Public Participation: Rhetoric or Reality?
An Analysis of Planning and Management
in the Nanda Devi Biosphere Reserve

By

Natalie Seaba

A Thesis
Submitted to the Faculty of Graduate Studies
In Partial Fulfillment of the Requirements
For the Degree of

Master of Natural Resource Management

Natural Resources Institute
University of Manitoba
Winnipeg, Manitoba, Canada

THE UNIVERSITY OF MANITOBA

FACULTY OF GRADUATE STUDIES
*****
COPYRIGHT PERMISSION

**Public Participation: Rhetoric or Reality?
An Analysis of Planning and Management
in the Nanda Devi Biosphere Reserve**

By

Natalie Seaba

A Thesis/Practicum submitted to the Faculty of Graduate Studies of The
University of Manitoba

in partial fulfillment of the requirement of the degree

Master of Natural Resource Management

(c) 2006

ABSTRACT

Sustainable development has been advocated in response to environmental deterioration, including the loss of biodiversity. Traditional models of biodiversity conservation, such as protected areas, have been coupled with detrimental impacts to ecosystems and social systems. Consequently, protected areas have often been associated with rising levels of conflict between the civic sector and those making the decisions. Biosphere reserves have evolved out of a responsibility to resolve conflict by reconciling the needs of humans with the need to maintain ecological integrity and biodiversity. Effective planning and management are necessary to achieve the mandate of a biosphere reserve. Since government is typically the lead actor in planning and management for conservation, of particular importance to these processes are the roles, dynamics and processes pertaining to civic and private sector participation. Participatory approaches are seen as a key way to link conservation and sustainable development.

The purpose of this research then, was to investigate participation in planning and management activities in the Nanda Devi Biosphere Reserve located in Uttaranchal, India. Given the history of conflict in the NDBR, studying the roles and the participation of these sectors is valuable for informing environmental policies and practices. The specific objectives were to: (1) describe the background and context of planning and management in the NDBR; (2) determine the roles of the public, private and civic sectors during selected planning and management activities; (3) describe what members in each of the sectors thought the roles were, and what the roles should be; (4) investigate the extent of civic and private sector participation in those activities; and, (5) evaluate the effectiveness of the participation.

The research design used a qualitative, exploratory, case study strategy to consider two empirical cases of participatory processes in a biosphere reserve context. Data collection methods included key informant analysis, informal semi-structured interviews, participant observation and the review of secondary data sources. Data collection was guided by a framework developed from attributes of public participation processes as indicated in the literature.

Centralized decision making for the establishment of both protected areas and biosphere reserves still persists in India. However, eco-development and microplanning have emerged as two government-initiated mechanisms that provide greater opportunity for the general public to have a role in conservation-related planning and management activities. The research findings include the identification of a wide variety of roles being played by the public sector in these processes, fewer roles being played

by the civic sector and a minimal number of roles being played by the private sector. One important and positive outcome was that relationships had improved between the sectors involved in both processes.

In the first case study, two community-based Eco-Development Committees (EDCs) helped the state Forest and Wildlife Department carry out various management functions, particularly solid waste management. The results demonstrate that the EDCs had a central role in managing the solid waste and traffic along the trekking/pilgrimage route bypassing their villages. The cooperation of small private enterprises was an important factor in the EDCs' success. In addition, the EDCs were educating and informing others about the biodiversity in the valley. Civic and private sector involvement in decision making was minimal and accountability was lacking.

The second case considered a village-level planning process, referred to as microplanning. The village of Lata was selected to study this process because it had developed a village microplan in 2002 and was in the implementation phase. It was discovered that the people of Lata did have the opportunity to decide which developmental and conservation works they wanted to include in their plan, however, the scope of the projects was defined by the Forest Department. There was no private sector involvement in the microplanning process. Weaknesses in the implementation phase translated into very little citizen power in this process.

From these two cases, it was concluded that citizens had a role in NDBR planning and management activities but officials narrowed the scope of participation in order to achieve their conservation goals. Although there has been progress in the application of participatory processes, the two case studies in this research illustrate the need to bolster civic sector participation in planning and management of the Nanda Devi Biosphere Reserve.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF PLATES

LIST OF ACRONYMS

CFM	Community Forestry Management
DFO	Divisional Forest Officer
EBM	Ecosystem Based Management
EDC	Eco-development Committee
FD	Forest and Wildlife Department
IUCN	International Union for the Conservation of Nature
JFM	Joint Forestry Management
MAB	Man and Biosphere Programme
NDBR	Nanda Devi Biosphere Reserve
NDNP	Nanda Devi National Park
NGO	Non Governmental Organization
PA	Protected Area
PRA	Participatory Rural Appraisal
RRA	Rapid Rural Appraisal
UNESCO	United Nations Educational, Scientific and Cultural Organization
VoF	Valley of Flowers National Park
WCED	World Commission on Economic Development

1.0 INTRODUCTION

1.1 Background

Sustainable development has been defined as meeting "the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987:43). This principle is intended to be the guiding vision for development that ultimately reduces the *need* for regulating environmental protection (Roseland 1992). This concept has been advocated in response to the growing deterioration of the environment, including significant reductions in biodiversity.

