two realms simultaneously. Andrew Jonas (1994) provides an excellent summation of the complexity in defining scale:

> "Sometimes scale depicts a geography of difference in landscapes. On other occasions, scale is a set of abstractions through which we make sense of social processes making and remaking these material landscapes. To complicate matters further, scale is often used metaphorically in the sense that scale differences are implicit but are not fundamental to the idea being presented." (Jonas 1994: 257)

Jonas defines scale as a set of material processes, an abstraction and as a metaphor. All three of these definitions of scale are not mutually exclusive and each has its own set of implications. Furthermore, scale is not hierarchical in the way it is defined here. Instead, it is nested. In this way, several scales can be simultaneously implicated in a single event such as Tiananmen Square, 1989 (Smith 1992). The interest here is to engage with the 'politics of scale' so I will focus primarily on scale as an abstraction and a metaphor, bringing in ideas of scale as a material process into both discussions. No one can question the material existence of hierarchical scales of the state (municipalities, counties, councils of government). The interest here is the social context from which these material scales emerged. This idea that scale is socially constructed is embedded within definitions of scale as an abstraction and as a metaphor. Using this perspective, we begin to speak of the 'politics of scale' or the social construction of these material processes.

Using scale as an abstraction allows researchers to conduct research projects which are scale-specific (Jonas 1994). In this way, researchers use scale to justify their projects. For example, geographers often use case studies at the local scale to explain global processes of change. The implication of defining the local scale in this way as the arena where global

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processes such as capitalist restructuring are played out is that it ignores other scales such as the regional or national. Neil Smith (1987) calls this the 'gestalt of scale.' In this explanation, Smith argues that if geographic studies such as those which focus on the local scale were to re-focus on the regional or national scale, there would be a whole new set of factors which would be involved. The point of the argument is that the scale of analysis must correspond with the scale of the processes which are taking place in the 'real' world. The danger in using scale as an abstraction in order to justify research projects is that some scales are privileged over others thus the processes taking place at scales other than that of the research project are often ignored. One of the implications of this is that choosing the scale at which to represent a research project becomes a political process. As Jonas (1994: 260) relates: "Research scales do not simply exist in the minds of researchers; they are socially produced from the material activity of doing research."

In using scale as a metaphor, it is useful to discuss the discourse of scale and its use in rhetoric. As noted above, the politics of scale reflects space and power relationships. As such, political actors seek to construct scale through space and time. "Groups and organizations strategically 'map out' material scales that eventually might liberate them from their existing scale constraints" (Jonas 1994: 263). This can be seen in the global indigenous movement. Although the movement is constructed as global, the rhetoric only reflects a series of localized struggles which have been portrayed to be global in order that indigenous groups may position themselves against the forces of global capitalism. In this way, the global indigenous movement establishes an identity with which to struggle against what is seen as an oppressive force. To further complicate matters, the discussion of socially constructed scale as both an abstraction and metaphor has been taken further where scale is seen as a series of networks (Cox 1998).

Kevin Cox (1998) introduced the idea of scale politics as a series of networks. Within this he categorized two 'spaces' the spaces of dependence and the spaces of engagement. Cox defines spaces of dependence as: a space within which it is possible to substitute one socio (-spatial) relation for another but beyond which substitution is difficult if not impossible" (Cox 1998:5) Cox gives the examples of local housing and job markets in order to illustrate his concept. In a local job market, it is much more likely a firm will substitute a worker from the immediate area rather than from a neighboring city. In this way, spaces of dependence take on an immobile form. Because of this, local interests are often are often expressed within spaces of dependence. It is also important to note, these spaces of dependence can occur at an array of scales and their boundaries are not clearly defined. Spaces of engagement exist in relation to spaces of dependence and extend into and beyond spaces of dependence to construct networks of exchange. This is best illustrated through an example from Cox (1998). The example is from a landuse conflict in England. This conflict began because in the implementation of a national landuse plan, an aggregate quarry was to be built near the town of Chackmore. The immediate response of local residents was to form an opposition group to contest the development. Quickly realizing they could not protect their interests by simply fighting within their local space (space of dependence); the group formed a network of agents at the national level. This was because the space of engagement had already been set at that level due to the national landuse plan. The group organized nationally by bringing into the issue, the potential degradation of Stowe Park, a nationally recognized green space located near the proposed development, thereby 'jumping scales'. In this way, they turned local interests into a national issue and were successful in their struggle. So for Cox (1998): "Spaces of engagement which have been the focus of the politics of scale are constructed through networks of association and these define their spatial form" (21).

Therefore, scale can be thought of as a network whereby local struggles are linked to regional, national or global events. In doing so, local groups use discourse in order to jump scales, allying themselves with other groups and/or finding a constituency at the level of engagement.

In response to Cox (1998) Dennis Judd (1998: 30) argued that: "the scales constructed by the state often make it difficult for political agents to construct a scope of conflict which is more advantageous to them." Furthermore he argued that this is not an accidental occurrence. His argument is based on the idea that there may be an absence of scales which makes it difficult to construct scale as a discursive strategy. Judd (1998) gives the example of the takeover of Eastern Europe by the former Soviet Union after World War II. In this case, the Soviet Union abolished local government structures giving citizens no where to raise issues about industrial poisoning in their cities. By removing the government at the local scale, the Soviet Union was able to effectively remove the local scale. Therefore, citizens concerned about toxic exposure would have to take their grievances to higher levels of government.

As we have seen through the literature, theorization on scale and the politics of scale is complicated. Scale can be seen as material or socially constructed. When viewed as socially constructed, scale can be used as an abstraction or a metaphor and both have implications; particularly that scale is a representation of space and power relations. Furthermore, scale has been theorized as a series of networks through the concepts of spaces of dependence and spaces of engagement. In the next two sections I will discuss the use of the politics of scale first within the environmental justice literature and then within political ecology.

The politics of scale and environmental justice

The politics of scale has been a central theme for several environmental justice researchers and within this paradigm several important contributions have been made to the literature on the politics of scale. While not speaking explicitly about environmental justice, Swyngedouw (1997) addresses elegantly the issues faced by social movements with reference to the politics of scale. Scale becomes an arena through which the social relations of empowerment and disempowerment operate. The scale at which social groups form alliances shapes their ability to appropriate and control place and influences their positions of power within a socio-spatial context. Within this discussion is the idea of 'glocalization' whereby companies become both global and local in their identities and power. Corporations achieve this by articulating their scale both downward to the local scale and upward to the global scale. This is an undemocratic process which leads to a loss of citizenship. For example, as governments privatize they yield their power to businesses which may exert control at local, regional and global scales. At the local scale, the result is global or regional agendas being placed on citizens without their consent. In this way, the rich can overcome space by appropriating scale and the poor are stuck in place (Harvey 1973). Such a realization can lead to social movements which challenge the power appropriated through 'glocalization' of business and industry. For Swyngedouw (1997) the politics of scale should be a center point in any emancipatory strategy.

These ideas are taken further in empirical studies on environmental justice movements particularly in the US and have been fruitful in yielding some important theoretical contributions to the politics of scale. For instance, Kurtz (2001) examined the controversy over the proposed siting of a chemical plant in predominantly black St. James Parrish, Louisiana. The building of the plant was supported by economic development officials in Baton Rouge but local residents opposed the plant citing the potentially harmful effects of the pollution produced. As such they

argued that this was a case of environmental racism and a violation of the 1964 Civil Rights Act. The residents then had to show that the environmental discrimination they were claiming was based on race and not their socio-economic status. Within this struggle were embedded what Kurtz called "scale and counter scale" frames. These were based on the concept of collective action frames which are the guiding set of beliefs which help to frame the reality of and legitimate social movements (Snow and Benford 1992). The discursive struggle became one over the scale at which environmental racism was operating. Along side this was the way the dispute was framed by different political agents. Economic development officials argued that at the state-level, policy dictated that the site was the most appropriate while local residents countered that with the frame that their local exposure to pollution must be taken into consideration. In this way, scale became central to how both sides exercised political praxis.

George Towers (2000) also provides some keen insight to the politics of scale by linking grassroots environmental movements with environmental justice. Using a study of the opposition of a small group of West Virginia residents to an electricity transmission line, he shows how grassroots environmentalists expand their struggle to the scale of environmental justice. In this case the definition of environmental justice is expanded although implicitly in a way which the concept has a scalar component. This component can be found in the rhetoric used by grassroots environmental groups which appeal to a larger audience by making their arguments for procedural and distributional justice. By doing this, such groups can counter the arguments of NIMBYism often put forth by corporations while still protecting their local interests. The small group of Monroe county residents was able to protect their own interests first by contesting the route of the power lines with the help of the National Committee for the New River and by framing the struggle at an environmental justice scale. Residents framed the struggle as one

which would also protect the interest of all West Virginians. They did this by portraying the power lines as a form of exploitation of one of the poorest regions in the country, stating that it would not create economic development, only a scar on the landscape. Towers' (2000) expanded definition of environmental justice allowed him to use the politics of scale to examine how grassroots environmental groups oppose locally unwanted landuses. Although Towers (2000) studied grassroots environmental groups in the US, grassroots environmental groups do not operate only in the US and their struggles in developing countries have been addressed through the political ecology literature.

The politics of scale and political ecology

In contrast to environmental justice, the literature on political ecology, although quite extensive, rarely addresses directly the politics of scale. This is not to say that scale is not a theme in many research projects, quite the contrary. Political ecology is quite concerned with both the local and global (Rangan 1997). However, many times these scales are treated as fixed containers rather than social constructions deployed for political purposes. This is a perplexing condition given the preoccupation within the literature on the social constructedness of nature. In this section rather than critique the ways which scale is treated as a fixed container, I will address the emerging literature which does indeed incorporate the politics of scale into the paradigm.

To this end, Haripriya Rangan (1997) acknowledges that while political ecology has implicitly integrated geography into the paradigm, it has done so uncritically. For example, many political ecologists argue that the approach has a regional perspective and incorporates environmental change into theories of regional growth and decline (Blaikie and Brookfield 1987). However, this approach has been criticized as lacking the theoretical coherence to adequately address the complexities of the global-local processes addressed within political

ecology (Peet and Watts 1996). In order to address this criticism, Rangan (1997: 23) redefines political ecology with a specifically geographic focus calling it, "the biogeographical outcomes of social relations." By making geography explicit in political ecology, it is possible to uncover some of the underlying implications for such a redefinition. These are as follows; the non-human environment provides a dynamic rather than static context for human evolution, humans are integrated into the study of spatiotemporal change rather than seen as separate from 'nature,' spatial boundaries are ambiguous because they are socially constructed and interact with and between ecosystems. These boundaries are dynamic and change in relation to shifting values in culture, politics and other material practices. Finally, all life human and non-human is linked through processes which are dynamic and transformative and these relationships produce unpredictable results across politics and space (Rangan 1997). When viewed in this way, political ecology becomes decidedly geographic and ideas of the social production of scale become integral in addressing issues of environmental change and human systems. Unfortunately, Rangan only develops this redefinition of political ecology from a regional perspective, which can only privilege regional processes over local, national or global. The justification is that the discipline has taken a regional approach. So although Rangan has given us an excellent point of departure, the arguments have not been fully developed with reference to the politics of scale.

Escobar (2001) further develops ideas of the politics of scale with reference to the study of place in political ecology. His position comes from the realization within political ecology that nature is socially constructed and therefore communities in developing countries often construct nature very differently from the dominant and modern view of nature. Tied to this are ideas that place is being produced socially in two different aspects. First, place is produced through capital

as noted in the political economy approach and second, place is constructed culturally through articulations of identity. For Escobar (2001) the scales of the global and local which are often used unproblematically in political ecology are abstract scales, processes or levels of analysis but do not constitute places or locations. However, place and location are intimately linked to ideas of scale because they reflect the experience from a particular location of boundaries which are linked to the everyday practices of communities and individuals. Within this is the realization that all of these are socially constructed and as such are not natural or fixed rather they are the result of the production of place by people through social practice. In this manner, boundaries are a relation to the activities of beings (humans and non-humans) who experience them as such.

Swyngedouw and Heynen (2003) expand on some of these ideas through their exploration of urban political ecology and the politics of scale. They use the politics of scale to combine political ecology and environmental justice in an urban setting. Coming from a Marxist perspective, Swyngedouw and Heynan (2003: 902) define their new urban political ecology as explicitly recognizing that; "the material conditions that comprise urban environments are controlled and manipulated and serve the interests of the elite at the expense of marginalised populations." Within this is imbedded the notion that it is necessary to understand physical processes in order to understand how the environment is constructed to reflect positions of power. Thus the goal of urban political ecology becomes one of exposing the processes that produce unevenly developed urban environments, noting that issues of justice have emerged within ecological studies. The role of environmental justice within urban political ecology is to provide a deeper understanding of urban environments. As such, environmental justice provides a more narrow theoretical approach to issues of justice and equity, based in praxis. When urban political ecology and environmental justice are used in theorizing urban environments, it

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becomes clear that environmental changes occur in relation to power struggles often based in issues or race, class, ethnicity or gender and can often be explained through such struggles. Within this viewpoint, scale is integral and is configured through socioecological relations which produce shifts in power. Therefore, political struggle and social conflict become the mechanisms for the transformation of scale. As Swyngedouw and Heynen (2003: 913) articulate: "In many instances, this struggle pivots around the appropriation of nature and control over its metabolism." In this way nature, conflict and the politics of scale are all intimately connected and based in social relations.

Conclusion

This project provides a conceptual link between political ecology and environmental justice. Both concepts acknowledge the role of structural forces as well as human agents in the struggle for power. Additionally, both concepts acknowledge the significance of the global-local continuum. Within environmental justice, the local scale is linked to a broader context (such as global capitalism) and the same can be said for political ecology. However, the two have not been explicitly linked with reference to discursive strategies. This is due in part to the focus of environmental justice on minority communities in the United States, which has limited the use of environmental justice concepts. Environmental (in) justice in developing countries looks much different than in developed countries such as the United States. Many developing countries have agrarian economies. People in agrarian economies are tied much more closely to the land. Therefore unwanted changes in local land use will not be manifest as municipal waste incinerators or prisons, which put community safety at risk but development projects such as dams or biosphere reserves, which put community livelihoods at risk. Until now, this difference has not been thoroughly addressed in environmental justice literature.

In contrast, political ecology has a decidedly international focus. Political ecology concepts have been useful in understanding the interactions between local communities and their biotic resources through an historical approach which addresses the way in which these relations have been shaped by regional, national and international policies over a period of time. Essentially, political ecology is particularly useful in understanding the processes, which led up to a particular event or outcome and environmental justice concepts are useful to examine the strategies used at the local level to respond to the event or outcome. Linking the two (via discursive strategies using the politics of scale) provides a unified strategy for the study of similar human-environment interactions.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

Introduction

The project uses the case of the Nanda Devi Biosphere Reserve to address the impacts of global conservation policies on local people living within protected areas and explores how these local populations react to such policies, particularly when they feel their culture and livelihoods are being threatened. Because of the complexity of the issues involved in the Nanda Devi Biosphere Reserve, multiple data sources were used (texts, interviews, a survey and a photographic activity). These data were analyzed using multiple methods, including discourse analysis, interpretation of survey results and the interpretation of a photographic activity undertaken by research participants. The goal here is not to find a single truth behind what is going on in the NDBR, but rather to offer a careful interpretation of how the local Bhotiya believe they have been affected by the policies governing the NDBR that is grounded in analysis of how differences in conceptions of nature held by the Bhotiya and those formulating policy have helped to fuel the conflict in how the Reserve should be managed.

In this chapter, I discuss the reasons for using a case study to examine the local effects of global conservation policy, and highlight the central research questions addressed in this dissertation. I then outline the data sources used in the project and discuss the process of data collection. A discussion of discourse analysis and its use as the primary method of analysis within the project is followed by a more detailed presentation of the data analysis process used in this study.

Methodology

  The case study research strategy is used extensively in environmental justice and political ecology research as both areas of research seek to understand contemporary phenomena as they occur within a 'real-world' context. Case study research is particularly useful in answering research questions of 'how' and 'why' regarding certain phenomenon (Yin 1994). Specifically, an explanatory case study strategy is useful for this project because it traces processes over time (Lupo et. al. 1971, Yin 1994). Multiple data sources are often required to thoroughly address the complex issues involved with such a research strategy (Yin 1994).

  This research investigates how environmental policy, articulated by international agencies and translated into action by national governments, is transforming the lives and livelihoods of local communities dependent on the protected resources. It also explores how local communities resist these policies and strive to retain their control over resources. The emphasis is on the **how** questions within this research. **What** is going on is evident. The Bhotiya are struggling to regain control over the resources of the NDBR, which are currently under the control of the Indian government and the UN. **How** both sides are using discourse to promote their respective perceptions of nature and thus gain control of the resources of the NDBR, however, is not readily apparent. The question of how this is being done is complex and multi-layered. Thus, a case study research strategy is the most appropriate for this research.

Data Collection (One)

  Data collection for this project involved using multiple sources. Villagers were surveyed and also participated in a photographic activity adapted from Wang, Burris and Ping's (1996) photovoice methodology. I interviewed key agents such as Bhotiya leaders and officials from the

UN and Indian government. Documents produced by the Bhotiya, the UN and Indian government were also collected.

The first set of questions addresses the interpretive context of the struggle within the NDBR and the second set of questions builds on the interpretive context in order to analyze the rhetorical organization of the discourse used by key agents involved in the struggle. In this case, the interpretive context refers to the foundational views of stakeholders with reference to their conceptions of nature. The rhetorical organization refers to the arguments constructed to convince people that the policies which result from competing conceptions of nature are the 'correct' policies for the conservation of biodiversity in the NDBR. The research questions reflect these two central concerns. The first question is designed to establish the interpretive context and the second specifically addresses the discourse used by those involved in the struggle. Both of the two major research questions are broken down into a set of more methodologically oriented sub-questions.

1. How do the conceptions of nature and conservation held by members of the local community differ from those embedded in the global environmental policies governing the NDBR?

    a. How have the policies of the NDBR affected the Bhotiya and what is their general attitude towards the reserve itself?

    b. How do the Bhotiya conceptualize nature?

    c. What are the conceptions of nature embedded in the policies that govern the NDBR?

It is important to understand how the Bhotiya perceive that the policies of the NDBR have affected their livelihoods and culture as it helps to establish specific effects of the policies

as well as the amount of resistance to the policies. How the Bhotiya conceptualize nature is an important factor in how they think the NDBR should be managed. Conversely, it is important to understand the conceptions of nature, which drive the policies governing the NDBR set forth by the UN and Indian government. Conceptions of nature provide interpretive context from which to analyze the rhetorical discourse used in this conflict (question-2). The first research question was addressed using a villager survey, photographic activity and an analysis of policy documents from the UN, World Bank and the Indian Government.

Perceived effects of the closure

A survey provides a basic measure of how villagers feel they have been affected by the policies of the NDBR while maintaining anonymity. Villagers were surveyed in the villages of Reni, Lata, Suraitotha, Tolma, Phagti, Paing, Suki and Juwagwar. Each village contains 10-100 households. I surveyed one person in each household with the goal being to survey as many households as possible within the study area. The surveys were not conducted randomly, rather more surveys were conducted in bigger villages and those villages closest to the core zone. No surveys were conducted in Malari or Dunagiri as I was refused an Inner Line permit to enter areas close to the Tibetan Autonomous Region of China. The household level was chosen to avoid overlap in responses of individuals to questions. The household is a more discrete unit in Bhotiya culture than is the individual. The survey was written in English and translated into either Hindi or Garhwali depending on the language proficiency of the participant. Research assistants from the local area helped to administer the survey. Research assistants were hired in Dehra Dun where it was possible to find students who speak English, Hindi and Garhwali. Results are reported for the entire study area. Surveys were not analyzed statistically. Rather they were used to provide a measure of the context within which this conflict is taking place. In this

case, the perceptions of the changes in livelihoods and culture that the closure of the NDBR has

had on the Bhotiya are important issues. How the Bhotiya perceive their lives to have been

changed or not changed directly influences how they react to the policies set forth by those

administering the Biosphere Reserve.

Bhotiya conceptions of nature

A photographic activity supplements the survey. Villagers were asked to take pictures of

nature with a disposable camera. This project was carried out simultaneously with the surveys.

Ten people were given cameras with 27 exposures each, totaling 270 exposures. Villagers helped

to select the participants for the photographic activity. The activity was to record visually what

they (the Bhotiya) think is 'natural.' The activity was purposely kept vague in order to minimize

the influence of my conceptions of nature on the participants. Using a more specific or structured

activity may have imposed ideas of nature as being something outside of human activity or

limited to the landscape. Participants were selected from the villages of Lata, Reni, Paing,

Juwagwar and Tolma. Photography provides a more direct expression of the complexities of the

concept of nature and can transcend the language barrier (Wang 2003).This technique can

provide a more direct product that may reflect the local peoples' concepts of nature free from the

imposed categories of the survey and the need for translation of language. However, this can also

be problematic because villagers may take pictures of what they think the researcher wants them

to photograph or may use the activity to take photographs for posterity. Therefore, a short

informal interview followed the photographic activity. Participants were asked what they took

pictures of and what their rationale was behind taking pictures of certain objects/phenomena and

not others. Photographs were returned to each photographer after being digitized.

Photographic techniques such as the activity noted above originated in the field of visual anthropology. Although this sub-discipline of anthropology is not widely practiced, it is being embraced more by younger academics. Visual anthropology is concerned more with visual representations made by researchers and does not directly address the visual representations in a participatory study such as this (Prins 1997, Wright 1998, Pink 2001). Still, the themes of visual anthropology are applicable to anyone creating visual representations. One of the main themes of visual anthropology is the idea that visual perceptions play a part in non-linguistic and/or pre-linguistic cognition (Loizos 2001). The other theme addressed in visual anthropology is the role that visual symbols play in constructing a social order. Structures such as houses and temples as well as ritual objects and styles of dress all depend on visual information. A third theme is that of visual representation. This theme addresses questions of how well photography, art or film has portrayed the phenomena under study. In this case, the concern is with how well the photographs taken by villagers 'represent' their conceptions of nature.

Building on these themes, Wang, Burris and Ping (1996) developed a research technique called 'photovoice.' This technique was first used with Chinese village women in order to empower them to influence policy makers using photography. The women were given cameras and asked to use them to portray their lives and health needs in what is called a 'photo novella.' This methodology is underpinned by feminist theory and as participatory action research; the goal was to increase the empowerment of the women who participate in the study. In their discussions of the limitations of photovoice, Wang, Burris and Ping (1996) treat photography as unproblematic when used by women to represent their daily lives. No discussion is given regarding the political decisions, women must have encountered when deciding what to represent and what to leave out of their photo novellas. Noting this, the photographic activity used in the

research in the NDBR, acknowledges that the photographs themselves can be problematic because villagers decisions on what to include or not include in their photographs are based on many other factors which are not directly linked to their conceptions of nature. This issue was addressed in the questionnaire that was given to participants upon the return of the cameras. Participants were asked what they took pictures of and why and also what they did not take pictures of and why.

Conceptions of nature embedded in conservation policy

Discourse analysis provides a method for uncovering the embedded conceptions of nature lying beneath the surface of the policies governing the NDBR. While the villager survey used formal (quantitative) techniques discourse analysis uses informal (qualitative) techniques to interpret texts. The texts used in the discourse analysis are UN, World Bank and government documents relating to biosphere reserve policy at various scales. Documents were chosen at various scales in order to trace the conceptions of nature embedded in global biosphere policies through the scalar hierarchy of the reserve administration. These particular texts have been selected for the richness of detail and are treated a primary sources. I treat these as primary sources just as an historian might treat newspaper articles as primary sources when conducting historical research. These texts contain original and unevaluated data. Analysis of these documents provides insight into the broader conception of nature reflected in the policies governing biosphere reserves all over the world.

Data Collection (Two)

The first set of research questions addresses the interpretive context of the conflict in the NDBR by providing background information of Bhotiyas' perceptions of the effects of the closure, the conceptions of nature held by the Bhotiya and the conceptions of nature embedded in

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global conservation policies. Differing conceptions of nature can lead to differing ideas in how resources should be managed and in this case are a factor in the conflict over how the NDBR should be managed. The second set of questions addresses the ways in which the Bhotiya frame their struggle rhetorically. How the Bhotiya organize their rhetoric is important in framing their struggle in such a way as to affect change in reserve policies. It is important to note here that the Bhotiya must be careful in framing their struggle so as not to portray themselves as against the goal of biodiversity conservation but rather against the policies of biodiversity conservation. The second question and accompanying sub-questions addresses how the struggle is framed rhetorically and at what scale(s).

2. How is discourse being deployed as a political tool by the Bhotiya leadership and the other agents involved in the debates?

    a. How is the struggle against the biosphere reserve policies framed by the Bhotiya and other agents involved?

    b. How is scale deployed as a political tool by the Bhotiya in their framing of the struggle against the policies of the NDBR?

    c. How is scale deployed to perpetuate the policies of the NDBR?

The policies of the NDBR are the material outcomes of the discourse of conservation that permeated all levels of administration from the global to the local, and that discourse and its material outcomes are influenced by conceptions of nature. In this case, I argue that the discourse and resulting policy prescriptions are outcomes of a modern view of nature that sees humans as separate from and dominant over the natural world. In this case, I use ideas from political ecology such as the social construction of nature to critically analyze the conceptions of nature embedded within global conservation policies and the organizations that create those policy

documents. Part of this process involves tracing back through time the emergence of the discourse of biodiversity conservation and associated ideas such as sustainable development and its predecessor concepts.

Framing is a way for the Bhotiya to purposefully package their ideological beliefs and express their grievances both social and political (Capek 1993). By linking their rhetoric with framing, the Bhotiya are creating collective action frames (Snow and Benford 1988, 1992; Taylor 2000). These frames are action-oriented and express the Bhotiya's sense of agency. By exercising agency through collective action frames the Bhotiya believe they can change their condition and/or alter policy. Taylor (2000) also introduces us to the idea that groups may have submerged frames that while not explicit, do represent a set of underlying ideologies.

As evidenced by the cases put forward in the environmental justice literature, scale often becomes a political tool that is used by both sides to frame a conflict (Herod 1997, Kurtz 2001, Towers 2000). Just as the Bhotiya may seek to 'go global' with their struggle, those responsible for the policies of the NDBR may alternatively seek to represent this as a local struggle, thereby limiting its significance (Swyngedouw 1997). Cox (1998) provides another perspective on scale in the form of spaces of dependence and spaces of engagement. Spaces of dependence represent how local interests are often expressed and can occur at an array of scales with boundaries that are not clearly defined. Spaces of engagement exist in relation to spaces of dependence, extending into and beyond spaces of dependence, and forming networks of exchange. Discourse analysis of data concerning the Bhotiya focuses on how their struggle is framed and the scale at which it is represented.

Three forms of data were collected: Texts from global, national and state-level authorities/agencies that contained policy prescriptions for biodiversity conservation, the texts

created by the Bhotiya and transcribed interviews with key agents involved in the conflict over the NDBR. Key agent interviews were videotaped if participants were willing. Videotaping allows for analysis of body language and other nonverbal gestures that cannot be recorded using audio tapes.

Discourse Analysis

The discourse analysis focuses on three concepts with reference to how the Bhotiya frame their struggle: references to past struggles such as that of the Chipko movement, assertions of rootedness of the Bhotiya through references to the past, and the moral tone of the discourse found in assertions of what the Bhotiya believe are good and proper. All three assertions are expected to be grounded in their conceptions of nature and may include religious references as well as references to how the NDBR should be administered. I also analyzed the texts keeping in mind that there may be submerged frames within the collective action frames.

Discourse analysis asks questions regarding the way meanings are constructed and as such can reveal how language can be ordered to produce certain effects (Tonkiss 1998). The epistemological foundation of discourse analysis is not the search for truth but rather an examination of the way that language is used to present different 'constructions' of reality. In discourse analysis, language is not viewed as neutral; rather it is seen as shaping our knowledge of the social world (Gill 1996). Indeed, much discourse aims to construct a particular version of the world amid competing (discursively constructed) versions. In other words, discourse is meant to be persuasive (Tonkiss 1998).

Gill (1996) offers four main themes of discourse analysis. First, "discourse analysis takes discourse itself on as a topic" (141). Second, discourse is constructive. For discourse analysts, texts of different kinds construct our world. Language is not simply a reflection of reality; rather

it is used to construct reality through discourse. Third, discourse is oriented towards action and function. Discourse is used to do things such as make excuses or present someone else negatively. Since language is viewed as a social practice, discourse analysis is concerned with both the interpretive context of discourse and the rhetorical organization of texts. Without interpretive context, even the simplest neutral-sounding sentence can take on many different meanings. Gill discusses an example in which colleague tells you that "the copier is broken". Such a statement may sound neutral without proper interpretive context. If you often break copiers, the colleague may be blaming you for the broken copier. If you are known to be handy with fixing the copier, it may be a request. Interpretive context is the social situation in which a discourse is located, and is important to discourse analysis because it can shed light on the power relations implied through the position of the speaker. Fourth, rhetorical organization of texts refers to the arguments used to promote a certain view while countering competing views. Rhetorical analysis is concerned with the way statements are produced to have certain effects. The statements contained within texts become part of a rhetoric which seeks to privilege certain forms of knowledge and produce authority. In this way, rhetorical discourse is used to shape certain outcomes through persuasion. Because rhetoric refers to the use of discourse to influence outcomes, rhetorical discourse is linked to action (Gill 1996, Tonkiss 1998).

Discourse analysis has no standard approach or methods. This in part because the analysis is driven by the data and in part because the analysis looks at multiple ways in which meanings are constructed; the production of meaning in language is far from standard. Also, discourse analysis is conducted across multiple disciplines and this contributes to the diversity of approaches. Nonetheless, there are common techniques which are used in discourse analysis. First, the data sources are selected. These sources can be archival documents such as newspaper

articles or policy statements or they can come from data collected in the field such as interviews. Discourse analysis is more concerned with the richness of the texts rather than the sheer number of words or pages. Richness refers to the texts ability to provide insight into the problem. Given this, a single document can provide a researcher with many themes and thus a fruitful analysis (Tonkiss, 1998).

After the texts are gathered or chosen, analysts sort and code the data. This can be achieved in a number of ways. Sometimes, key words are used as themes. Anytime a key word is used, it is coded by theme. Then the ideas and representations which surround those words are analyzed. A second way the data is coded is by emphasis. The analyst looks for ideas or representations which are repeated or emphasized within the texts. Third, the text is read for its inconsistencies. These inconsistencies point to a reconciliation of conflicting ideas or a way to counter alternatives. Finally, discourse analysts also read for what is not being said. Often times this is just as important as what has been said. Omission of certain themes in accounts often acts as a way to ignore or disempower alternative accounts (Tonkiss 1998).

In this research, I used the latter three of the four techniques of discourse analysis. The texts were read for emphasized or repeating themes and inconsistencies that pointed to a reconciliation of conflicting ideas. I also read the texts, noticing what was omitted in terms of certain terms or themes.

Presenting discourse analysis

In the presentation of the analysis, the analyst must address two important themes, reflexivity and validity. Discourse analysis takes a reflexive approach whereby the researcher questions her/his own assumptions, examines critically the process of inquiry and considers their own effect on the research. Validity can be internal or external. Internal validity refers to how

well the conclusions of the researcher are supported by the data. Specifically, an internally valid

discourse analysis will have interpretive rigor and an internally consistent argument derived from

a thorough reading of the data. The goal for an internally valid discourse analysis is not to

provide an objective account of the texts. The concern is with how meaning is socially produced

and the account is meant to be a persuasive interpretation of the texts. This means that

interpretations of texts can always be contested. Claims of external validity are not easily dealt

with in discourse analysis. External validity refers to the ability of the research to be generalized

to account for other research. In other words, the research is externally valid if it can be used in

other cases in order to develop theory or discover a hidden truth (Yin 1994). If discourse analysts

made claims of external validity, they would open themselves up to criticism that their research

was claiming to be objective or true.

Background on fieldwork

In conducting this research, I spent much time in the field, particularly in the villages of

the NDBR over a period of three years from 2002 until 2005. The preliminary fieldwork in the

NDBR was conducted in May-June of 2002. During this time, I spent approximately three weeks

in and around the NDBR establishing connections with local people, activists and government

officials. Perhaps the most tangible outcome of this preliminary trip is the relationships that were

built which ultimately became necessary for completing this research project. During 2003, I

began to formulate my research questions and develop a research proposal. The research

proposal was completed in 2004 and I used it as a template for my next trip to the NDBR

scheduled for May of 2004. The main portion of the fieldwork was conducted during a six-week

stay in the village of Lata. During this time, I traveled with two research assistants from

Appalachian State University, a full time (unpaid) interpreter and a part-time (paid) interpreter.

Both interpreters were Indian and from the mountains of Uttaranchal but neither interpreter was from any of the villages in or around the NDBR. The fieldwork conducted in 2004 consisted mainly of traveling to villages and conducting surveys on households. Trekking to the villages was sometimes an arduous task made even more frustrating by the time it would often take to complete a survey. Many times, research participants would invite us for tea and after 11am, locally made liquor (*dharu*) was often offered to us. After a cup of tea and perhaps a puff from a hooka and/or a glass of *dharu*, we would be able to move to the next household and begin the process all over again. If everything went smoothly, it was possible to conduct three to four surveys in a day. However, some days we were only able to survey a single household.

Occasionally, I would also hand out a camera to one of the survey participants and give the instructions for the photographic activity. Choosing participants for this activity was a complicated task that often involved heated discussions between the interpreters and I as to whether or not the potential participant could operate the camera. The main concern was that those who were heavy drinkers might not be able or willing to carry on with the assignment. There was also the concern with the ability of some to understand the way the camera functioned. In the end, there were very few pictures that were unusable for the analysis. Also, seven of ten cameras were retrieved.

During these six weeks of fieldwork in 2004, I also interviewed key agents such as government officials from the Forest Department and officials at UNESCO in New Delhi as well as local activists involved in the Nanda Devi campaign. In 2005, I returned to India two more times for fieldwork. The first trip was in March of 2005 when I traveled for two weeks to India to interview some of the officials and other key agents that I was not able to interview in 2004. During this short trip I spent time in Delhi and traveled to Dehradun, the capital of Uttaranchal.

The second trip in 2005 was in May when I brought a group of students from Appalachian State University on a fieldcourse to the NDBR. During this trip I instructed two for-credit courses and also completed the remainder of my fieldwork in the NDBR. I was able to re-interview a few key locals to clear up some questions that had been raised since 2004 and give back the photographs from the photographic assignment. Participants were informed ahead of time that I was returning and five of the seven came to Lata to retrieve the photographs they had taken. The sharing of the photographs was a raucous occasion filled with laughing, pointing and discussion. I briefly and informally re-interviewed the participants just to get their reflections on the photos a year after the original activity. Overall, I was of the impression that the photographic assignment was the most interactive and well appreciated by those who participated. Returning the photos was an emotional but I believe fitting way to officially end my dissertation fieldwork in the NDBR.

In the next chapter, I present my findings on how the Bhotiya perceive they have been affected by the conservation policies of the NDBR. These findings stem from the compilation of the survey questions. Next, I address the conceptions of nature held by the Bhotiya and uncovered through the photographic activity and in-depth interview that followed the activity. After that, I address the conceptions of nature that are embedded in the conservation policies that govern the NDBR, from global organizations such as UNESCO to local organizations such as the Forest Department. Finally, I compare and contrast the competing conceptions of nature that the Bhotiya and policy officials have in relation to resource management decisions.

CHAPTER 5: CONCEPTIONS OF NATURE

Introduction

This research is based on the premise that the current conflict within the NDBR is partly grounded in different ideas among policy-makers and local Bhotiya about how protected resources should be managed, and that these differences are themselves grounded in competing social constructions of nature. Reflecting this premise, the first of the two research questions posed in this case study asks:

> How do the conceptions of nature and conservation held by members of the local
>
> community differ from those embedded in the global environmental policies governing
>
> the NDBR?

In order to analyze the rhetoric shaping the political discourse of conflict over the NDBR, it is important to understand both how the Bhotiya perceive that the policies of the NDBR have affected their livelihoods and culture, as well as the conceptions of nature which shape the policies set forth by the UN and Indian government to manage the NDBR. The broader question addressed by this portion of the study, then, is: How is the current conflict in the NDBR over conservation policy within the reserve influenced by differing views of nature embedded within ideas of how the reserve should be managed?

This chapter is divided into three sub-sections. The first section addresses the conceptions of nature held by the Bhotiya living within the NDBR and perceptions by villagers of the effects of the NDBR on their livelihoods. This section draws on the results of the villager survey and the more limited use of the photographic activity (described in the methods chapter). Survey results provide the foundation for the argument that the closure of the core zone has adversely

affected the livelihoods and culture of the Bhotiya living within the buffer zone of the NDBR. The photographic activity provides an alternative means to explore local peoples' conceptions of nature free from the imposed categories of language. This is important because visual perceptions play a part in non-linguistic and/or pre-linguistic cognition (Loizos 2001). The follow-up interviews in this activity provide insightful information regarding the specific rationales used by participants in deciding what to include and what to leave out. These two techniques combined with informal and unstructured interviews with local villagers allow for an interpretation of how nature is socially constructed by the Bhotiya. It is worth noting, however, that Bhotiya conceptions of nature are difficult to convey to a western audience; a substantial, but necessarily incomplete interpretation of Bhotiya ideas of nature is given in the following pages.

The second section of the chapter focuses on the conceptions of nature embedded within the policies which govern the NDBR. These policies have been set forth by the United Nations and the Uttaranchal Forest Department and reflect the dominant conceptions of nature held by those formulating policy. In this section, analysis of policy documents provides insight into how the resources of the NDBR should be managed according to the views of 'nature' and humans' place within it. Policy decisions regarding resource management directly reflect these conceptions of nature. Informal interviews with officials from UNESCO and the Forest Department provide valuable information which links conceptions of nature with policy decisions.

The final section of this chapter compares the two competing conceptions of nature, showing that there are some fundamental differences in how nature is socially constructed and that those differences are at the core of the conflict over resource management in the NDBR.

Bhotiya Conceptions of Nature

As part of this research, 30 Bhotiya households were surveyed in 8 villages in order to determine the perceived effects of the closure on villagers living close to the core zone (Appendix-2). The survey results reflect the opinions of approximately ten percent of the households in the villages surveyed. Surveys were conducted in the villages of: Bhalagaon, Juwa Gwar, Lata, Paing, Pangrsu, Reni, Suraitotha and Tolma (Figure 5.1). One member of each household was chosen to participate in the survey. It was necessary to try to survey members of the household who were old enough to remember the NDBR being open to mountaineering and trekking so they would be able to give a comparative perspective on livelihood and cultural activities before and after the closure in 1982. In addition to age, participants were chosen based on their availability to spend 30-45 minutes answering questions. In most cases, extensive notes were taken along with the surveys when respondents gave detailed answers with relevant information. Of the 30 respondents, only six were women. This is mainly due to the heavy workload many women have with regard to agricultural and household responsibilities. Because there are only two villages within the buffer zone containing scheduled caste or untouchable households, only two of the respondents represented scheduled caste households. All respondents were over 18 years of age, and their average age was 46 years.
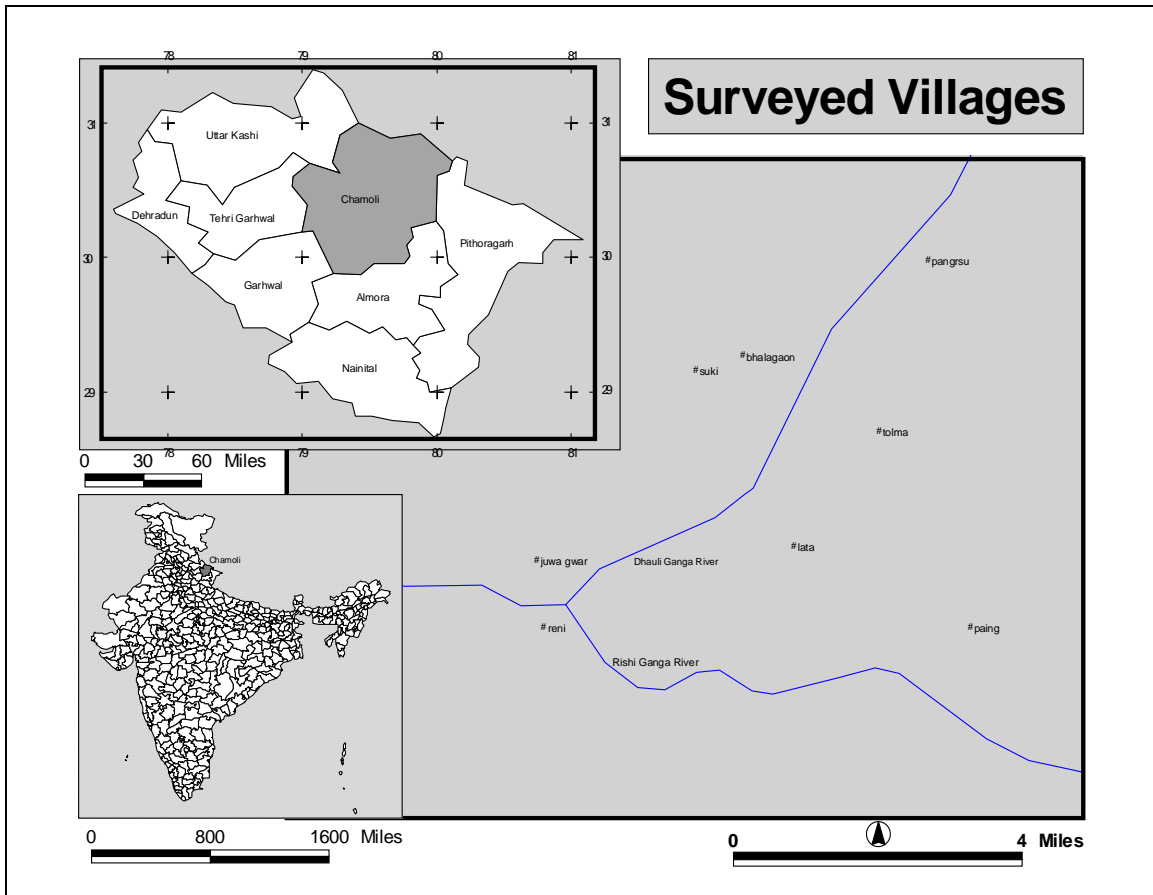
Figure 5.1: Map of the villages surveyed. Source: Digital Chart of the World.