Biodiversity performs many ecosystem and human-related functions, and so its protection is an essential element of sustainable development. Protection of biodiversity in mountain environments is particularly crucial. There has been a relatively recent realization that humanity is dependent on healthy mountain ecosystems. Mountains are important sources of water, forests, and minerals and provide habitat for endemic and/or threatened species. Furthermore, they provide a range of products and recreational opportunities and are foundations for religious belief. Scientists also now believe that mountains are important indicators of global climate change (Barkin and Dominy 2000), especially since they cover 24% of the Earth's land surface (Price 2000). The majority of the world's populations rely on the provisions of mountains, with 26% actually residing in or near mountain areas (Messerli 2002). The fragility and vulnerability of mountain ecosystems make conservation in mountain environments especially important and sustainable development particularly challenging.

It has become clear that the predominant models for both natural resource management and conservation have been detrimental to both ecosystems and social systems. For example, the traditional and primary method used to conserve biodiversity has been the establishment of protected areas that limit or remove human activity (Leitmann 1998). However, this exclusionary model has often had significant negative impacts, particularly in developing countries. As a result of increased awareness about the issues, a key shift in the management of natural resources has been the "resurgence of interest in communal land use

and participatory approaches" (Berkes and Gardner 1997:1). In fact, participatory approaches are seen as a key way to link conservation to sustainable development (Mitchell 2002). This shift is apparent in the concept of the biosphere reserve. Biosphere reserves evolved out of the responsibility to meet the material needs of humans while maintaining ecological integrity and biodiversity.

1.2 Participation in Conservation

Approximately 11.5% of the world's land surface has some form of protected status, 42% of which is found in developing countries (World Resources Institute n.d.). Most protected areas that exist today are based on the original model established with the world's first national park, Yellowstone National Park in the United States (Stevens 1997). The protection of nature was the basis for this model, which meant the parks were managed to minimize human impact.

Government land tenure and centralized administration and enforcement were characteristics of the traditional protected area model. In addition, the only sanctioned activities that could occur within protected areas were research and recreational pursuits (McKay 2001). This approach is considered an "exclusive" model of conservation (Oviedo and Brown 1999) that is not very responsive to human needs and values. In fact, in many cases where protected areas have been established in or near human settlements there has been forced relocation, violence, poverty, and the destruction of livelihood security (Stevens 1997). The resulting backlash against protected areas undermines conservation goals (Stevens 1997; Weddell 2002).

Many in the conservation community now realize that the long-term viability of conservation initiatives depends on the real involvement of local people in planning, decision making, management and monitoring (WWF 2002). Some have even claimed evidence that biodiversity loss is directly linked to the erosion of community-based tenure (Lynch & Alcorn 1994). As in many decision-making arenas, there has been a growing demand for wider participation in

2

natural resource conservation from the civic sector. This trend is partially in response to the growing belief that neither industry nor elected representatives are making or effecting enough good decisions in the interest of the public good (Roberts n.d.). Fewer people are merely accepting decisions that negatively impact their lives. While there is no universally accepted definition of public participation, Beierle and Cayford (2002:6) defined it as "any of several mechanisms intentionally instituted to involve the lay public or their representatives in administrative decision making."

As a result of these drivers, participation processes have proliferated and rhetoric about the value of public involvement is heard internationally. This has prompted a growing interest in the quality of participation, particularly since the early 1970s (Diduck and Sinclair 2002). The success of public participation processes depends on cultural, historical and political contexts. However, there are certain characteristics of a meaningful process that cut across these contexts.

1.3 Natural Resource Conservation and Public Participation in India

India is considered one of the twelve "megadiversity" countries in the world (Government of India 2001). Conservation of this diversity has taken on different forms through the years, including hunting reserves, sacred groves, wildlife sanctuaries, protected areas and more recently, biosphere reserves. India had adopted the exclusive model of protected areas, which assumes that humans are a threat to the environment and should therefore be excluded (McKay 2001). This policy has had profound implications, including the erosion of livelihoods and proliferation of conflict.

Both internal and external pressures have prompted India to begin the adoption of participatory approaches to the management of natural resources. Various forms of grassroots participation have been developed and supported in India, such as community-based forestry, van panchayats (village forest councils) and joint forest management (Gadgil and Guha 1995; Human and Pattanaik 2000; Agrawal 2001). Centralized decision making for the establishment of both

3

protected areas and biosphere reserves still persists. However, eco-development and microplanning have emerged as two government-initiated mechanisms that provide greater opportunity for the general public to have a role in conservation-related planning and management activities (Kishore 1998). Eco-development is defined as "a strategy for protecting ecologically valuable areas (protected areas) from unsustainable or otherwise unacceptable pressures resulting from the needs and activities of people living in and around such areas" (Singh 1994a). Microplanning is defined in this study as planning at the village level with broad participation of the local people.