The purpose of the surveys was not to provide a quantitative measure of the effects of the closure. Rather, the purpose is to provide a broad view of the perceived effects of the closure in many of the villages within the buffer zone and gain a basic understanding of local attitudes towards the closure. Specifically the surveys measure how the closure of the NDBR may or may not have transformed the daily practices and livelihood strategies of the Bhotiya and assess the involvement of the local people in the struggle to change the policies governing the NDBR.

A qualitative analysis of the results is referenced to an historical context in order to give a better perspective on the changes in livelihoods and culture brought about by the closure of the core zone. In the following paragraphs, discussion of the survey results is organized in terms of the themes of environmental, cultural and livelihood change (appendix-2).

In the survey, 76.7 percent of the households cited farming as their primary source of income. No households cited herding. Only 23.3 percent of households cited farming as the primary source of income before the closure of NDBR. Thirty percent of households were herders before the closure and forty percent of households were engaged in the service industry (portering, weaving, guiding, and day labor). This first set of results suggests that livelihood activities have changed since the closure. When the high alpine meadows of the core zone were open to the Bhotiya, grazing of sheep and goats was part of the livelihood strategy. After the closure, most households either sold or slaughtered their sheep and goats. It is significant to note that only seven households cited farming as their primary source of income before the closure. Most households were engaged in a combination of herding and service jobs. Many of these service jobs were tied into the influx of mountaineering expeditions particularly during the period between 1974 and 1982 when Nanda Devi was open to international climbing teams. Many men earned what would be considered good wages as porters, cooks and guides for

expeditions. Goats and sheep were also used extensively as pack animals for expeditions during this time allowing the men an opportunity to earn wages carrying loads to base camp while simultaneously grazing their sheep and goats in the *bugyals* (alpine meadows) along the way. Farming still occurred but was maintained at the subsistence level for the most part. Since the closure, farming has intensified and agricultural products are being sold to produce income. The two primary products are kidney beans (Rajma) and potatoes. The beans provide the steadiest source of income because they are in high demand. The family that I lived with in Lata village stored their dried beans in my bed which was actually a large wooden trunk. Passersby, particularly military personnel would show up perhaps once a week and purchase beans from the family. Military personnel are often in the area because of its close proximity to the border with the TAR of China. There is a small military base 25 kilometers down the valley from Lata at Joshimath and a military outpost at Malari village to the north of Lata (Figure 5.1). Otherwise, produce is taken to Joshimath and sold, usually to wholesalers.   Potato prices fluctuate greatly and sometimes farmers actually lose money on their potato crops. This first set of results suggests that livelihood activities have indeed changed since the closure. The question then becomes: Are these changes providing more or less income for villagers?

All of the households surveyed said it was at least slightly harder to earn an income since the closure and 23.3 percent of the households said it is now impossible to earn an income; 93.3 percent of households said that living standards were lower since the closure and 6.7 percent of households said they were the same. Since income generating activities are now primarily tied to agricultural activities, those with the most and/or most productive land have the best opportunity to earn an income from their land. Those households with marginal land and/or small tracts of land have much less potential to earn an income from their agricultural activities. The results

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show that in all of the villages surveyed, households thought it was harder to earn an income now than before the closure. Two reasons for this suggest themselves. First, agricultural yields and prices fluctuate from year to year providing an unsteady source of income for households. Second, during the period from 1974 to 1982, mountaineering expeditions provided a good source of high wages and local people could 'double' this up with grazing their flocks in the bugyals.

Every respondent said that the households within their villages have either the same or less farmland than before the closure. This indicates that even though there has been a shift in livelihood activities from herding and service labor, the amount of land which people have to farm has not increased. With an increase in agricultural activity and no appreciable increase in agricultural land, agricultural intensity necessarily increases. Villages now farm the same land they did before the closure, but now that land is used not only for subsistence but also for income generating agricultural activities. One example of this is the recent emergence of medicinal herbs in terraced fields. Medicinal herbs were once collected both in the core zone and on other Forest Department lands within the buffer zone. Forest Department policies now severely limit the collection of medicinal herbs, particularly for sale. Villagers have turned to cultivating these herbs in their fields instead of collecting them from the forest. Medicinal herbs play an important role in healing common maladies such as headaches or nausea. Silori and Badola (2000: 273) identified 27 species of medicinal herbs used by Bhotiya villagers in the Pithoragarh district on the eastern edge of the NDBR. Prices for medicinal herbs vary greatly because there is no standard marketing mechanism in place and because of the increasing role of middlemen in some areas (Silori and Badola 2000).

With reference to livestock, 93.3 percent of households said their village had fewer goats or sheep now than before the closure. These results support the rhetoric of the Bhotiya that the closure has hindered the ability of people to graze herds both in the core zone and on forest department lands (Figure-1.2). Without grazing lands, animals must either be sold or slaughtered. This has led to a dramatic decline in the number of sheep within many of the villages of the Niti Valley. Local youth were once employed to graze sheep during the summer in the Bugyals but since there are very few sheep left, this practice has vanished and the local youth are more interested in other wage earning activities. Most educated youth aspire to civil service jobs but have been relegated to day labor. When asked how many family members had left home for work or schooling since 1982, the numbers were surprisingly low. Of the 30 households surveyed, only a total of 36 family members had left. Upon further investigation, it seems that many younger men actually have college degrees and some even have graduate degrees but they cannot find work in the lowlands so they return to the villages to work as farmers and/or day laborers.

All 25 households living in villages which were exposed to tourism before the closure reported seeing fewer tourists. This is not surprising because the main thrust of tourism in the region was mountaineering and many peaks, including Nanda Devi (the most popular) are now closed to climbing. Some of the peaks on the outer edges of the core zone can still be climbed using approaches which do not enter the core zone. Of these, only Dunagiri and Kalanka are approached via the Niti valley. Large expeditions are a thing of the past and have been replaced by the occasional group of trekkers or university students participating in cultural tours.

In section two of the survey respondents were also asked if they had visited the core zone prior to its closure and what type of environmental degradation they witnessed. The purpose of

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these questions was to gauge the local perceptions of environmental impact versus the perceptions of scientists who assessed the situation in the late 1970's. The questions regarding the amount of degradation were very specific as to refuse, trail conditions, human waste and fuel wood availability. A total of 19 respondents visited the core zone on or before 1982. All of them said that the area was at least heavily used and several said the area was highly degraded. This corresponds with the reports generated by scientists that environmental degradation was a problem within the core zone.

The survey also addresses the religious impacts of the closure. Of the 30 surveyed, 63.3 percent of households said their religious rituals have changed since the closure. Upon further questioning, villagers relayed that they used to be able to go to the bugyals and perform pujas to their goddess Nanda Devi. Now this is not allowed. As one man asked rhetorically, "Where is my goddess? I cannot worship my goddess." Such rituals are seen as an important part of daily life and are often tied into important livelihood and cultural activities such as harvests and fertility. Nanda Devi is widely worshipped throughout the Garhwal Himalaya and the Bhotiya live in her shadow. This gives the Bhotiya a special relationship to their goddess. Imagine if you could actually experience the physical incarnation of your god. The Bhotiya actually do and this has a profound effect on their everyday lives. The first grains of the harvest are always given to Nanda Devi and every twelve years, the Nanda Devi Raj jat attracts thousands of pilgrims who trek for three weeks led by a four horned ram that is miraculously born every twelve years for the pilgrimage. Nanda Devi is seen as a maternal figure and rituals such as the offering of grain and pilgrimages are performed with reverence in the hopes that Nanda Devi will provide prosperity and peace (Kainthola 2004).

In the final section of the survey that references the conflict over the NDBR and the Bhotiyas' active involvement in the resistance; the results were extremely one-sided. Every household surveyed opposed the closure. This is probably not the case for every household within the buffer zone; indeed, some households in the area have profited since the closure because they have been awarded small contracts by the Forest Department for construction projects such as cement paths in the villages. It is significant; however, that among those households surveyed there was overwhelming opposition to the closure, almost to the point of unanimity. Evidence that opposition to the closure is widespread beyond these households includes well-attended meetings and protests in opposition to the closure. In 1998 during the *Jhapto Cheeno Andolan* (swoop and grab movement), approximately 1500 local people illegally entered the core zone en masse to assert that they were opposed to the closure on the grounds that it was harming livelihood activities and eroding their culture.

Among households surveyed, both livelihood activities and religious rituals have been severely restricted and this has caused unwanted cultural changes. When asked, 73.3 percent of the households surveyed said they were involved in some way in the struggle against the policies of the NDBR. While the level of involvement varied by household (some only attended meetings occasionally while others were leaders in the protest against the closure) many households had at least participated in the movement to regain resource rights. This is important because it illustrates that the local opposition of the closure is not only expressed in principle but is also based in action.

Two survey topics yielded ambiguous results, the persistence of poaching within the reserve, and the extent of wildlife in evidence since the closure. Poaching turned out to be a subject many people did not want to talk about. Poaching, particularly of Musk Deer for their

musk glands, occurs within the core zone and is a lucrative business. Many of the poachers come from Nepal but it is suspected that locals have some involvement in either organizing the 'poaching expeditions' or provide information to poachers as to the best routes in and out of the core zone. Local involvement in poaching in the villages of the buffer zone may or may not be occurring. It may also be possible that people from as far away as Joshimath are providing support to poachers. Locals vehemently deny that they participate in poaching and many times the subject is taboo. This may be because hunting has long been a part of Bhotiya culture and now hunting of animals within the reserve is considered the same as poaching.

In a related topic, respondents were asked whether they saw more or fewer wild animals during daily activities in and around their villages since the closure. The results of this question were mixed. Of the respondents, 53 percent reported seeing fewer animals since the closure and only 13 percent reported seeing more animals. Two respondents reported seeing the same amount of wildlife and eight had no information regarding wildlife. These results do not provide any insight into a dynamic between the closure and wildlife activity.

The survey results show that there have been changes in livelihood activities as well as cultural activities since the closure of the core zone. The changes in livelihood activities have made it harder for households to earn an income and some households now find it impossible to earn a living, barely surviving through subsistence agriculture. Agricultural production has intensified while the amount of land for agriculture has remained relatively stable. This has led to an increase in the intensity of agriculture and a shift towards growing crops to sell in the marketplace. Opposition to the closure was observed to be widespread as was involvement in the struggle against the policies of the NDBR. The Bhotiya living in the eight villages surveyed

perceive the closure of the core zone to be detrimental to their livelihoods and culture and therefore they oppose these policies vigorously.

Results of the Photographic Activity and In-Depth Interviews

As part of the photographic activity, 10 cameras were handed out to villagers, 7 men, 3 women. Only six of the cameras were retrieved, five men and one woman participated. The assigning and retrieval of cameras proved to be more difficult than anticipated. Participants for the activity were chosen among survey respondents. Some survey respondents were not interested in participating in the activity but most welcomed the opportunity to share visually part of their culture. Of those interested, those with a demonstrated ability to use the camera correctly were chosen to participate in the activity. This is a necessary condition because the photographs are an integral part of the interpretive process. Retrieval of the cameras also proved to be problematic. Four of the cameras were not retrieved because participants were not in their village on the determined pick-up day. Given the limited amount of time for the project and the isolation of many villages, return trips were not possible. Instead, messages were left for participants to return their cameras to Lata where I was living. Participants were interviewed at the time the cameras were retrieved.

The activity provided a way for villagers to participate in the study and begin to think about their conceptions of nature. It was expected that they would take pictures of their households first and this is what is occurred. One participant said this is how they prioritize their natural environment. After that, the results varied. Some people primarily photographed the surrounding landscape while others focused on livelihood activities in their photographs. In total, 162 photographs were processed, of which 146 were useable. The other 16 photographs were not useable because they were either too dark or were taken with the finger over the lens. Although it

is impossible from the photographs alone to gain a full understanding of the participants' conceptions of nature, the activity did yield some interesting results. After careful inspection of the photographs some patterns began to emerge and it was possible to roughly categorize them into seven groups.

Although I was hesitant at first to categorize the photographs because of the issues involved in imposing external categories, the technique proved to be useful. Only one picture (that of one person's home stereo) did not readily fit within one of the imposed categories. This indicates that the categories, while externally imposed are representative of the types of pictures taken by the participants. The formulation of the categories followed the rules of creating categories in content analysis. These rules state that categories should be exhaustive and inclusive (Weber 1990). The categories are households (Figure 5.2), human landscape (Figure 5.3), non-human landscape (Figure 5.4), livelihood activities (Figure 5.5), mixed subjects (Figure 5.6), flora and fauna (Figure 5.7) and domestic animals (Figure 5.8). Any pictures taken of people not working were categorized as family pictures. Photographs of houses and villages were included in the human landscape along with photographs of other human-made structures such as paddocks, fencing and walls. The non-human landscape photographs were categorized as such only if the subject matter was explicitly and exclusively a 'natural' landscape. Most times these were photographs of snow-covered peaks. Photographs categorized as livelihood activities included people working as well as agricultural products. The category of mixed subjects was necessary because many of the photographs were framed to include both the human and non-human landscape as well as livelihood activities. Flora and fauna were also included as a category because participants took photographs of both wildlife and plants. These photographs included nesting birds, Deodar trees and medicinal herbs. The final category was domestic

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animals. This category was dominated by photographs of cows, the most common domestic animal in this region.

The interviews yielded the most significant information. Nature for the Bhotiya is an inseparable part of their existence. Therefore, their lives and livelihoods intertwined in the physical landscape. The Bhotiyas see themselves as both separate from nature and also a part of it as well. Their landscape is infused with religious meaning which is linked to nature. Trees, rocks and rivers all hold a religious and spiritual significance.

When a Bhotiya crosses a river on a bridge (particularly in a vehicle) he/she will give a prayer to the river for its forgiveness because Bhotiya consider it arrogant to cross such a powerful entity without acknowledging its significance by touching the water. The Bhotiya are agro/pastoralists, some of whom still practice transhumance as a last-resort livelihood. They are Hindu but their folk beliefs are not entirely based on mainstream Hindu mythology. In fact Bhotiyas have their own mythology on the creation of the cosmos. This creation myth has a strong influence on how the Bhotiya view nature. For Bhotiyas, it is Bhumiyal, the god of earth who looks after their crops, multiplies and regenerates their seeds and thus helps in sustaining life. Each year, therefore Bhotiyas offer the first grains to Bhumiyal. This is generally a token amount of wheat or millet. In fact their entire Bari Meetings (their indigenous management system) are conducted on the occasion of Bhumiyal Pujan (the ritual to offer summer harvest).
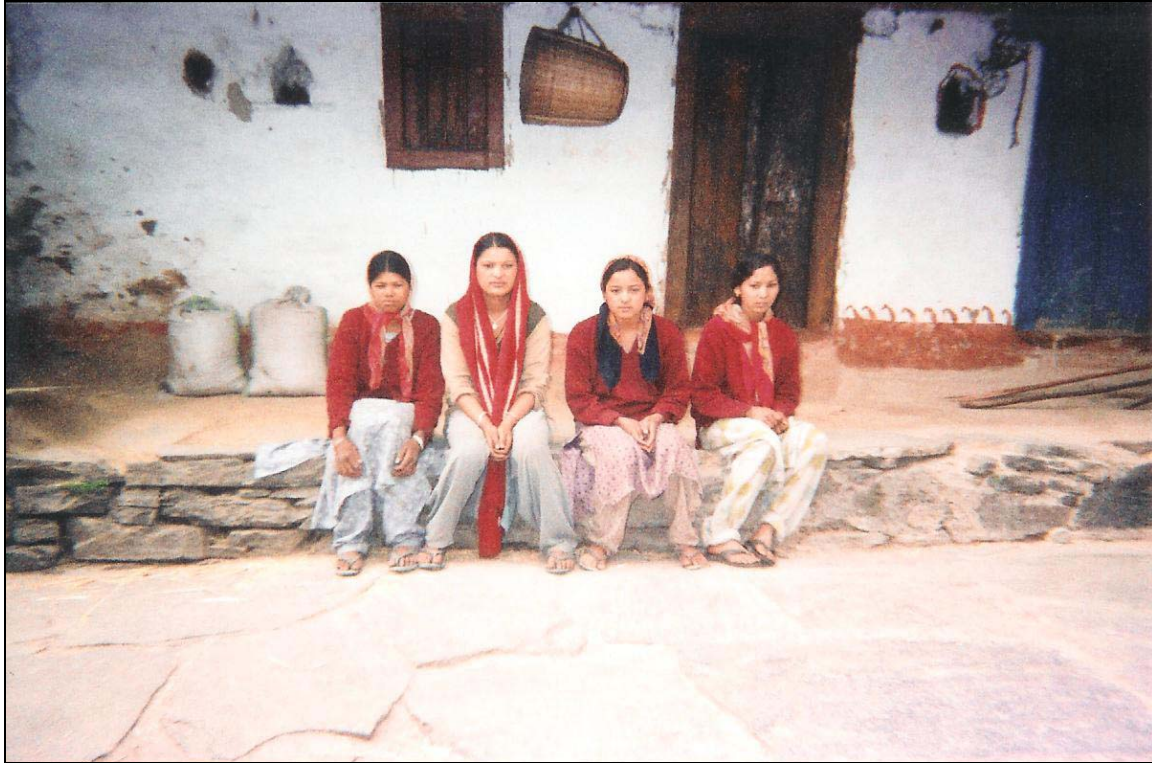
Figure 5.2: Households. By K. S. of Paing village

Figure 5.3: Photographs of the human landscape. By: K.S. and G.S.

Figure 5.4: non-human landscape. By: D.S. (Nanda Devi and Rishi Gorge) and R.S. (Dhauli

Ganga and Niti Valley from above Lata village)

Figure 5.5: Livelihood activities. By: N. R. and K.S.

Figure 5.6: Mixed. Top photo is human and non-human and bottom photo is household and

human. By: R.S. and M.S.

Figure 5.7: Flora and Fauna. By: M.S. and D.S.

Figure 5.8 domestic animals. By: D.S.

Thus in spite of all the technological interventions, the Bhotiya still believe in the god of earth, who takes care of their sustainability. The Bhotiya also worship the mountain Nanda Devi as the physical incarnation of the goddess Parbati. The village of Lata is home to the Nanda Devi temple and the cult of Nanda Devi is widespread in the Garhwal.

There are strict dress codes and taboos for venturing inside the Nanda Devi Sanctuary, as meadows are considered to be domains of Fairies, gods and sprits (figure-2). Most of the rituals/taboos related to the human-nature interface clearly establish the supremacy of higher forms of being and are intricately connected with the Bhotiyas idea of sustainable management phenomenon (Kainthola 2004). For Bhotiyas as for other Hindus, man is superior to other forms of life, but as Hindus believe in rebirth, a person may take the form of a pig in his next life (for example) depending on his deeds during his present life. For Bhotiyas, the dominance is more of a social nature, a feudal one, where caste and class domination still plays a subtle role. As far as Nature (comprising mountains, rivers, meadows, forests, wildlife, and sky) is concerned, it comes under the strict domain of the Gods. They believe in using it, occasionally abuse it, but immediately seek forgiveness from the local gods and goddesses. The forgiveness is usually an expensive exercise with sacrifice of goats and community feasts. Even a poacher or a forest contractor who has indulged in commercial felling, strongly believes in higher forms of life and would be expected to follow these practices (Kainthola 2004).

This relationship with nature is a symbiotic one based on the Bhotiyas' physical connection with their environment. Pragmatically, the Bhotiya realize that it is in their best interest to care for the physical environment around them so that in turn the environment will provide for them in the form of resources. G.S. , an interviewee from the village of Bhalagaon explained to me that humans can either help or harm nature but that it is in their best interest to

help nature because then nature will also help humans. He explained to me how much he and his neighbors get from nature. They have goats that provide milk, meat and dung. The milk and meat are consumed and the dung is used on the fields as fertilizer to grow crops. The crops also provide a food source. The forests and meadows provide places to collect medicinal herbs and provide a place to graze the sheep. G.S. is aware of the balance between humans and the environment and while he acknowledges that humans can be bad for the environment, he also points out how much humans benefit from the environment. For G.S., environmental services are 'free' and a gift from the divine. As such, he and his family use these services keeping in mind the balance between use and abuse of the environment. G.S. knows that if he overgrazes in the pastures, they will not be as productive the next year. He also says that he will only take what medicinal herbs he needs from the forest so that he and others will have some for future needs. So, although the Bhotiya view of nature is infused with religion, it is also pragmatic and based on daily use of environmental 'services'.

The women are perhaps the most spiritual with regards to nature and this is reflected best in their folk songs which praise the beauty and power of the landscape. This spirituality is exemplified in the women's regular trips across the Dhauli Ganga River in the winter to where they cut grass on precipitous slopes and haul large loads back to the village for the animals that are kept in paddocks this time of year. There is a very real risk of death in this activity. The slopes on which these women cut grass are so steep and sustained that in many places a slip would result in a fall of hundreds of meters to the river below. The women pray to Nanda Devi to protect them from this fate. The hazardous nature of this work brings women close to the environment in a way that is spiritual. The environment that provides for their livelihood and nourishes their family, can also take their life in a moment.

The interview with N.R. of Paing, a remote village nestled high above the Rishi Ganga, gives a woman's perspective on nature. N.R. is the *Gram Pradhan* of the local *Van Panchayat*. For lack of a better term, she is the locally elected 'mayor' of her village. Her perspective is representative of the other five men interviewed in many ways and also unique in some ways. When asked what she took pictures of first, she said that she took pictures of family and their daily activities noting that these photographs reflect "how we work and what we want." Although this may on the surface to a westerner not have anything to do with nature, her other responses help to clarify the relationship between livelihoods and nature. She declared that while she is very close to 'nature' she has interacted with many tourists and that she has seen other viewpoints on nature. With this said, she spoke on livelihoods and nature saying that for the Bhotiya livelihoods and nature are the same because they are dependent on nature for so many things. Within this response she also added that 'In nature there is beauty, if there is no nature, there is no beauty." This suggests more than a practical appreciation for the landscape as well as a complex view of nature. She declared that humans are a part of nature and not separate and that humans are not harmful to nature because so many activities done by human beings are done to conserve nature. She chose to photograph many collective activities such as planting and harvesting crops. Several of these photographs were staged but the point was the same, that collective action is essential to the Bhotiya way of life and it provides a social structure, formalized in institutions, that assures (in most cases) use of the environment that cultivates biodiversity for the benefit of the community.

Collective work is important for the Bhotiya. This is shown in the photos and also reflected in the culture, Bhotiya folk dances are performed in a circle by everyone (men, women and children). For the Bhotiya collectiveness is part of their livelihoods, celebration and struggle.

It is collective work which allows the Bhotiya to survive in such a rugged and many times inhospitable environment. There are some tasks that simply cannot be performed by an individual or even a single family. These tasks such as building and repairing terraces and harvesting crops are often undertaken by the entire community. This is a very organized process controlled by the local *Van Panchayat* which is the village government. Members of the community will also organize for public works projects such as building stone pathways. Usually for these projects each family will send at least one member. In this way, daily household responsibilities are not ignored and at the same time, collective work can be performed for the development of the community.

Communal attitudes are reflected in the "Nanda Devi Biodiversity and Ecotourism Declaration." This document, drafted in 2001, outlines the Bhotiya's ideals for how ecotourism should operate in the NDBR (appendix-1). Point-3 of the declaration states:

> "With the cessation of all forms of exploitation like the exploitation of porters and child labour in the tourism industry, we will ensure a positive impact of tourism on the biodiversity of our region and the enhancement of the quality of life of the local community."

This point suggests that the entire community be involved in tourism and that biodiversity conservation and development defined as an enhancement of the quality of life of the community are not mutually exclusive. Rather, development and conservation in this context are necessarily connected through ecotourism which promotes biodiversity conservation while simultaneously improving the condition of the local communities. While this may seem to us like a lofty and perhaps unattainable goal, from a Bhotiya perspective of nature, it allows for the simultaneous exploitation and conservation of nature and promotes this process at the

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community rather than the individual level. A Bhotiya commitment to communal management is also reflected in point-6:

> While developing appropriate institutions for the management of community based conservation and eco tourism in our area we will ensure that tourism will have no negative impact on the bio diversity and culture of our region, and that any anti social or anti national activities will have no scope to operate in our region.
> In this point, biodiversity conservation is linked with cultural preservation and should be

managed by the community through management institutions in which all groups within the community are involved in the decision making process. It also acknowledges that those who do not adhere to this communal perspective will not be tolerated.

The Bhotiya are intimately connected with their landscape and this connection is reflected in their religious, spiritual and aesthetic appreciation for their landscape. I say 'their' landscape purposely because the Bhotiya feel that the area they inhabit belongs to them and that they should be the ones to manage the resources. Given this, the Bhotiya also contend that their activities are actually helpful to 'nature' rather than harmful. This makes sense when viewed in their perspective that natural resources must be conserved as well as cultivated for survival. Livelihood activities provide the conduit by which the Bhotiya experience their landscape and thus are an inseparable part of what is perceived as nature. Religious beliefs also act to keep the Bhotiya from exploiting their natural resources. Noting that the landscape is the domain of the gods and is sacred, any over-exploitation of the resources comes with stiff penalties which are imposed through local institutions as well as through the belief that the gods will take their revenge on those who do not respect their domain. This is a complex perspective on nature and one which cannot be fully understood by people who are not directly dependent on their local landscape for physical and cultural survival. However, the interviews do provide a glimpse into

the ways in which the Bhotiya have constructed nature and placed themselves within this construction.

Conceptions of nature and conservation policy in the NDBR

The goal for this portion of the research was to interpret documents and speak with policy makers in order to examine the perceptions of nature embedded within the current management policies which have been the source of conflict. In order to set the context for the analysis, I address the conceptions of nature embedded in sustainable development, noting that sustainable development is an outcome of modern conceptions of nature in a discursive and material sense. Therefore sustainable development represents the conceptions of nature that led to its development as a concept and in turn influences the policy process from the global to the local level. Although the NDBR was closed to visitors in 1982, prior to the publication of the Brundtland Report (1987), the reserve itself did not come under global governance until 1988 when it was included as part of the MAB program in order to mitigate economic losses to local people from the closure. Then, in 1992, the NDBR was added to the World Heritage list for its unique biodiversity. Nonetheless, I argue that the ideology represented by the Brundtland Report (1987) is an outcome of a process of global environmental awareness that began in the 1960's. This environmental awareness led to the development of global initiatives for conservation, particularly the creation of the MAB in 1971 and the WHC in 1972.

The NDBR, then, represents materially the spatial and temporal convergence of global conservation ideology and discourse. The World Heritage program identifies areas of unique cultural and natural diversity around the globe and seeks to preserve cultural and natural heritage of these areas. The Man in Biosphere (MAB) program is similar to the World Heritage program, but has a particular focus on the conservation and sustainable use of bio-resources. It seeks to

involve scientists in formulating economic development policies that are also in line with local cultures. Both of these programs are administered through UNESCO, with the World Bank providing support in the form of micro development projects administered through the MAB program. The NDBR is also a World Heritage Site for its unique biodiversity, and as such the policy dictates that a core and buffer zone be delineated with the core zone being off limits to humans. The core and buffer model is commonly found in UNESCO administered biosphere reserves. This model represents reconciliation between environmental protection (core zone) and development (buffer zone) that is a mainstay of sustainable development discourse. The core and buffer model reflects the idea that humans are necessarily harmful to the environment, otherwise there would be no reason to keep local populations from practicing livelihood activities in the name of biodiversity conservation.

The documents interpreted in this chapter are only a small sampling of the vast amount of text produced by UNESCO and the World Bank referring to the environment and development. As such, I chose to focus on a few key documents at the global scale and then supplement those documents with other key documents at various other scales from the national and the local. In deciding which documents to include, I looked specifically for texts created through collaboration between UNESCO and the World Bank. In addition to this, key documents pertaining to the creation of the WHC and MAB programs are interpreted. I also interpret documents from the WWF in India that influenced the closure of the NDBR in 1982 by the Indian Government, as well as documents from the Forest Department of Uttaranchal. The aim here is to illustrate the common thread of modern conceptions of nature through time and across scales. First I will provide a discussion of modern conceptions of nature and link these conceptions of nature with sustainable development discourse and practice. Second, I will trace

across scales and through time, the discourse of sustainable development in order to point out the disconnect between discourse that seeks to reconcile conservation and development and policy recommendations that explicitly reflect modern conceptions of nature.

Modernity, Nature and Sustainable Development

The policies that govern the NDBR reflect certain modern and Western conceptions of nature. Escobar (1999) notes that the concept of nature has changed throughout history and that the modern epoch that we inhabit has given its own meaning to nature. "That nature came to be thought of as separate from people and increasingly produced through labor, for instance is related to the view of man brought about by capitalism and modernity" (Escobar 1999: 1). Escobar (1999: 4) also notes that nature is a "specifically modern category." The concept of nature as we understand it is lacking in many nonmodern societies. Escobar explains that the capitalist concept of nature has its roots in post-renaissance Europe and has been fully realized through today's global capitalism. There are several key components of modernity that have allowed humans to conceptualize nature in this way, they are: A linear perspective (that allows one to be removed from history and nature), objectification of landscape and women and Panopticism (Foucault 1979). Escobar (1999) defines this as capitalist nature, noting that in this modern conception of nature, resources have been ordered for human use. In this conception of nature, capitalist modernity requires rational ways to manage resources based on the scientific knowledge of experts. This has led to what Foucault (1991) described as governmentality, a process whereby increasing portions of everyday life are appropriated and controlled by apparatuses of the state. As Escobar (1999: 6) notes: "[t]his process has reached the natural order from scientific forestry and plantation agriculture to the managerialism of sustainable development." This passage reflects upon how capitalist nature produces governmentality

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through policies; particularly sustainable development that are based in rational and scientific knowledge.

Given that sustainable development is the latest buzzword for development officials and conservationists alike, UNESCO has adopted a sustainable development perspective in its conservation efforts. Speaking at a conference on Organizing Knowledge for Environmentally and Socially Sustainable Development in 1998, Tariq Hussein a senior advisor at the World Bank referenced "A Warning to Mankind" in which 1600 scientists declared:

> "Human beings and the natural world are on a collision course. Human activities inflict harsh and often irreversible damage on the environment and on critical resources. If not checked, many of our current practices put at risk the future that we wish for human society and the plant and animal kingdoms, and may so alter the living that it will be unable to sustain life in the manner that we know" (Serageldin, I et al. (Eds.) 1998: 1).

Hussein's comments reflect the tenets of sustainable development which the UN and UNESCO follow. These tenets were established in the Bruntland report also known as *Our Common Future* published in 1987. This report is significant because it outlines what has basically become a sustainable development paradigm by which global conservation efforts such as the MAB and WHC can be linked with global development efforts. Linking conservation with development through ideas of sustainable development has had implications across the globe particularly with regards to resource management decisions. One reason sustainable development as we know it has become so successful is because it has been able, through the use of a few key concepts, to reconcile economic development with environmental conservation.

The next section will outline briefly the concepts that allow for such reconciliation. This is important because the policies that govern the NDBR are influenced by ideas of sustainable development and the need to conserve the environment in the face of development. Also, this

paradigm implicitly and somewhat explicitly views human economic activity as necessarily

harmful to the environment.

The term sustainable development invokes utopian ideas of a world in which all people

have what they need and capitalism coexists peacefully with the natural environment. While

unfettered capitalism leaves no room in its logic for environmental concern (McManus 1996),

sustainable development ideology seeks to reconcile economic development and the

environment. Within capitalism, nature is treated as a commodity (Smith 1984), broken apart and

treated not as a whole, but as a discrete sets of resources. What this means for sustainable

development is that stocks of natural capital (resources) must be maintained (Costanza 1991).

Pearce (1988) goes so far as to suggest that under sustainable development, economic growth is

restrained by the need to maintain a constant supply of natural capital. At first glance this idea

seems contradictory to the actual path of economic growth and resource depletion seen today.

However, sustainable development is able to reconcile this apparent contradiction through the

use of the concept of the environmental Kuznet's U (Figure 5.9) and ideas of weak vs. strong

sustainability.

When nature is reduced to a commodity as it is in capitalism and therefore has been

treated as such in sustainable development, issues of weak versus strong sustainability arise.

Weak sustainability as defined by Solow (1993) views sustainability as necessary within

neoclassical economics in order to maintain a stock of natural resources which does not decline.

Weak sustainability has even been used to justify the continued use of non renewable resources

as long as the value of the stocks does not decrease (Mikesell 1994). This theory of sustainability

allows for trade-offs between consumption and environmental quality (Hediger 2000). In

contrast, strong sustainability maintains that natural capital (ecosystems) must be left in a

resilient state (Arrow et al. 1995). What Arrow et al. are saying is that for ecosystems to continue to be productive for future generations of humans, they must be maintained in a state of productive equilibrium.

While both ideas of sustainability are concerned with intergenerational equity, which is one of the basic tenets of SD, neither concedes that the ultimate goal is economic development. Actually, Arrow et al. refutes the ideas of weak sustainability as subscribing to the unproven idea of the environmental Kuznet's curve. The weak view of sustainability concedes that natural resources are necessary for development and the environmental Kuznet's curve illustrates the relationship between income and environmental degradation. As income rises, environmental degradation also rises to a certain point and then concern for the environment grows and environmental degradation decreases. This takes the form of an inverted U and implies that (un) or underdevelopment is necessarily unsustainable and that in order for sustainability to ultimately be reached, development must occur. Many of these ideas of the relationship of humans with their environment translate into conservation policy, first at the global level and then at the national and local levels. Throughout there is an underlying discourse of trying to reconcile conservation of the environment with economic development.
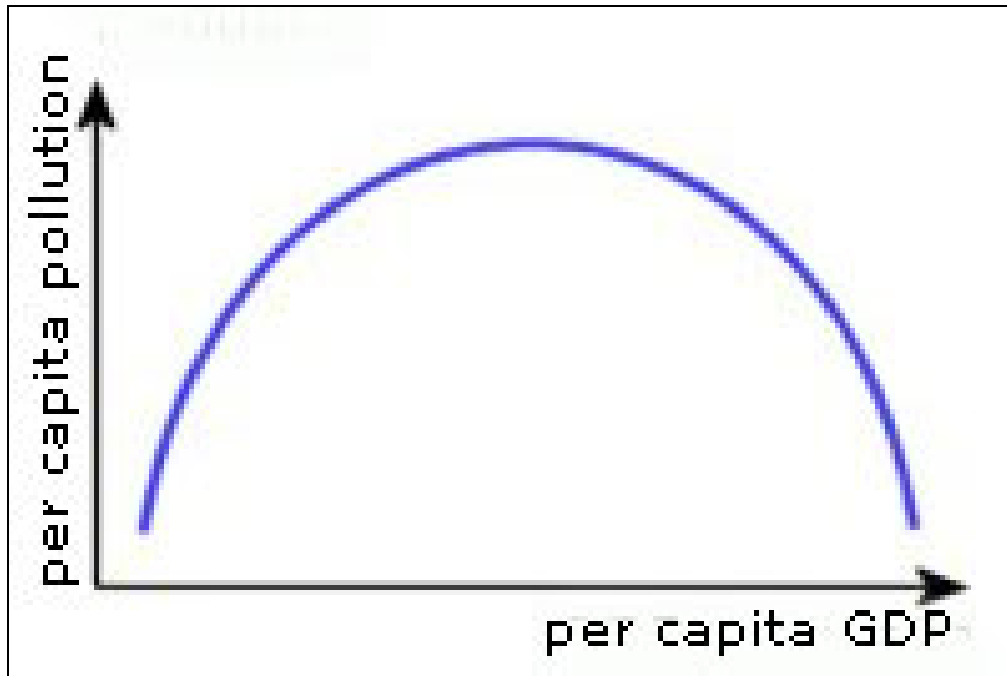
Figure 5.9: An illustration of the Environmental Kuznets Curve. As GDP per capita rises over time, per capita pollution also rises until a certain point when enough development occurs and concern for the environment becomes a priority. Source: www.gristmill.com

Discourse and Practice

Acknowledging that the articulation of ideas of conservation and development represent a scalar process, an analysis of global level documents is presented first in this section in order to establish a 'thread' of common discourse emanating from a global scale and winding its way through the policies and procedures at the national, state and local scales. Eventually, (as in the case of NDBR) local people's daily lives are affected by this discourse which is translated into action through various institutional apparatuses. In the course of the interpretive analysis, two seemingly contradictory discourses emerge. One discourse directly reflects the view that humans and human actions are necessarily harmful to the environment, and underpins sustainable development. The second discourse attempts to reconcile the contradictions inherent in the sustainable development paradigm by acknowledging the benefits of 'traditional' and 'indigenous' knowledge. These two discourses are evident at all scales from the global to the local. Perhaps the best example of these two discourses comes from *Our Common Future* in a discussion on "Conserving and Enhancing the Resource Base". One quote in particular stands out as significant.

> "Development policies must widen people's options for earning a sustainable livelihood, particularly for resource-poor households and in areas under ecological stress. In a hilly area, for instance, economic self-interest and ecology can be combined by helping farmers shift from grain to tree crops by providing them with advice, equipment, and marketing assistance" (WCED 1987: 57).

The first sentence of this passage refers to development policies which promote sustainable livelihoods and as such, is trying to reconcile global policies with the needs of the poor and marginalized to live in a sustainable manner using local resources. However, when recommendations for action are given in the second sentence; the discourse changes from one of reconciliation to one of management, where nature becomes a commodity. In this case, the

prescription of livelihood activities: "helping farmers shift from grain to tree crops" comes from above and it is implied that the necessary and beneficial change in livelihood activities can only be achieved through help from its scientifically trained experts in the form of "advice, equipment, and marketing assistance". Thus begins a chain of events which in most cases leads to a less sustainable outcome that is reflective of a view of nature as a commodity. It is interesting also that the quote above mentions orchards in hilly areas as an example.

This example has played itself out in the hills of Himachal Pradesh the state adjacent to Uttaranchal in India. Zurick and Karan (1999: 233) provide a synopsis of the problems with apple growing in the Himalaya. They use the example of the apple orchards in Kotgarh where 75 percent of the farmland is used for orchards. This provides very little farmland for subsistence agriculture and since 98 percent of the apples grown are shipped out of the region, they are not being used as a local food source. This alone could lead to issues of food (in) security. The orchards are a monoculture which relies on irrigation and chemical fertilizers to boost production. This leads to a reduction in biodiversity, an increased demand for water and a reliance on subsidized and externally produced chemical fertilizers which present their own set of environmental problems. One unanticipated consequence has been deforestation in order to produce crates in which to ship the apples. The wood for these crates comes from government forests and as Zurick and Karan (1999: 233) report, the amount of wood used to produce apple crates equals about 50,000 average sized fir trees per year.

This scenario has made some people wealthier but at the expense of the environment and more importantly, local people have been separated from nature. Nature is now a commodity which comes in the form of apples and as such, it now has a monetary value and can be marketed. Underlying this is the shift from a traditional way about thinking of nature to thinking

about nature as a commodity to be bought and sold on the global market. This shift is significant because it necessitates solutions from above rather than from the grassroots and assumes that people are necessarily harmful to the environment. The two discourses prevalent here become singular where policy prescriptions are made and as such both represent views of nature that portray humans as necessarily harmful to their environment. This is not to say that those operating within global development and conservation agencies are purposely strategizing in order to bring all of the world's people under the umbrella of global capitalism. However, the policy prescriptions of global development and conservation organizations do not fit with the rhetoric of local participation in resource management decisions.

A conference held in Washington, DC at the World Bank in 1998 addressed specifically the issue of culture in sustainable development. This conference was co-sponsored by UNESCO and the World Bank. The purpose of the conference was to bring together experts in the field of development to address questions relating to conservation of cultural and natural heritage in the context of World Bank development projects and learn "about options for action and innovation at the national level" (World Bank 1999: ix). The text provides a discourse of reconciliation between economic development and the environment noting that separating nature and culture can have negative environmental consequences.

> This perceived dichotomy between culture and nature can result in damage or loss of resources and failure to capture the synergies of integrated management" (World Bank 1999: 114).

Such a statement reflects the idea that cultural diversity and biological diversity are linked and that resource management must take a holistic approach in order to be successful. This statement is seeking to reconcile somehow the commodification of nature and its separation from humans by reconstituting (artificially) the human-nature connection through the idea of a cultural

landscape and through integrated management practices. This discourse of reconciliation within the sustainable development paradigm can be traced back to documents from the early 1970's that helped to establish the World Heritage Convention (WHC).

The Convention Concerning the Protection of the World Cultural and Natural Heritage, created in 1972 by UNESCO produced a set of policies and procedures in order to create an organization with the goal of preserving natural and cultural heritage globally. The Convention begins with the preamble:

> "*Noting* that the cultural heritage and the natural heritage are increasingly threatened with destruction not only by the traditional causes of decay, but also by changing social and economic conditions which aggravate the situation with even more formidable phenomena of damage or destruction" (UNESCO 1972: 1).

This statement implicitly links changing social and economic conditions as a factor contributing to the loss of cultural and natural heritage. There is a value judgment in the preamble that changing economic and social conditions actually accelerate the destruction of natural and cultural heritage. It is also implied that these changes are coming from an outside force or one that is not traditional. This passage illustrates the tension between economic development and conservation that is problematic. Even though global conservation entities such as UNESCO are concerned about conserving natural and cultural heritage, they must do so within the context of economic development that is necessarily harmful to their goals of conservation. Much time is spent in global conservation literature trying to reconcile the environment with development.

Another similar document, the Convention on Biological Diversity was created by the United Nations Environment Programme (UNEP) in 1992 in order to protect global biodiversity specifically. As an aside, India did sign this convention/treaty. The document shows a discourse of reconciliation of environment with development. In the preamble, the authors write:

> "*Aware* of the general lack of information and knowledge regarding biological diversity and of the urgent need to develop scientific, technical and institutional capacities to provide the basic understanding upon which to plan and implement appropriate measures…" (United Nations Conference for the Environment and Development UNCED 1992: 1).

The admission of the need to develop scientific capacities to gain information and knowledge about biological diversity appears to discount all indigenous knowledge of how to manage/promote biological diversity through livelihood activities. Privileging scientific understanding over local knowledge or in this case, not even acknowledging that there is local knowledge about biological diversity is an explicitly modern stance toward nature, as characterized by Escobar (1999) and used in this study. In another example from the preamble of this document, a discourse of reconciliation emerges which recognizes indigenous knowledge:

> "*Recognizing* the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components" (UNCED 1992: 1).

The statement begins with an acknowledgement of the dependence on natural resources by indigenous/local people who practice traditional livelihoods. However, the second part of the statement has a slightly different tone and one word in particular; 'components' is significant. The word 'components' refers to those parts of biological diversity which are of value. This assumes that biodiversity *can* be broken down into components and that there are benefits from the use of those components. These benefits are implicitly measured in terms of the wealth they can generate.

The documents from global institutions analyzed above have illustrated the parallel discourses stemming from the sustainable development paradigm which reflects an attempt at reconciliation between the environment and economic development. The next set of texts comes

from the national, state and local policies and interviews with officials who manage resources. These texts also show the same discourses as those embedded within the documents of global institutions.

One significant text is the World Wildlife Fund, India *Report on the Preliminary Survey of the Nanda Devi Basin* (1977) by Lavkumar Khacher. This text led to the closure of the Basin by the National Government. It is important to note that the creation of Nanda Devi National Park in 1982 coincides with the creation of other parks in the Himalaya and these parks came about shortly after the proposition of an 'ecological crisis' in the Himalaya. In the introduction to the text, the author states:

"This report attempts to evaluate the impact of Man's activities in the "Sanctuary" and suggests some remedial action to conserve the magnificent natural heritage for future generations" (Lavkumar 1977: 2).

The statement separates humans (Man) from nature by pitting human activity against natural heritage. In this case, natural heritage prevails and must be conserved "for future generations", an appeal often heard in sustainable development. This suggests an attempt to reconcile economics with the environment by placing resources 'off the market' so that stocks of natural resources can be conserved. This is not to say that the author was not sensitive to other views of nature. In section 8.3.6 the author states:

> "Perhaps the greatest error committed by exponents of conservation of wildlife in this country has been the almost complete lack of awareness or appreciation of local sentiments and the innate intelligence of the peasants to understand the value of conservation for their own survival" (Lavkumar 1977: 21).

This statement acknowledges local knowledge as important as well as the support of local people. It also connects peasants with nature noting that conservation is integral to survival. This suggests an understanding of the Bhotiya's reliance on their local environment. This tone

changes later in the paragraph when the author writes implicitly about the management of what

is now the NDBR. In speaking of the local Bhotiya:

> "He is a person, who, though cautious in accepting new ideas, can certainly be expected to participate in any planning for the betterment of his own life" (Lavkumar 1977: 21).

Implicitly, the suggestion is that the local Bhotiya will be willing to participate in government

management plans. Even though the previous passage connects local people with nature, when

speaking of management the tone begins to change and the passage suggests that management of

local resources should rest in the hands of the Uttar Pradesh Government and be based on further

scientific studies that provide data on biodiversity loss and environmental impact. This implicit

sentiment becomes explicit during the discussion of recommended actions to be taken. Rather

than recommend that locals have a direct and prominent role in the management of the resource,

the recommendations simply allow for regulated grazing in a small part of the sanctuary. A

complete closure was not recommended; therefore the author recommended that local porters

and guides be used rather than those from other areas or countries. There is no recommendation

that local people be involved in developing the management practices. Once again, the discourse

of reconciliation breaks down when management practices are discussed and a view of human

activity (economic development) as harmful to nature prevails. This view is echoed in the

interviews with Forest Department officials.

The Uttaranchal Forest Department administers the policy set forth by UNESCO with

regards to NDBR and also creates its own policy regarding forest management. Although no

officials would talk with me on the record, several spoke with me off the record and gave some

interesting insight. "Off the record" meant that officials were willing to speak at length with me

regarding the NDBR, but they were not willing to answer the questions I provided in the

interview script and did not want to be recorded. One official said that if possible, he would ban grazing on all forest department lands as sheep are a scourge on the environment. Another official told me that he wanted the parks administered by the Forest Department to be just like the parks in America. The implication of this is that local people are automatically excluded from interacting with their local environment. Both officials clearly prioritized 'wild nature' over the perceived harmful livelihood activities of local people. In this case, humans are necessarily harmful to 'wild nature.' Therefore, in order to conserve 'wild nature' human activities must be limited. This perspective on conservation is reflected in the policies of the NDBR at all levels from the global to the local. At the global level, UNESCO policies for biosphere reserves set aside a core zone that is to remain free from human interference. Surrounding the core zone is usually one or more buffer zones that allow for restricted human activities. This model is common for UNESCO biosphere reserves. In the case of the NDBR, the core zone consists of an area that once included seasonal Bhotiya settlements used for summer grazing of sheep and goats. UNESCO policies dictate that humans be banned from this core zone as their activities are seen as harmful to the fragile alpine environment. The UNESCO policy of keeping local residents out of protected areas is a reflection of the modern view that human activities are necessarily harmful to the environment and as such, some areas must be left completely out of the reach of economic activity. However, this view has been veiled by a discourse that attempts to reconcile environmental conservation with economic development, noting that development is seen as integral to environmental conservation.

This reconciliation can also be seen in the discourse of the local resource managers. Although no officials would speak with me on record, they have made their positions public and their off-the-record statements have already been referenced with regard to management policies

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in the NDBR. While the rhetoric is that of reconciliation, the management outcomes (as outlined above) reflect a modern view of nature. The following quote from A.K. Banerjee, the District Forestry Officer in charge of Nanda Devi illustrates the paradigm that improved economic conditions will lead to environmental conservation. This quote came from a documentary filmed by Chris Rego and produced by UNESCO in 2003 that outlines the conflicts in the NDBR. The documentary gave local Forest Department officials and the Bhotiya a forum to voice their opinions. In this context, the District Forestry Officer said that:

> "Nanda Devi Biosphere Reserve is for the area's people and the effort is that the community here will be taken into account while drawing up schemes and when they become better off, the environment here will automatically flourish" (Rego 2003).

This statement to the people of the NDBR reflects a discourse of reconciliation. Involvement of local people in the management of protected areas has recently become popular and the management plans of the NDBR do try to involve local people but not at a managerial level. The involvement of local people is limited in scope and is primarily confined to the Eco Development committees that were created by park officials and operate with little autonomy. The local DFO controls funding to the Eco Development committees and thus has the ability to make the final decision regarding allocation of funds. The second part of the District Forestry Officer's statement reflects the often repeated view that economic development is integral environmental conservation. This view has been traced through policy documents from the global to the local level and is an integral component of the sustainable development paradigm. The following two passages are from the Periodic Report of Nanda Devi National Park, Uttaranchal, India (2002). This report is prepared by the Chief Wildlife Warden of Uttaranchal for UNESCO and WHC officials to assess the current status of the area. UNESCO funds the

Biosphere Reserve through the MAB program. Essentially, this document is a representation of

the NDBR by local managers to officials at global environmental agencies.

> "The participation of the local people are (sic) also being ensured through awareness, education and mobilisation of community support for wildlife protection, through their active involvement in eco-tourism and through promotion of environment friendly economic development activities. Funding under MAB Project by UNESCO and Eco Development programme funded by World Bank have helped to accelerate this. All these are being achieved through the implementation of the management plan of the NDBR" (Chief Wildlife Warden Uttaranchal Forest Department Uttaranchal, India 2002).

In this passage, the Chief Wildlife Warden elucidates ideas of local involvement in wildlife

protection and eco-tourism in an attempt to show the success of the management plan of NDBR

that has been funded through UNESCO and the World Bank. Two themes are prevalent here that

reflect a discourse of reconciliation. However, the discourse is of reconciliation between 'global

environmental management' and the alternative populist discourse of the people of NDBR

(Adger et al. 2001). By reconciling the two disparate discourses in the report, the populist

discourse that portrays local people as victims of outside intervention that has caused

environmental degradation is taken under the umbrella of the global environmental management

discourse and converted to material practice through the appropriation of funds for local

grassroots development initiatives, designed by Park officials and World Bank representatives.

In this case and in many other cases involving biodiversity conservation, the managerial

discourse, influenced by modern ideas of nature, and leading to the idea that external policy

prescriptions can solve environmental problems, dominates the discourse. The managerial

discourse is also prevalent in the following excerpt:

> "The proposed future actions consists of further revising the provisions of the existing management plan and transform it into a landscape plan. This landscape plan will also take into consideration the transition zone of the Biosphere Reserve as well. All the present activities will continue and solutions for better monitoring and means of reduction of man animal conflicts will also be found out with the participation of the

local people. Grazing on the alpine pastures in a more regulated way will also be introduced by more involvement and cooperation of the people. More emphasis will be given to make the local Eco development committees self reliant and effective at the grass root level. Nature tourism by involving the local people in the buffer will be given further impetus" (Chief Wildlife Warden Uttaranchal Forest Department Uttaranchal, India 2002).

Once again, the managerial discourse, focusing on outside policy intervention dominates but there is a reconciliation of this managerial discourse with the populist discourse of local people as victims of the policy (and thus needing assistance). However, when policy decisions are made, they are made by Forest Department officials with little regard to the economic and cultural impacts on the local populations. The excerpt seeks to further regulate grazing, a vital livelihood activity for the Bhotiya while simultaneously promoting eco development through grassroots level promotion of nature tourism (as implemented by the management plan). In this manner, the modern conception of nature prevalent in the global environmental discourse is translated into policy at the global, national, regional and finally local levels. The conception of nature as separate from and dominated by humans has implications in management and policy prescriptions that seek to reconcile economic development with environmental conservation, a mainstay of the sustainable development paradigm. On the other hand, the local conceptions of nature are quite different and therefore, the policy prescriptions of the Bhotiya often conflict with those of the Park Management and of global agencies such as UNESCO and the World Bank.

Summary

While the differing conceptions of nature are not the only factor contributing to the conflict over management policy in the NDBR, they do play a part. The current policies are influenced by perceptions of nature which implicitly and explicitly reflect the modern view of

nature as separate from and dominated by humans. This has led to top down management practices which have severely limited the Bhotiyas' livelihood activities and thus threatened their survival. The discourse of NDBR administrators and policy makers however is one of reconciliation and reflects the central idea of sustainable development that economic development and environmental conservation are not mutually exclusive but are intertwined.

The Bhotiya view nature quite differently and while they do see humans as dominant over nature, their religious beliefs hold that their landscape (mountains, water and forests) is the domain of the gods and sometimes the physical incarnation of the gods themselves as is the case with Nanda Devi. Therefore, when the Bhotiya exploit nature unsustainably, they are required by tradition to pay a heavy price to the gods. This view places humans above wild nature but at the same time humans are accountable to nature for their actions and dependant on it for their survival. In this case, livelihood activities cannot be separated from resource management practices but are integral to managing the natural landscape in order to ensure the survival of Bhotiya culture.

CHAPTER SIX: DISCOURSE AND THE POLITICS OF SCALE

Introduction

The previous chapter addressed the differences in conceptions of nature between the

Bhotiya and those formulating and recommending resource management policy for the NDBR.

These differences have led to policies which have been a source of conflict between the local

Bhotiya and Uttaranchal Forest Department officials. As such, the Bhotiya have voiced their

grievances through protests, media reports, the Internet and workshops. The Bhotiya have

implicitly and explicitly included scale as a part of their rhetoric and in their material practices.

Alternately, those setting policy for the NDBR have also framed this conflict in terms of scale

and have constructed and used scale to their advantage. This chapter offers an analysis of texts

from both the Bhotiya and those administering the NDBR with reference to the use and

construction of scale. Of particular interest are the scale(s) at which the conflict is framed by

both sides and how scale is deployed both through discourse and through material practices.

The focus of the chapter is on the Bhotiyas' response to the policies of the NDBR

through discourse and material practice and the alternative discourse and material practices of

those administering the NDBR who seek to maintain control over the resources. With this focus,

I revisit and address the three sub-questions from the second major research question: How is

discourse being deployed as a political tool by the Bhotiya leadership and the other agents

involved in the debates? The sub questions that follow are:

    a.   How is the struggle against the biosphere reserve policies framed by the Bhotiya

        and other agents involved?

b. How is scale deployed as a political tool by the Bhotiya in their framing of the struggle against the policies of the NDBR?

c. How is scale deployed to perpetuate the policies of the NDBR?

First, I interpret how the Bhotiya and other agents frame the conflict in the NDBR using an environmental justice lens. Specifically, I compare the discourse used in the Ecotourism Declaration of 2001 (appendix-1), created by the Bhotiya with the Principles of Environmental Justice created in 1991 at the First National People of Color Environmental Leadership Summit held on October 24-27 (Appendix-3). The aim of this document is to provide a guide to help environmental justice groups and activists network, organize and relate to governmental and non-governmental agencies. I look at how the Bhotiya frame their struggle, noting that discursively the struggle resembles environmental justice in America. Next, I use Bullard's (1992) framework for how black communities in America have responded to environmental threats. The Bhotiya use discourse similar to that of the environmental justice movement however, they do not explicitly frame their struggle as one of environmental justice. Instead, environmental justice serves as a submerged frame.

Having established how the conflict in the NDBR is framed by the Bhotiya, I move on to issues of how scale is employed in the conflict. In the case of the NDBR, scale plays a central role on both sides. The Reserve is designated a biosphere reserve by UNESCO and projects within the reserve are funded through the World Bank. The national government of India also has jurisdiction over the NDBR through the Indian Forest Act of 1972 and various other environmental protection acts that have been established. However, the responsibility of the day to day administration of the reserve falls to the state of Uttaranchal and its Forest Department. At the local level, the District Forestry Officer resides in Joshimath and oversees the park staff. The

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Bhotiya must negotiate all of these scales in order to have their grievances heard. The deployment of scale as a political tool is also important for NDBR administrators and the Bhotiya. Park administrators deploy scale in order to maintain and even increase control over the landscape of the region and the Bhotiya deploy scale in myriad ways in order to call attention to their struggle and affect change.

Environmental justice: Discourse and frames

This section utilizes the environmental justice lens first introduced in the literature review to interpret how the Bhotiya frame their struggle against the policies of the NDBR. The first portion of this section focuses on the 2001 ecotourism declaration as a key text for the Bhotiya. This text acts as a guide for the movement in organizing and implementing ecotourism within the NDBR in a way that is consistent with local ethics. Interestingly, almost ten years to the week before the creation of the Ecotourism Declaration, environmental justice activists gathered in Washington, DC for the First National People of Color Environmental Leadership Summit. This summit produced a document entitled: The Principles of Environmental Justice (appendix-3) The Principles are used as an ethical guide for organizing, networking and dealing with other organizations, governmental and non-governmental. Both of these texts represent declarations of the ethical and moral stance of the movement that produced them. As such, both texts are similar discursively, keeping in mind that the Ecotourism Declaration was conceived and written up with no knowledge of the existence of the Principles of Environmental Justice. There are some key themes that both documents share.

First, both documents begin in the preamble with an affirmation that the landscape is sacred. For the Bhotiya it is their mother goddess, Nanda Devi that is sacred and they establish this in the first sentence of the preamble of the Ecotourism Declaration (Appendix-1).

"Today on the 14th of October, 2001 in the courtyard of the temple of our revered Nanda Devi, we the people's representatives, social workers and citizens of the Niti valley, after profound deliberations on biodiversity conservation and tourism, while confirming our commitment to community based management processes dedicate ourselves to the following-"

The same discourse of a sacred landscape/environment occurs in the preamble of the Principles of Environmental Justice (Appendix-3):

"We, the people of color, gathered together at this multinational People of Color Environmental Leadership Summit, to begin to build a national and international movement of all peoples of color to fight the destruction and taking of our land s and communities, do hereby re-establish our spiritual interdependence to the sacredness of our Mother Earth;"

While the Bhotiya are specific about what they find sacred in the landscape, environmental justice activists are general in asserting the sacredness and care-giving qualities of the landscape. However, both documents clearly prioritize the landscape as holding value outside the economic system. In this case it is spiritual value. Also, both quotes come from the first sentence of the preamble in each case, indicating that the spiritual value of the landscape is a key component of the moral agenda of the movement. Each document also calls for the end of discrimination of all people. In the case of the Ecotourism declaration, Point-4 states:

"That in any tourism related enterprise we will give preference to our unemployed youth and under privileged families, we will also ensure equal opportunities for disabled persons with special provisions to avail such opportunities."

In the case of the Ecotourism declaration, the call to end discrimination is made in an affirmation to set policies that are free from discrimination and avail all people equal opportunity at a better life. The Principles of Environmental Justice also call for an end to discrimination although in a less affirmative tone:

> "Environmental justice demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias."

In this passage, the call is to end discrimination and bias in public policy. In contrast to the above quote from the Ecotourism Declaration that ensures policies free from discrimination on the basis of socioeconomic status, age or physical disability, the passage from the Principles of Environmental Justice calls for policies that do not discriminate against anyone regardless of their socioeconomic status, skin color or other minority distinction.

The next shared theme between the documents is references to international law and/or global treaties. Basically, both documents affirm the legitimacy of global treaties signed by many nations. The Ecotourism declaration references the Manilla declaration and Agenda 21 in points one and eleven respectively. In this case, the global scale embodies the penultimate option for justice and equity. This can also be seen in point ten of the Principles of Environmental Justice:

> "Environmental justice considers governmental acts of environmental injustice a violation of international law, the Universal Declaration on Human Rights, and the United Nations Convention on Genocide."

In this point, national governments become secondary to the importance of global treaties. Global treaties also help affirm the importance of the movement as something more than local or national but rather of global significance and therefore a phenomena that should be referenced at the global scale.

Finally, both texts take a strong stance against exploitation. In the Ecotourism Declaration, exploitation is mentioned in point-3:

> "With the cessation of all forms of exploitation like the exploitation of porters and child labour in the tourism industry, we will ensure a positive impact of tourism on the

biodiversity of our region and the enhancement of the quality of life of the local
community"

In the case of the Bhotiya, they are concerned with the exploitation of labor specifically but also

any other types of exploitation. Implicitly, these forms of exploitation could include humans as

well as the natural landscape. The Principles of Environmental Justice are more explicit about

the forms of exploitation that the movement opposes in point-15:

> "Environmental justice opposes military occupation, repression and exploitation of lands,
> peoples and cultures, and other life forms."

The Principles of Environmental Justice are explicit in the opposition to exploitation of people as

well as the landscape and other animals. Exploitation therefore is another key issue that is

addressed discursively in both documents. Each of these documents contains four main themes

that coincide with the other document. These themes are that the landscape is sacred,

discrimination should be eliminated, global treaties and laws have legitimacy and exploitation of

people, land and animals should be stopped. Although the Bhotiya had no prior knowledge of the

existence of the Principles of Environmental Justice, they drafted a document, ten years later that

has discursive similarities. These discursive similarities are also evidenced through the

application of Bullard's (1992) framework for how environmental justice groups oppose

environmental threats.

Bullard (1992) provides a set of characteristics of how environmental justice groups

mobilize against LULU's. They focus on equity, challenge the mainstream environmental

movement, emphasize the needs of the community, have a populist stance and rely on a

democratic ideology. In conjunction with this, the people of NDBR have also realized that they

cannot operate within the dominant economic structure of capitalism and instead operate within a

"moral economy" (Harvey 1996: 389). Both the Environmental justice movement in the United States and the people of NDBR use this concept of moral economy in their rhetoric. An interpretation of the ecotourism declaration (Appendix-1) illuminates issues of mobilization and moral economy.

Much the same as those involved in the environmental justice movement in the United States have created a document outlining their principles (Appendix-3); the people of NDBR created the Ecotourism Declaration, which embodies their ideals. Within the words of this declaration are embedded ideas of a moral economy, a focus on equity, a challenge of the mainstream environmental movement, emphasis on the needs of the community and a populist stance, which relies on a democratic ideology.

The idea of moral economy relies on the question: What is morally correct? In the case of NDBR, in order to achieve this moral high ground, a rhetoric must be used which is establishes a moral superiority over the actions of conservation policy makers. This is not easy because such rhetoric must be able to eclipse the powerful moral rhetoric of conservation and preservation of biodiversity. The people of NDBR gain the moral high ground much the same way as do environmental justice activists in the United States. They affirm the sacredness of Mother Earth. By using religious language, the people of NDBR are able to assert their interconnectedness with the environment as a non-modern group. The mountain of Nanda Devi (the centerpiece of NDBR) is highly revered by the people of NDBR who maintain a privileged connection with the sacred mountain, which embodies the goddess Parvati. Through this connection with the sacred mother earth, the people of NDBR are able to gain the moral high ground as well as maintain their non-modern culture.

Environmental justice groups also focus on equity as a key point in their mobilization process. The people of NDBR also do this. Within the ecotourism declaration, the word equity is used repeatedly to refer to principles used to guide economic development in the region. "That in our region we will develop a tourism industry free from monopolies and will ensure equity in the tourism business" (appendix-1, point-2). At the same time, the people of NDBR are challenging the tactics of the mainstream environmental movement while promoting the goals of the movement.

> "Acknowledging the spirit of Agenda 21 of the Earth Summit, Rio 1992, the Manila Declaration on the Social Impact of Tourism 1997 and the International Year of the Mountains and Eco tourism, 2002, we will strive for bio diversity conservation and an equitable economic development within the framework of the Constitution of the Republic of India" (appendix-1, point 12).

Although it may seem contradictory for these people to acknowledge and follow regulations set by the mainstream environmental movement, it is not. The people of NDBR agree in principle to Agenda 21 and the Manila Declaration. What they are challenging is the implementation of these agendas through the dominant economic and political structures, which produce inequity. Another characteristic shared by both the environmental justice movement and the people of NDBR is the emphasis on the needs of the community.

> "With the cessation of all forms of exploitation like the exploitation of porters and child labour in the tourism industry, we will ensure a positive impact of tourism on the biodiversity of our region and the enhancement of the quality of life of the local community" (appendix-1, point 3).

For the people of NDBR this is a struggle of the local community, which will benefit the local community. Therefore, the needs of the local community and workplace are primary agenda items. Finally, the people of NDBR have also adopted a populist stance. Just as the environmental justice movement in the United States relies on the active participation of community members rather than simply gathering dues, the people of NDBR rely on active

participation of community members and others to achieve their goals. In doing so, both groups embrace a democratic ideology. The civil rights movement influences environmental justice groups in the United States in much the same way that the Chipko movement influences the people of NDBR. Both groups share similar discursive characteristics when it comes to mobilization of people against LULUs However, the Bhotiya do not frame their struggle as one explicitly about environmental justice. In the next section, I explore how the Bhotiya use discourse and deploy scale as a political tool to frame their struggle in a certain manner. In the next section I will explore how those making and enforcing policies use discourse and deploy scale in order to maintain and enhance their control over the NDBR.

Scalar discourse and material practices

In this section, I argue that UNESCO and to a greater extent, the Uttaranchal Forest Department are exhibiting a process called 'glocalization' whereby companies become both global and local in their identities and power. Corporations achieve this by articulating their scale both downward to the local scale and upward to the global scale. I argue that UNESCO acts much like a multi-national firm, using national and state-level governments to articulate their scale downward to the local scale, while simultaneously operating at the global scale. This is an undemocratic process which leads to a loss of citizenship. For example, as governments privatize they yield their power to businesses which may exert control at local, regional and global scales. At the local scale, the result is global or regional agendas being placed on citizens without their consent.

Until 1977, there were few problems with resource management in Nanda Devi. Expeditions came during summer and fall and their requirements for porters, guides, cooks and pack animals were met by the people of local villages. However, the sheer number of people

going into the core zone meant that refuse was being left behind and wood was being used extensively for fuel. Occasionally, some hunting of animals such as Bharal (blue sheep) occurred. Some people became disturbed at the impacts and called attention to the fact that a once pristine sanctuary had nearly been destroyed in a matter of a few years. Noting the significance of the area as both habitat for endangered species and as a unique landscape, the World Wildlife Fund, India commissioned a preliminary survey of the Nanda Devi Basin. The report recommended that the Basin "be immediately declared a Wildlife Sanctuary by the Uttar Pradesh Government and legislation be initiated to constitute India's first Himalayan Park" (Lavkumar 1977: 3). At this Point Nanda Devi was seen as of national importance and the recommendation that the Basin become a national park was legislated in 1982 and the park was subsequently closed, an unprecedented event in Indian protected areas. The report did advocate for the involvement of local people but did not advocate that the local people have a say in the resource management decisions. The closure of what became Nanda Devi National Park in 1982 elevated the Nanda Devi Basin to a place of national significance. Not long afterwards in 1988, the park was made a World Heritage site for its natural heritage. The Park then became known as the Nanda Devi Biosphere Reserve (NDBR) and was thus established as a site of global significance. The World Heritage Nomination from 1988 acknowledges the role of the state government as the principle manager of the park and in doing so places confidence in the state government to manage the resource effectively.

> "With proper patrolling by the existing guard force, it should now be possible to effectively control poaching and encroachment, particularly in Nanda Devi National Park where the limited number of access points provides the authorities with a major management advantage" (IUCN 1988: 38).

The park is administered according to UN mandate through the state of Uttaranchal. However, the report also accounts for the involvement of local people. The report notes the high suitability

of the park for the development of tourism and recommends that a limited number of tourists be

allowed in and that those tourists be accompanied by wildlife staff. The wildlife staff should

consist of local people employed by the state, suggesting that the park has no functional local

scale; in other words, if local people become representatives of the state working under a state

developed management plan, then they are no longer acting out of local interest but instead they

must act as representatives of the state. This is a recurring theme in the discourse of the

management of the NDBR. Local people are to be employed under outside management plans

developed primarily by the state government and therefore they lose their voice as locals and

become appendages of the state. This also points to the Glocalization of UNESCO, whereby

UNESCO becomes both a global and a local organization. As Swyngedouw (1992) observes, this

is an undemocratic process where global agendas are being imposed on people without their

consent.

The plans to re-open the NDBR for tourism have not yet materialized in the twenty four

years since the closure. This means that local people have not even been employed through the

plan as wildlife staff. They have almost been ignored completely except in brief notes from

official documents at all levels. A note from the "Twenty second extraordinary session of the

Bureau of the World Heritage Committee" discusses management conflicts in NDBR as a result

of the Indian Supreme court ruling of 1996 that banned people from collecting non-timber forest

products in protected areas. In this case, the Bureau made a brief set of recommendations for the

local authorities to follow:

> "The Bureau invited the State Party to review site management policy with a view to
> minimising conflicts between management and local people and to seek the co-operation
> of local people in the protection of the site. Co-operation between conservation and
> tourism authorities also needs to be strengthened in order to define a policy for visitor
> entry and use of the site. The Bureau suggested that the Indian authorities study the

feasibility for enlarging the World Heritage area by including the Valley of Flowers National Park and the Khedarnath Wildlife Sanctuary" (WHC 1998:).

Although the WHC is clearly aware of and concerned about the conflict in the NDBR, the Bureau can only make recommendations as it has no authority to effect change in policy particularly in reference to national laws in India. However, another reference is made in this passage about tourism and the control of tourism in the region. This region is valued as a potentially profitable tourism resource by the Ministry of Tourism and the Forest Department. At this time there was some confusion as to which institution was in control of tourism in the NDBR. Currently, the Forest Department of Uttaranchal is implementing an ecotourism initiative in the NDBR. It is the Forest Department who issues permits for trekking in the valley. Also suggested by the Bureau is the extension of the NDBR to include the Valley of Flowers National Park and Khedarnath Wildlife Sanctuary. The expansion of the park would benefit both the WHC and the Forest Department. The WHC would be able to claim the Valley of Flowers, legendary for its hundreds of species of wildflowers as well as Hemkund Sahib a place of Sikh pilgrimage within the park. The Forest Department could control the Valley of Flowers with a UN mandate to back up its actions. Although in reality the UN has no control over how the park is administered. The Forest Department declared the Valley of Flowers National Park as part of the NDBR long before the UN officially recognized the expansion in 2004. The infrastructure for managing the expanded NDBR was already in place. By annexing land in the name of the NDBR through the mandate of the UNESCO World Heritage program, the Forest Department of Uttaranchal is also articulating itself as a local and global entity. 'glocalization' of the Forest Department is however a bit different than the 'glocalization' observed by UNESCO. The Forest

Department is a state-level entity that utilizes policy mandates at the national and global scale to exert local control over the NDBR.

The Park itself is administered as a state entity with the Forest Department in control of a large majority of the land (the villages maintain control of their own lands) while simultaneously being represented as a World Heritage site, giving it global significance. The main argument for the significance of the NDBR is its unique biodiversity. As such, the physical landscape of the region is given top priority and local populations become secondary to the stated goal of biodiversity conservation. Given this, the use of the discourse of global biodiversity conservation has allowed park authorities to consolidate even more power at the state level. The NDBR is a place of global significance and the state government bears the responsibility for maintaining the integrity of the region's ecosystems. The discourse of global biodiversity conservation allows both a consolidation of power at the state level and it serves to further isolate/dis-empower local people by placing them lower down on the priority list.

In response to the concern of the WHC about the conflicts in the NDBR, the Forest Department, in their mandatory 2002 report to the WHC has included a section which explicitly addresses what has been done regarding local people and their involvement. In 2003, a documentary film was produced by UNESCO about NDBR and sheds light on the conflict, entitled "Invocations to the Mountain Goddess" that outlines the conflict in the NDBR. This film is an excellent and rich text for analysis as it includes commentary from the local Forest Department officials and the local Bhotiya. Interactions between the Bhotiya and Forest Department were also filmed and provide some insight into the tensions that exist. These meetings took place within the villages of the NDBR and at the office of the DFO in Joshimath.

Some of the meetings were formal gatherings to discuss development projects within the reserve and some were informal.

A few themes are repeated throughout the documentary and these themes reflect the use of scalar discourse and material practices in the conflict. As this area is a biosphere reserve for its unique biodiversity, the term is used repeatedly by both villagers and Forest Department officials. The focus on biodiversity reflects the impact of the discourse of global biodiversity conservation. As such, the villagers now recognize that what was once their land now belongs to the world and because of this, their survival has become secondary to the survival of the flora and fauna of the NDBR. This quote from Dhan Singh Rana of Lata illustrates this perception.

> "Of course there were rich and poor… but all had them (herds). Now what happened after Chipko was that the government said no, friends, this (land) is no longer yours, its ours, it belongs to the world. You have no rights over it."

This sentiment is also echoed by Bhupender Singh of Lata:

> "The policy that the government has put into force here must have had some logic to it, I accept that. But whenever it was conceived…at that time, this region and the people who live here, neither's interests were taken into account. Only their own interests were thought of. Of course we're all Indian, so it's our interests and the world's too but only the positive part was highlighted."

What Bhupender is referring to in the last sentence of the quote is the feeling by some villagers that when the biosphere plan was introduced, only the positive parts were highlighted. Villagers were promised aid to begin alternative livelihood practices but these programs have been largely unsuccessful and living standards have not improved. He also mentions that he understands the global importance of the NDBR as it has been portrayed through the discourse of global biodiversity conservation.

On the other hand, the Forest Department has used the discourse of biodiversity conservation to greatly expand the confines of the biosphere reserve to include more buffer area, a transition zone and a second core zone surrounding the Valley of Flowers. The Forest Department also controls the flow of money from international organizations for development projects. For example, the World Bank funds micro-plans such as providing a wool carding machine at Lata village, promoting and providing propane burners to replace wood and giving locals solar cells to generate electricity. Most of these micro plans end in failure and add to the tension between local people and Forest Department officials. As noted in the film by the Divisional Forest Officer for NDBR during a meeting with villagers about a World Food-funded micro plan:

> "The source of funding for this micro plan… the organization giving the money, World Food, doesn't give the money directly to the village. The money will go through me only."

In response to this, Dhan Singh Rana, also present at the meeting said:

> We also know that there has to be an intermediary but they shouldn't dictate the terms, the village bylaws should prevail, not theirs (the intermediary, in this case   the Forest Department)."

This exchange highlights tensions and indeed power struggles between the villagers and the Forest Department. The forest department, acting as an intermediary between the global development and conservation organizations and the local people, has control of how the money is spent and as such acts as a representative of the donor organization. In this case they are acting for World Food, in other cases they represent the World Bank and in the administration of the NDBR, they represent the WHC and UNESCO. If the villagers were to receive the money directly from the donor agencies, the Forest Department would no longer be able to limit their access to these global organizations thereby losing its power to control the resources of NDBR

and the income it generates. If local people received the money directly, they would also have to

report the outcomes of the development projects directly to the global entity providing funding,

thereby cutting out the middleman (in a scalar and economic sense) and providing a direct flow

of money and information between the global and the local scales. The Forest Department, acting

as a middleman can manipulate scale in order to maintain power. The Forest Department has also

established 'ecodevelopment committees' composed of local people in cooperation with the

Forest Department. These committees enforce ecological restrictions, primarily in the area of the

Valley of Flowers which sees a large number of tourists. In this way, the Forest Department has

been able to 'scale down' its operations and further portray the struggle in the NDBR as an

isolated agitation by a few local people. They point to these committees as an example of the

involvement of local people in the administration of the park. However, few people are actively

involved in eco development committees and even fewer reap the benefits of the committees,

further marginalizing those who do not cooperate with the Forest Department's agenda.

The NDBR has been portrayed as a global entity through its designation as a World

Heritage Site although the park is administered by state authorities who set and enforce most of

the policies. The Forest Department has benefited in two ways by having the park viewed as a

'global property' First, they are able to take advantage of the income opportunities both from

tourism and from donor agencies and second they maintain control over these resources by

acting as an intermediary, limiting access to donor agencies by villagers. Therefore, the powerful

moral discourse of global biodiversity conservation has been used to promote management

policies that are not sensitive to local people and if locals go against these policies, they are seen

as being against biodiversity conservation. UNESCO and the Forest Department also engage in

'glocalization' whereby they articulate their identities upward to the global scale and downward

to the local scale in order to exert political power over the NDBR. UNESCO uses the Forest Department to articulate its policies at a local scale and further its agenda of global biodiversity conservation. Alternatively, the Forest Department uses the UNESCO mandate to control the flow of funds and direct projects. More importantly, the Forest Department uses the global mandate of biodiversity conservation to gain control over vast tracts of land that it sees as valuable for the development of tourism. For the Bhotiya, struggling against 'glocalization' has been a tricky proposition, one that they have dealt with through their own use, manipulation and construction of scale.

Discourse, scale and resistance

The Bhotiya, in resisting the policies of the NDBR are in a position where they must challenge the discourse of global biodiversity conservation without portraying themselves as against the goals of global biodiversity conservation. At the same time, the Bhotiya also face the challenge of regaining rights to the resources of the region through action and rhetoric. Both of these strategies involve the manipulation and construction of scale as integral components. In this section I explore how the Bhotiya manage to navigate the complexities of global biodiversity conservation and construct their own struggle as one of primary importance to the goals of biodiversity conservation both locally and globally. Ideas regarding how conflicts are framed are central to this interpretation. Framing is how groups purposefully package their ideological beliefs. By linking their rhetoric with framing, environmental justice groups create collective action frames (Snow and Benford 1988, 1992; Taylor 2000). These frames are action-oriented and express the group's sense of agency. In conjunction with collective action frames, groups often display a submerged frame. In this case, the submerged frame is one of environmental

justice (as evidenced by the preceding section). Submerged frames are underlying ideological

packages that are not made explicit by movement activists

In this case, the group may resemble any other group who claims to be part of the environmental

justice movement but the focus of the framing of the issues is on social justice. For Taylor

(2000), these groups may be making claims about the environment and inequality but they do not

connect the two in a unified frame and thus do not label themselves as part of the environmental

justice movement. This is exactly what the Bhotiya have done with reference to the NDBR. So,

the Bhotiya have environmental justice as a submerged frame but that does not address directly

how the Bhotiya explicitly frame their struggle in a scalar sense and how the framing of the

struggle using discourse is linked to action at multiple scales.

The Bhotiya have resisted with action as well as with discourse and both strategies

complement one another. There a number of ways the Bhotiya have been able to construct their

struggle both materially and discursively. With reference to the material practices, the Bhotiya in

1998 forcibly entered the core zone of the NDBR in a movement titled 'Jhapto Cheeno' which

means swoop and grab. The Jhapto Cheeno movement was locally organized by the Bhotiya and

the participants were largely Bhotiya from the NDBR with a few sympathizers from surrounding

areas. The Jhapto Cheeno can be viewed as a movement operating within the Bhotiya's spaces of

dependence. The Bhotiya were attempting to protect their local interests with regards to rights to

grazing and the collection of medicinal herbs in the core zone of the NDBR. They were

responding at the local level to what was perceived as a taking of their land by the government.

Although the first large protest in the movement was successful because villagers were able to

enter thhe core zone en masse with little resistance from the poorly equipped and conditioned

Forest Department guards, the movement gained little momentum outside the villages of the

NDBR. There was simply not much interest generated and the tactics of forcibly entering a restricted area in the name of reasserting resource rights were not matched with a scalar network whereby the Bhotiya could have linked up with other similar groups in order to engage the issue at a scale more likely to produce a shift in policy. Therefore, the Bhotiya, realizing that the Jhapto Cheeno movement was not likely to change policy because it was too localized within their spaces of dependence, began to shift the resistance movement discursively and materially towards their spaces of engagement. This process began shortly after the events of 1998 when Bhotiya activists began to contact grassroots NGOs for help with their struggle against the policies of the NDBR. Since 2001, the movement against the policies of the NDBR has become much more nuanced and the material practices have changed from localized mass protests to conferences and workshops focused on a global agenda. The discursive struggle unites with these material practices in the declarations drafted from conferences and workshops, the published material on the webpage, linking up with other groups and grassroots NGO's and allowing researchers access to their daily lives in order to study the conflict.

The Jhapto Cheeno movement initiated a phase of organized and widespread agitation by the people of the NDBR against the conservation policies. This movement organized 1500 to 2000 local residents who then made a protest march into the core zone to re-assert their rights to the area. The point was to show that the government was not legitimate in their closure of the core zone and that the local people would 'take' back their rightful lands. While the march was successful in garnering widespread participation of locals, Bhotiya leaders, with some help from a local grassroots NGO named The Alliance for Development realized that acts of civil disobedience would only strengthen the government's position on the conflict and portray local people as 'outlaws' and troublemakers. As a result, the resistance strategy shifted to one which

involved the careful use of discourse and rhetoric combined with material practices such as workshops and conferences that celebrated the culture and livelihoods of the Bhotiya as part of 'nature' and therefore integral to the stated goals of the NDBR to conserve biodiversity.

This section of the interpretation has focused on how the Bhotiya resist the policies of the NDBR using discourse that is linked to action. The resistance began with local protests such as the Jhapto Cheeno movement, operating within spaces of dependence. The Bhotiya, realizing that they could not protect their interests within their space of dependence, made a scalar shift in discourse and practice from the local to the global level. In the next section, I explore this shift.

'Going Global'

Earlier in this chapter, I explored the components of environmental justice embedded within the Ecotourism Declaration of the people of the NDBR. This document marks the transition of this movement from explicitly local to a movement that has begun to understand the discourses of sustainable development and biodiversity conservation. I explore the shift in the struggle against the policies of the NDBR using Cox's (1998) idea of spaces of engagement. Within this framework, scale can be thought of as a network whereby local struggles are linked to regional, national or global events. In doing so, local groups use discourse in order to jump scales, allying themselves with other groups and/or finding a constituency at the level of engagement. Sometimes constructing the scale of a local conflict as one of global importance is called 'going global.' I argue in the following section that the articulations of scale exhibited by UNESCO and the Forest Department have initiated alternative articulations of scale by the Bhotiya in order to engage the process of 'glocalization' used by the entities setting policy in the NDBR.

With the understanding of how the NDBR administrators articulate scale, came the realization that the struggle must be taken to the global level in order to both address the global discourses being used by those setting policies and to address the issues at a scale that will produce desirable outcomes for the local people. As such, the movement began to go global, creating networks that formed spaces of engagement. It must be noted that there was not a conscious decision to go global, rather it was a process that involved the integration of NGO's and researchers who introduced local people to ideas of biodiversity conservation and sustainable development. A major component of this process was the linking up with these NGO's and other indigenous groups in order to gain a presence as more than just a local agitation but to form a network with which to engage the policies of the NDBR at an operational scale. The ecotourism declaration reflects the scaling up of the movement in that it addresses global documents such as Agenda 21. Therefore, the Bhotiya of the NDBR have gone global both discursively and in material practice. This is also evidenced in the website nandadevi.org maintained by a PhD student in Toronto Ontario. This student, Rajiv Rawat is an ethnic Bhotiya from an area near the NDBR who is also an activist for indigenous rights and an academic studying the Chipko movement. His work combined with the work of the Alliance for Development and the local people has produced quite a sophisticated website that tells the story of the people of Nanda Devi and highlights events and workshops that have been held. A second focus of the website is the promotion of locally managed tourism independent of the Forest Department. The promotional aspect of the website has brought in tourists from Australia, Germany, Canada and the United States as well as from other countries. Currently, there are two universities, one in Canada and one in the United States who bring students to this region to live in the village of Lata and study the culture and livelihood activities. The group also has a presence on the Mountain Forum, a

web forum for people both academic and non-academic interested in human and environmental issues in mountain regions. In this way, attention is brought to an international audience of researchers and development practitioners who are sympathetic to the plight of indigenous people in mountain regions worldwide. In fact, the mountain forum is how I found out about the struggle of local people against the policies of the NDBR.   The shift from local to global of the movement was in part a response to the lack of action by state and national governments to the situation of the NDBR. The shift from the local to the global can also be seen in the discourse of the Bhotiya.

Effectively, both the state and national scales were non-functional. When pleas and/or demands were taken to these authorities, the requested actions were not taken and many times were ignored. After the failure to get results at these scales, the movement had to look to the global scale as there was no other alternative. Noting that UNESCO sponsors the NDBR as a World Heritage site, the movement realized that results may be possible if the conflict is addressed at the same global scale. As such, the local people slowly began to 'scale up' their struggle, first by linking up with local grassroots NGO's and other indigenous groups within Uttaranchal and then by expanding the struggle to the global level primarily through the internet, creating spaces of engagement that spanned across the globe.

In the case of the NDBR, scale is configured by both sides of the conflict through sociological relations which produce shifts in power. In this instance, the Nanda Devi region was until 1982 essentially administered as a local entity. With the creation of Nanda Devi National Park, control over the area was given to government authorities and local rights to the area were severely limited. This, in turn affected the ability of the local Bhotiya to practice traditional livelihood activities and thus their sources of income were no longer accessible. When UNESCO

became involved in 1988, the park became a Biosphere Reserve and further limitations were placed on locals, further disempowering them. In this way, scale has become an arena in which the social relations of empowerment and disempowerment operate. In this case, I argue that the process of 'glocalization' plays an integral role in how scale is articulated in order to gain or maintain power on the part of UNESCO and the Forest Department. Further reinforcement of the disempowerment of the local Bhotiya was initiated by the Forest Department of Uttaranchal when they began to control the flow of money into the region by development agencies and isolate local people from other scales such as the national and global. Local people have had no meaningful contact with officials from UNESCO. By controlling the scale at which local people can voice their grievances, the Forest Department effectively further disempowered those people opposed to the policies of the NDBR.

In response, the local Bhotiya, beginning with the drafting and circulation of the Ecotourism Declaration began to go global with their struggle. The Bhotiya have been able to portray their local struggle as one of global importance by forming a loose network of people and organizations that produce a space of engagement with which the Bhotiya can themselves articulate scale in such a way as to affect policy changes. In this way, the Bhotiya have effectively jumped scales from local to global and have simultaneously been able to negotiate within and between scales imposed upon them through the practices of those formulating and enforcing policy in the NDBR.

CHAPTER SEVEN: CONCLUSION

Introduction

Biodiversity conservation has recently become an important part of the global development agenda. However, local effects of the global policies, which govern protected areas, are not always positive. We must understand how such well-intentioned policies can have negative results when applied in local areas otherwise; unique cultures may be lost in the name of biodiversity conservation. It is also absolutely critical to study how groups oppose such policies because as in the case of the NDBR, people are fighting against policies which they feel are destroying their livelihoods and their culture. When this is the case, local people must walk a fine line in opposition to the policies, which seek to preserve biodiversity without portraying themselves as against the goal of biodiversity preservation. The people of NDBR have finally had some success with this after 20 years of struggle and what we learn from their limited success will help academics and decision makers understand how conservation policy can potentially have destructive effects.

Summary of the research findings

The integration of conservation and development on a global level began in the 1970's with programs such as the MAB and WHC that were initiated through UNESCO in cooperation with and sometimes funded by the World Bank. In addition to this, the World Bank initiated a sustainable development agenda that was based on the premise that environmental conservation was integral to economic development and poverty alleviation. One site under the MAB and

WHC charters is the NDBR. This site has provided an excellent arena in which to study the intersection of conservation with development across, within and between scales.

Programs such as MAB and WHC that sought to reconcile ideas of conservation with development developed policies at the global level that were articulated downward affecting local populations in the NDBR. Specifically, the villagers perceive the closure to have affected their material wealth as well as caused unwanted changes in livelihood strategies. The survey results suggest that since the closure, the Bhotiya have had to adjust their livelihood strategies from largely grazing and portering/guiding to intensive subsistence farming. This unwanted switch in livelihood activities has led to a decline in the standard of living. Most Bhotiya blame the policies of the NDBR for this decline in living standards and associated, unwanted cultural changes. As a result, there is general opposition to the polcies of the NDBR by local Bhotiya and many villagers have been directly involved in the struggle against the policies of the reserve.

The policies were influenced in part by the conceptions of nature embedded within them. In this case, nature has been conceived in a modern sense as separate from and dominated by humans and the policies of the NDBR reflect that separation in their top down approach to conservation that privileges 'scientific' knowledge of experts over the indigenous knowledge of local people. Additionally, humans are seen as necessarily harmful to 'nature' and thus where nature is to be a conserved, human activity, particularly livelihood activities must be abolished. This separation of nature from humans is a factor in the development of the policies that govern the NDBR. However this discourse used in the NDBR, is a reflection of the broader discourse of sustainable development that economic development and environmental conservation are not mutually exclusive but are intertwined.

The Bhotiya have a different view of nature that is complex and places humans somewhere between the natural landscape and the gods whose domain also consists of the natural landscape. Therefore, the Bhotiya situate themselves within nature, recognizing that nature has no meaning without humans. In the Bhotiya conception of nature, the landscape is the provider of subsistence and wealth and as such must be cared for. In addition to this, the landscape has a spiritual significance and any abuse will result in harsh penalties. Within the Bhotiya conception of nature, livelihood activities cannot be separated out as they provide the conduit by which the Bhotiya interact with the landscape around them. Therefore, the Bhotiya ideas of how the reserve should be managed revolve around what they deem as 'sustainable' livelihood activities.

These livelihood activities have changed over time and today are an outcome of a global-local continuum in which global events like the war with China and the designation of the NDBR as a World Heritage site have local effects. Conversely, local events can also travel through the global-local continuum and have global impacts. This is evidenced in the case of the Chipko movement of the 1970s. Through time, the Bhotiya became keenly aware of the politics of scale and deployed scale as a tool in their struggle against the policies of the NDBR. The Bhotiya have framed their struggle in a fashion similar to that of the environmental justice movement in the US. In looking at the ecotourism declaration and the Principles of Environmental Justice, several commonalities emerge in the discourse. First, both describe the landscape/environment as sacred. Second, both work to eliminate discrimination. Third, both groups reference the legitimacy of global treaties and last, they take a stance against exploitation of humans, non-humans and the landscape. In addition to this, the discourse of the Bhotiya also matches the four key themes that Environmental Justices activists focus on when faced with environmental threats. However, the

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Bhotiya frame their struggle as one of social justice rather than environmental justice with environmental justice acting as a submerged frame.

Noting that the struggle of the Bhotiya resembles a struggle for environmental justice but framed with a different focus, the way in which scale is deployed by both sides becomes a central focus. In the case of UNESCO and the Forest Department, a process of 'glocalization' has occurred whereby UNESCO has glocalized from a global to a local entity through the implementation of its policies and development projects within the reserve. The Forest Department has also participated in the 'glocalization' process by utilizing UNESCO policies to its advantage in appropriating more land for the NDBR and controlling the flow of money from organizations like the World Bank. By acting as the financial and scalar middleman, the Forest Department can control access to money for development projects and prevent the Bhotiya from voicing their grievances to UNESCO officials. As a response to the glocalization process, the Bhotiya began to go global, first with the Ecotourism Declaration then with their website. The Bhotiya formed a loose network of agents that included individuals, NGOs and other grassroots actors. This network began to scale up to engage UNESCO and the Forest Department at the global level. By jumping scales and constructing their local issue as one of global importance, the Bhotiya have been able to counter the powerful discourse of biodiversity conservation with an alternative discourse of social justice that uses environmental justice as a submerged frame. Throughout, this project has been informed by ideas of political ecology and environmental justice. Although these two perspectives overlap quite considerable particularly with regard to their view that nature is socially constructed and their focus on power relations, they have not bee explicitly united theoretically until now.

The intersection of political ecology and environmental justice

This project has provided a conceptual link between political ecology and environmental justice. Both concepts acknowledge the role of structural forces as well as human agents in the struggle for power. However, the two have not been explicitly linked with reference to discursive strategies until now. This is due in part to the focus of environmental justice on minority communities in the United States, which has limited the use of environmental justice concepts. Environmental justice in developing countries looks much different than in developed countries such as the United States. Many developing countries have agrarian economies. People in agrarian economies are tied much more closely to the land. Therefore unwanted changes in local land use will not be manifest as municipal waste incinerators or prisons, which put community safety at risk but development projects such as dams or biosphere reserves, which put community livelihoods at risk. Until now, this difference has not been addressed in environmental justice literature.

In contrast, political ecology has a decidedly international focus. Political ecology concepts have been useful in understanding the interactions between local communities and their biotic resources through an historical approach which addresses the way in which these relations have been shaped by regional, national and international policies over a period of time. Essentially, political ecology is particularly useful in understanding the processes, which led up to a particular event or outcome and environmental justice concepts are useful to examine the strategies used at the local level to respond to the event or outcome. Linking the two (via discursive strategies using the politics of scale) provides a unified strategy for the study of similar human-environment interactions.

References

Adger, N., Benjaminsen, T. Brown, K. and H. Svarstad. 2001. "Advancing a political ecology of global environmental discourses." *Development and Change.* 32: 681-732.

Alario, M. 1993. "Environmental risks, social asymmetry, and late modernity: Toward a political ecology." *Social Theory and Practice.* 19(3).

Argawala, A.P. 1994. *Garhwal "The Dev Bhoomi."* New Delhi: Nests and Wings.

Arrow, K., et al. 1995. "Economic Growth, Carrying Capacity, and the Environment." *Ecological Economics* 15: 91-95.

Atkinson, A. 1991. *Principles of Political Ecology.* London: Bellhaven Press.

Batisse, M. 1997. "Biosphere Reserves: A challenge for biodiversity conservation and regional development." *Environment.* 6(14): 6-21.

Bisht, H. 1994. *Tourism in the Garhwal Himalaya.* New Delhi: Indus Publishing.

Blaikie, P. 1985. *The political economy of soil erosion in developing countries*. London: Longman.

Blaikie, P. and Brookfield, H. 1987. *Land degradation and society.* London: Methuen.

Braun, B. 1997. "Buried Epistemologies: The politics of nature in (post) colonial British Columbia. *Annals of the Association of American Geographers.* 87: 3-31.

Brown, J. 2002. "The Integration of Man and the Biosphere." *The Georgetown International Law Review.* 14(74): 741-767.

Bryant, R.L. 1998. "Power, Knowledge and Political Ecology in the Third World: A Review." *Progress in Physical Geography.* 22(1): 79-94.

Bryant, R.L. 2000. "Third World Ecology." In N. Castree and B. Braun eds. *Social Nature.* Oxford: Blackwell.

Buell, L. 1998. "Toxic Discourse." *Critical Inquiry.* 24(3): 639-665.

Bullard, R. 1992. "Environmental Blackmail in Minority Communities." In B. Bryant and P. Mohai eds. *Race and the Incidence of Environmental Hazards.* Boulder: Westview Press, pp.82-95.

Bullard, R. 1994. *Dumping in Dixie: Race, class and environmental quality.* Boulder: Westview Press.

Burns, R. 1963. "The Circum-Alpine Culture Area: A Preliminary View." *Anthropological Quarterly.* 36(3): 130-155.

Capek, S. 1993. "The Environmental Justice Frame: A conceptual discussion and application." *Social Problems.* 40: 5-24.

Chander, R. 1998. "Oh, Tehri Dam! Where are you leading us?" *Current Science.* 75(3): 177.

Chief Wildlife Warden, Uttaranchal Forest Department. 2002. *Periodic Report of Nanda Devi National Park, Uttaranchal, India December, 2002.* (Periodic Reporting Exercise on the Application of the World Heritage Convention.) UNESCO.

Costanza, R., 1991. "Ecological economics: a research agenda." *Struct. Change Econ. Dyn.,* 2: 335-342.

Cox, K. ed. 1997. *Spaces of globalization : Reasserting the power of the local.* New York: Guilford Press.

Cox, K. 1998. "Spaces of Dependence, Spaces of Engagement and the politics of Scale, or: Looking for local politics." *Political Geography.* 17(1): 1-24.

Dawson, J. 2000. "The Two Faces of Environmental Justice: Lessons from the eco-nationalist Phenomenon." *Environmental Politics.* 9(2):22-60.

Delaney, D. and Leitner, H. 1997. "The political Construction of Scale." *Political Geography.* 16(2): 179-182.

DeLuca, K. 1999. "The Possibilities of Nature in a Postmodern Age: The rhetorical tactics of environmental justice groups." *Communication Theory.* 9(2): 189-215.

Di Chiro, G. 1996. "Nature as Community: The convergence of environment and social justice." In W. Cronin ed. *Uncommon Ground: Rethinking the human place in nature.* New York: W. W. Norton & Co. pp. 298-320.

Divan, S. and A. Rosencranz. 2001. *Environmental Law and Policy in India: Cases, Materials and Statutes*, 2nd Edition. New Delhi: Oxford University Press.

Eckholm, E. 1975. "The Deterioration of Mountain Environments." *Science.* 189(4205): 764-770.

Escobar, A. 1996. "Constructing Nature: Elements for a post-structural political ecology." pp. 46-68 in Peet and Watts, *Liberation Ecologies: Environment, development and social movements.* London: Routledge.

Escobar, A. 1998. "Whose knowledge, whose nature? Biodiversity, conservation, and the political ecology of social movements." *Journal of Political Ecology.* 5: 53-82.

Escobar, A. 1999. "After Nature: Steps to an anti-essentialist political ecology." *Current Anthropology.* 40: 1-30.

Escobar, A. 2001. "Culture Sits in Place: Reflections on globalism and subaltern strategies of localization." *Political Geography.* 20: 139-174.

Foucault, M. 1979. *Discipline and Punish.* New York: Vintage Books.

Foucault, M. 1991. "Governmentailiy." *In The Foucault Effect.* Burchell, Gordon and Miller (Eds.). Chicago: University of Chicago Press. pp. 87-104.

Ghai, D. and J.M. Vivian Eds. 1992. "Eco Action in the Garhwal Himalaya." Grassroots Environmental Action, London: Routledge.

Gill, R. 1996. "Discourse Analysis: Practical implementation." In J Richardson (Ed.) *Handbook of Qualitative Research Methods for Psychology and Social Sciences.* Leicester: British Psychological Society. pp. 141-156.

Goldman, M. and Schurman, R. 2000. "Closing the 'Great Divide': New social theory on society and nature." *Annual Review of Sociology.* 26:563-84.

Guha, R. 1989. *The unquiet woods: ecological change and peasant resistance in the Himalaya.* Delhi: Oxford University Press.

Guthman, J. 1997. "Representing Crisis: The theory of Himalayan environmental degradation and the project of development in Post-Rana Nepal." *Development and Change.*28(1): 45-71.

Hannam, K. 1998. "Ecological and Regional Protests in Uttarakhand, Northern India." *Tijdschrift voor Economische en Sociale Geografie.* 89(1): 56-65.

Harvey, D. 1973. *Social Justice and the City.* Cambridge, MA: Blackwell Publishers.

Harvey, D. 1996. "The Environment of Justice." Chapter 13 in D. Harvey ed. *Justice, Nature and the Geography of Difference.* Oxford: Blackwell pp. 366-402.

Hediger, W. 2000. "Sustainable development and social welfare." *Ecological Economics.* 32: 481-92.

Hedlund, H. 1979. "Contradictions in the peripheralization of a pastoral society: the Maasai." *Review of African Political Economy.* 15(16): 53-62.

Herod, A. 1997. "Labor's Spatial Praxis and the Geography of Contract Bargaining in the US East Coast Longshore Industry." *Political Geography.* 16(2): 145-169.

Holifield, R. 2001. "Defining environmental justice and environmental racism." *Urban Geography.* 22(1):78-90.

Humphrey, M. 2000. " 'Nature' in deep ecology and social ecology: Contesting the core." *Journal of Political Ideologies.* 5(2): 247-68.

International Union for the Conservation of Nature (IUCN). 1998. "World Heritage Nomination 335: Nanda Devi National Park (India)."

Ives, J and B. Messerli. 1989. *The Himalayan Dilemma.* New York: Routledge.

Jonas, A. 1994. "The Scale Politics of Spatiality." *Environment and Planning D.* 12 (4): 257-264.

Jones, K. 1998. "Scale as Epistemology." *Political Geography.* 17(1): 25-28.

Judd, 1998. "The Case of the Missing Scales: A commentary on Cox." *Political Geography.* 17(1): 29-34.

Kainthola, S. 2004. Personal interview. May-24.

Kohli, M.S. and Conboy, K. 2002. *Spies in the Himalayas: Secret missions and perilous climbs.* Lawrence: University of Kansas Press.

Kuhn, M. 2000. "Biosphere reserves as planning models for sustainable regional development: Schorfheide-Chorin, Germany." *Journal of Environmental Planning and Management.* 43(6): 897-904.

Kurtz, H. 2001. "The Politics of Environmental Justice as the Politics of Scale: St. James Parish, Louisiana and the Shintech Siting Controversy" in Herod, A. and Wright, M. eds. *Placing Scale.* Oxford: Blackwell.

Lake, R and Disch, L. 1992. "Structural constraints and pluralist contradictions in hazardous waste regulation." *Environment and Planning A.* 24: 663-681.

Lavkumar, K. 1977. "Report on the preliminary survey of the Nanda Devi Basin." WWF-India, Bombay. Unpublished. 27 pp.

Lavkumar, K. 1979a. "Nanda Devi Sanctuary-1977." *Journal of the Bombay Natural History Society* 75: 868-887.

Lavkumar, K. 1979b. "Nanda Devi Sanctuary - a naturalist's report." *The Himalayan Journal* 35: 191-209.

Loizos, P. 2001. "Visual Anthropology." In Smelser and Baltes (Eds.) *International Encyclopedia of Social and Behavioral Sciences.* New York: Elsevier.

Lupo, A. et al. 1971. *Rites of Way.* Boston: Little, Brown.

Lynagh, F. and Urich, P. 2002. "A critical review of buffer zone theory and practice: A Philippine case study." *Society and Natural Resources.* 15:129-145.

Maikhuri, R.K. S. Nautiyal, K.S. Rao and K.G. Saxena. 2001. Conservation Policy-People Conflicts: A Case Study From Nanda Devi Biosphere Reserve, India." *Forest Policy and Economics.* 2: 355-365.

Maikhuri, R.K. S. Nautiyal, K.S. Rao, K.G. Saxena and R.L. Semwal. 1998. "Traditional Community Conservation in the Indian Himalayas: Nanda Devi Biosphere Reserve." In: A. Kothari, R.V. Pathak, B. Anuradha and B. Taneja, Editors, *Communities and Conservation: Natural Resource Management in South and Central Asia* Delhi: Sage Publications pp. 403-423.

Maikhuri, R.K. and Rao, K.S. 1998. "A Ban on Common Sense." *Down to Earth.* 6(17): 14-15.

Mawdsley, E. 1998. "After Chipko: From Environment to Region in Uttaranchal." *The Journal of Peasant Studies.* 25(4): 36-55.

McGurty, E. 2000. "Warren County, NC, and the emergence of the environmental justice movement: Unlikely coalitions and shared meanings in local collective action." *Society and Natural Resources.* 13: 373-387.

McManus, P. 1996. "Contested Terrains: Politics, Stories and Discourses of Sustainability." *Environmental Politics* 5(1):48-73.

Messerschmidt, D.A. 1989. "The Hindu Pilgrimage to Muktinath, Nepal, Part 1. Natural and Supernatural Attributes of the Sacred Field." *Mountain Research and Development.* 9(2): 89-104.

Mikesell, F. 1994. "Sustainable Development and Mineral Resources." *Resources Policy.* 20: 83-6.

Myers, N. 1986. "Environmental repercussions of deforestation in the Himalayas." *Journal World Forest Resource Management.* 2: 63-72.

Nand, N and Kumar, K. 1989. *The Holy Himalaya: A geographical interpretation of the Garhwal.* New Delhi: Daya.

Neumann, R. 1992. Political Ecology of Wildlife Conservation in the Mt. Meru area of Northeast Tanzania. *Land Degradation and Society.* 3:85-98.

O'Brien, J. 1985. "Sowing the seeds of famine: the political economy of food deficits in Sudan." *Review of African Political Economy.* 33: 23-32.

Orlove, B. 1987. "Mountain Anthropology and Mountain Anthropologists: The Comparative Study of Populations at High Elevations." *Review in Anthropology.* 14(2): 95-100

Pandey, D. 1995. 'Introduction: Parks Protection People." *Seminar.* 426:12-14.

Pearce, D., 1988. "Economics, equity and sustainable development." *Futures.* 20:598-05.

Pearce, F. 1991. Building a Disaster: The Monumental Folly of India's Tehri Dam." *The Ecologist.* 21(3): 123-128.

Peet, R. and Watts, M. 1996. "Liberation ecology: development, sustainability, and environment in an age of market triumphalism." In Peet, R. and Watts, M., editors, *Liberation ecologies: environment, development, social movements.* London: Routledge,1-45.

Peluso, N.L. 1992. *Rich forests, poor people: resource control, and resistance in Java.* Berkeley, CA: University of California Press.

Pink, S. 2001. "More Visualizing, More Methodologies: On video, reflexivity and qualitative research." *Sociological Review.*49(4): 586-599.

Prins, H. 1997. "The Paradox of Primitivism: native rights and the problem of imagery in cultural survival films." *Visual Anthropology.* 9(3): 243-266.

Proctor, J. 1998. "The Social Construction of Nature: relativist accusations, pragmatist and critical realist responses." *Annals of the Association of American Geographers.* 88: 352-376.

Pulido, L. 1996. "A critical review of the methodology of environmental racism research." *Antipode.* 28(2): 142-159.

Rangan, H. 1997. "Property vs. Control: The state and forest management in the Indian Himalaya. *Development and Change.* 28: 71-94.

Rao, K.S. Sunil Nautiyal, Rakesh K. Maikhuri, Krishna Gopal Saxena. 2000. "Management Conflicts in the Nanda Devi Biosphere Reserve, India." *Mountain Research and Development.* 20(4): 320-323.

Rao, K.S. Sunil Nautiyal, Rakesh K. Maikhuri, Krishna Gopal Saxena. 2002. "Crop Damage and Livestock Depredation by Wildlife: A case study from the Nanda Devi Biosphere Reserve, India." *Journal of Environmental Management.* 66: 317-327.

Rawat, A.S. 1989. *History of the Garhwal, 1358-1947: An erstwhile kingdom in the Himalayas.* New Delhi: Indus Publishing.

Rego, C. 2003. *Invocations to the Mountain Goddess: A UNESCO Documentary.* New Delhi: UNESCO.

Rhoades, R. and S. Thompson. 1975. "Adaptive Strategies in Alpine Environments: Beyond Ecological Particularism." *American Ethnologist.* 2(3): 535-551.

Roper, R. 2002. *Fatal Mountaineer: The high-altitude life and death of Willi Unsoeld, American Himalayan legend.* New York: St. Martin's Press.

Roskelley, J. 2000. *Nanda Devi: The tragic expedition.* Seattle: The Mountaineer's Books.

Routledge, P. 1993. *Terrains of Resistance: Nonviolent social movements and the contestation of place in India.* Westport and London: Praeger.

Samant, S.S. n.d. "Diversity and Status of Plants in Nanda Devi Biosphere Reserve." In: *Scientific and Ecological Expedition Nanda Devi 2nd May to 22nd July 1993 Corps. of Engineers (Army)*; Wildlife Institute of India; Salim Ali Centre for Ornithology and Natural History; WWF-India; G.B. Pant Institute of Himalayan Environment and Development; Botanical Survey of India.

Sankaran, R. n.d. "An ornithological survey of Nanda Devi National Park." In: *Scientific and Ecological Expedition Nanda Devi 2nd May to 22nd July 1993 Corps. of Engineers (Army)*; Wildlife Institute of India; Salim Ali Centre for Ornithology and Natural History; WWF-India; G.B. Pant Institute of Himalayan Environment and Development; Botanical Survey of India.

Serageldin, I et al. (Eds.) 1998. *Organizing Knowledge for Environmentally and Socially Sustainable Development: Fifth annual meeting of World Bank Conference on Environmentally and Socially Sustainable Development.* Washington, DC: World Bank.

Sethi, N. 2001. "Shrouded in Controversy." *Down to Earth.* 9 (12): 19-21.

Silori, C. S. and Badola, R. 2000. "Medicinal Plant Cultivation and Sustainable Development: A Case Study in the Buffer Zone of the Nanda Devi Biosphere Reserve, Western Himalaya, India." *Mountain Research and Development.* 20(3): 272-279

Smith, N. 1984. *Uneven Development: Nature, Capital and the Production of Space.*

Oxford: Basil Blackwell inc.

Smith, N. 1990. *Uneven Development: Nature, Capital and the Production of Space 2nd ed.* Oxford: Blackwell.

Smith, N. 1992. "Geography, Difference and the Politics of Scale." In Dougherty, Graham and Malek (Eds.) *Postmodernism and the Social Sciences.* London: Macmillan.

Smith, N and Dennis, W. 1987. "The Restructuring of Geographical Scale: The Coalescence and Fragmentation of the Northern Core Region," *Economic Geography.* 63 160-182.

Snow D. and Benford, R. 1988. "Ideology, Frame Resonance and Participant Mobilization." *International Social Movement Research.* 1: 197-217.

Snow D. and Benford, R. 1992. "Master Frames and Cycles of Protest. In Morris and Mueller (Eds.) *Frontiers in Social Movement Theory.* New Haven CT: Yale University Press.

Solow, R. 1993. "An almost practical step towards sustainability." *Resources. Policy.* 19 (3) 162-172.

Sopher, D. 1997. "The Goal of Indian Pilgrimage: Geographical considerations." *Geoscience and Man.* 34.

Sterling, C. 1976. "Nepal" Atlantic Monthly (Oct), 238 (4): 14-25.

Swyngedouw, E. 1997. "Power, Nature and the City: The conquest of water and the political ecology of urbanization in Guyaquil, Ecuador: 1890-1930." *Environment and Planning A.* 29(2): 311-332.

Swyngedouw, E. and Heynen, N. 2003. "Urban Political Ecology: Justice and the politics of scale." *Antipode.* 34(4): 898-918.

Szaz, A. 1994. "The toxics movement: From NIMBYism to radical environmental populism." Chapter 4 in A. Szaz, *Ecopopulism: Toxic waste and the movement for environmental justice.* Minneapolis: University of Minnesota Press. Pp. 69-99.

Taylor, 2000. "The rise of the environmental justice paradigm: Injustice, framing and the social construction of environmental discourses." *American Behavioral Scientist.* 43(4): 508-580.

Tejwani, K. 1986. "Sedimentation of reservoirs in the Himalayan region and estimates of river load." report prepared for Mohonk Mountain Conference, April 1986, Boulder, Colorado: International Mountain Society.

Tilman, H.W. 1937. *The Ascent of Nanda Devi.* London: Cambridge University Press.

Tonkiss, F. 1998. "Analysing Conversation." In Seale, C. (Ed.) *Researching Society and Culture.* Thousand Oaks, CA: Sage Publications.

Towers, G. 2000. "Applying the Political Geography of Scale: Grassroots Strategies and Environmental Justice." *The Professional Geographer.* 52(1): 23-36.

United Nations Conference on Environment and Development (UNCED) 1992. "Convention on Biological Diversity." Rio De Janeiro: UNCED.

UNESCO. 1972. "Convention Concerning the Protection of the World Cultural and Natural Heritage." Paris: UNESCO.

US Department of Energy. 2000. "Environmental Justice Definition." *http://www.em.doe.gov/public/envjust/definition.html.* Washington, DC: US Department of Energy.

Uttaranchal Forest Department. 2003. *Nanda Devi Biosphere Reserve, Uttaranchal.* Dehradun: Uttaranchal Forest Department.

Wang, C. 2003. "Using Photovoice as a Participatory assessment and Issue Selection Tool." In Minkler and Wallerstein (Eds.) *Community Based Participatory Research for Health.* San Francisco: Jossey-Bass. pp. 179-196.

Wang, C. Burris, M and Ping, X. 1996. "Chinese Village Women as Visual Anthropologists: A participatory approach to reaching policy makers." *Social Science and Medicine.* 42: 1391-1400.

Weber, R. 1990. *Basic Content Analysis.* Newbury Park, CA: Sage Publications.

Wilson, 1999. "Placing Nature: The politics of collaboration and representation in the struggle for La Sierra in San Luis, Colorado." *Ecumene.* 6: 1-28.

Wolf, E. 1972. "Ownership and Political Ecology." *Anthropological Quarterly.* 45: 1-16.

World Bank. 1990. *Annual Environmental Report.* Washington, DC: The World Bank.

World Bank. 1999. *Culture in Sustainable Development: Investing in cultural and natural endowments.* Washington, DC: World Bank

World Commission on Environment and Development (WCED). 1987. *Our common future.* Oxford: Oxford University Press.

World Heritage Committee. 1998. "Decisions of the twenty-second extraordinary session of the Bureau of the World Heritage Committee (Kyoto, 28-29 November 1998) with regard to the state of conservation of properties inscribed on the World Heritage List."

Wright, C. 1998. "The Third Subject: Perspectives on visual anthropology." *Anthropology Today.* 14(4): 16-22.

Yin, R. 1994. *Case Study Research: Design and methods.* Thousand Oaks: Sage.

Zurick, D and Karan, P.P. 1999. *Himalaya: Life on the edge of the world.* Baltimore and London: The John Hopkins University Press.

Appendix-1

The Nanda Devi Biodiversity Conservation and Eco Tourism Declaration

Gram Sabha Lata, Chamoli, Uttaranchal
October 14, 2001

Today on the 14th of October, 2001 in the courtyard of the temple of our revered Nanda Devi, we the people's representatives, social workers and citizens of the Niti valley, after profound deliberations on biodiversity conservation and tourism, while confirming our commitment to community based management processes dedicate ourselves to the following -

1. That we, in accordance with the resolutions adopted by the World Tourism Organisation's Manila Declaration 1997 on the Social Impact of Tourism will lay the foundation for community based tourism development in our region
2. That in our region we will develop a tourism industry free from monopolies and will ensure equity in the tourism business
3. With the cessation of all forms of exploitation like the exploitation of porters and child labour in the tourism industry, we will ensure a positive impact of tourism on the biodiversity of our region and the enhancement of the quality of life of the local community
4. That in any tourism related enterprise we will give preference to our unemployed youth and under privileged families, we will also ensure equal opportunities for disabled persons with special provisions to avail such opportunities
5. That we will ensure the involvement and consent of the women of our region at all levels of decision making while developing and implementing conservation and tourism plans
6. While developing appropriate institutions for the management of community based conservation and eco tourism in our area we will ensure that tourism will have no negative impact on the bio diversity and culture of our region, and that any anti social or anti national activities will have no scope to operate in our region
7. We will regulate and ensure quality services and safety for tourists and by developing our own marketing network will eliminate the middlemen and endeavour to reduce the travel costs of the tourist
8. While developing the tourism infrastructure in our region we will take care of the special needs of senior citizens and disabled persons
9. As proud citizens of the land of the Chipko movement we in the name of Gaura Devi will establish a centre for socio-culture and biodiversity, for the conservation and propagation of our unique culture
10. We will ensure the exchange and sharing of experiences with communities of other regions to develop eco tourism in accordance with the Manila Declaration of 1997 in those regions

11. Acknowledging the spirit of Agenda 21 of the Earth Summit, Rio 1992, the Manila Declaration on the Social Impact of Tourism 1997 and the International Year of the Mountains and Eco tourism, 2002, we will strive for bio diversity conservation and an equitable economic development within the framework of the Constitution of the Republic of India

12. Today on October 14, 2001, in front of our revered Nanda Devi, and drawing inspiration from Chipko's radiant history we dedicate ourselves to the transformation of our region into a global centre for peace, prosperity and biodiversity conservation.

Appendix-2

The Local Effects of Global Conservation Policy: Political ecology, environmental justice and the production of scale in the Nanda Devi Biosphere Reserve, India.

Villager survey:

The villager survey will be used to:
1. Measure how the closure of the NDBR may or may not have transformed the daily practices and livelihood strategies of the Bhotiya.
2. Measure the involvement of the local people in the struggle to change the policies governing the NDBR.

All survey participants will be asked the following questions:

a   What village to you live in?
b   What is your age?
c   What is your gender?
d   What is your family's primary source of income?
    01 Farming
    02 Herding
    03 Trading/selling goods
    04 Services (portering, sewing, weaving, guiding etc…)
    05 Other
e   How many of your immediate family members have left the village in search of work or for schooling since 1982?
f   What was your family's main source of income before the closure of the NDBR?
    01 Farming
    02 Herding
    03 Trading/selling goods
    04 Services (portering, sewing, weaving, guiding etc…)
    05 Other
g   How has your ability to earn income been affected by the closure of the NDBR?
    01 Easier to earn an income
    02 No difference
    03 Slightly harder to earn an income
    04 Much harder to earn an income
    05 Impossible to earn an income
h   Does your family migrate seasonally?
    01 Yes
    02 No
i   Did your family migrate seasonally before the closure?
    01 Yes
    02 No
j   How have living standards in your village changed since the closure?
    01 Living standards are much higher

02 Living standards are higher
03 Living standards are the same
04 Living standards are slightly lower
05 Living standards are much lower

k   Do you see more or less wild animals now than before the closure?
01 More now
02 Less now
03 same

l   Does your village have more or less farmland now than it did before the closure?
01 More farmland
02 Less farmland
03 Same

m   Does your village have as many sheep/goats as before the closure?
01 More now
02 Less now
03 Same

n   Does your village see as many tourists as it did before the closure?
01 More now
02 Less now
03 Same
04 Never did see tourists

o   Has poaching increased or decreased since the closure?
01 More now
02 Less now
03 Same

p   Does anyone in your village take part in poaching?
01 Yes
02 No
03 Rather not say

q   Did you visit the closed area prior to 1982?
01 Yes
02 No (skip to question-t)

r   When was your last visit to the core zone before it closed (year)

s   What condition was the area in when you visited?
01 Pristine (no evidence of humans)
02 Slightly used (trails and campsites)
03 Heavily used (very wide trails, high traffic, large camping areas)
04 Degraded (trash on the trails, many people on the trails, camping areas littered)
05 Highly degraded (lots of refuse, problems finding fuel wood, problems w/human waste at campsites)

t   Do you oppose the closure?
01 Yes
02 No
03 No opinion

u   Have you been involved in the struggle against the policies of the NDBR?
01 No involvement

02 Slight involvement (attend meetings/events sometimes)
03 Highly involved (attend every meeting/event possible)
04 Leader (organize meetings and events)
05 Rather not answer

Appendix-3

The following is from the Proceedings to the First National People of Color Environmental Leadership Summit held on October 24-27, 1991, in Washington DC.

Principles of Environmental Justice

P R E A M B L E

We, the people of color, gathered together at this multinational People of Color Environmental Leadership Summit, to begin to build a national and international movement of all peoples of color to fight the destruction and taking of our land s and communities, do hereby re-establish our spiritual interdependence to the sacredness of our Mother Earth; to respect and celebrate each of our cultures, languages and beliefs about the natural world and our roles in healing ourselves; to insure environmental justice; to promote economic alternatives which would contribute to the development of environmentally safe livelihoods; and, to secure our political, economic and cultural liberation that has been denied for over 500 years of colonization and oppression, resulting in the poisoning of our communities and land and the genocide of our peoples, do affirm and adopt these Principles of Environmental Justice:

1. Environmental justice affirms the sacredness of Mother Earth, ecological unity and the interdependence of all species, and the right to be free from ecological destruction.
2. Environmental justice demands that public policy be based on mutual respect and justice for all peoples, free from any form of discrimination or bias.
3. Environmental justice mandates the right to ethical, balanced and responsible uses of land and renewable resources in the interest of a sustainable planet for humans and other living things.
4. Environmental justice calls for universal protection from nuclear testing, extraction, production and disposal of toxic/hazardous wastes and poisons and nuclear testing that threaten the fundamental right to clean air, land, water, and food.
5. Environmental justice affirms the fundamental right to political, economic, cultural and environmental self-determination of all peoples.
6. Environmental justice demands the cessation of the production of all toxins, hazardous wastes, and radioactive materials, and that all past and current producers be held strictly accountable to the people for detoxification and the containment at the point of production.
7. Environmental justice demands the right to participate as equal partners at every level of decision-making, including needs assessment, planning, implementation, enforcement and evaluation.
8. Environmental justice affirms the right of all workers to a safe and healthy work environment without being forced to choose between an unsafe livelihood and unemployment. It also affirms the right of those who work at home to be free from environmental hazards.
9. Environmental justice protects the right of victims of environmental injustice to receive full compensation and reparations for damages as well as quality health care.

10. Environmental justice considers governmental acts of environmental injustice a violation of international law, the Universal Declaration On Human Rights, and the United Nations Convention on Genocide.
11. Environmental justice must recognize a special legal and natural relationship of Native Peoples to the U.S. government through treaties, agreements, compacts, and covenants affirming sovereignty and self-determination.
12. Environmental justice affirms the need for urban and rural ecological policies to clean up and rebuild our cities and rural areas in balance with nature, honoring the cultural integrity of all our communities, and provided fair access for all to the full range of resources.
13. Environmental justice calls for the strict enforcement of principles of informed consent, and a halt to the testing of experimental reproductive and medical procedures and vaccinations on people of color.
14. Environmental justice opposes the destructive operations of multi-national corporations.
15. Environmental justice opposes military occupation, repression and exploitation of lands, peoples and cultures, and other life forms.
16. Environmental justice calls for the education of present and future generations which emphasizes social and environmental issues, based on our experience and an appreciation of our diverse cultural perspectives.
17. Environmental justice requires that we, as individuals, make personal and consumer choices to consume as little of Mother Earth's resources and to produce as little waste as possible; and make the conscious decision to challenge and reprioritize our lifestyles to insure the health of the natural world for present and future generations.