1.4 Research Purpose and Objectives

Effective planning and management are necessary to achieve the mandate of a biosphere reserve. Planning can be defined as "a process used to develop a strategy to achieve desired goals or objectives, to resolve problems and to facilitate action," whereas management is defined as "the capacity to control, handle or direct" through the allocation of capital, technology and human resources (Mitchell 2002:6). These processes are affected by the roles played by and the interactions among the public, private and civic sectors. Each sector has inherent strengths and partnerships among the sectors can optimize these advantages, thereby increasing the effectiveness of planning and management efforts. Of particular importance are the roles and processes pertaining to civic and private sector participation in government-led initiatives. Government is typically the lead actor in planning and management for conservation in India. Therefore, a study of the roles and participation of these sectors is valuable for informing environmental policies and practices, particularly those related to Indian biosphere reserves.

The purpose of this research was to investigate participation in planning and management activities occurring in the Nanda Devi Biosphere Reserve. The specific objectives were to:

1. describe the background and context of planning and management in the Nanda Devi Biosphere Reserve;
2. determine the roles of the public, private and civic sectors during selected

planning and management activities;
3. describe what members in each of the sectors thought the roles were, and what the roles should be;
4. investigate the extent of civic and private sector participation in those activities; and,
5. evaluate the effectiveness of the participation.

For the purposes of this study, the public sector was defined as elected representatives or administrators hired to pursue the common good (or public mandate) (Beierle 1998). While there are no universal definitions of the private and civic sectors, the private sector was identified as those revenue-generating enterprises that are funded, owned and/or operated by one or more people other than the government. The civic sector was considered to be individuals attempting to trying to sustain their livelihoods and not-for-profit organizations, neither of which are a part of government.

1.5 Summary of Methods

The research design used a qualitative, exploratory, case study strategy. Participation in relation to planning and management activities for the Nanda Devi Biosphere Reserve (NDBR) was the focus of the study. Given the large area and varied land uses within the NDBR, the activities and villages of the study were selected in the field.

Fieldwork was undertaken over a three-month period in the fall of 2004. Data collection techniques included key informant analysis, informal semi-structured interviews, participant observation and the review of secondary data sources. Data collection was guided by a framework developed from attributes of public participation processes as indicated in the literature (Beierle and Cayford 2002; Diduck 2004; Shepherd and Bowler 1997). Interview guides were used to collect data from government officials, operators of small enterprises and local citizens. This research contributes to a larger collaborative project between the University of Manitoba, the University of Winnipeg, the University of Delhi, Garhwal University and the Shastri Indo-Canadian Institute entitled "The Roles of the Public, Private and Civic Sectors in Sustainable Environmental Management:

A Search for Balance." Therefore, the selection of the case studies was influenced by the opportunity to conduct the research in this particular region of India.

1.6 Research Contributions

This study considered two empirical case studies of participatory processes in a biosphere reserve context. The research provides a thorough description of the selected opportunities for engagement including the identification of public, private and civic sector roles. The study goes further by identifying opportunities to balance these roles in both planning and management activities. In addition, the research contributes to the literature on the evaluation of participatory processes in government-led conservation initiatives in India. Given the scientific complexity of natural resource planning and management and the complexity of involving people in these processes, evaluation can play a critical role in understanding the variables and improving upon the processes. Given that the research was undertaken in the Indian Himalayas, this study also makes a contribution to the cultural-construction paradigm of mountain research (Debarbieux 2000).

1.7 Limitations

Time and logistical constraints were significant limiting factors, as the field research component of the study was only three months. The time was also divided between the two study locations, one of which required a full day of travel from the base town of Joshimath. Linguistic barriers were a significant limitation, requiring the use of a translator in most cases. Locating a translator proved challenging, as local people were very busy. One person was finally identified, although his time had to be shared between researchers. All interactions depended on the willingness of the people to participate in the study. Willingness was particularly hampered in the second case study, where villagers were busy with the harvest and as such could not devote much time to lengthy interviews.

6

Lastly, the case studies in this research occurred in a local setting and cannot likely be generalized to situations or experiences in other biosphere reserves.

1.8 Organization of the Thesis

The thesis is organized into six chapters. Following the introduction, chapter two draws on the literature about changes in thought and policy related to conservation strategies, the increased role of public participation and the attributes of good participatory processes. Conservation and the role of public participation are then reviewed in the context of India. Chapter three provides a discussion about the study area and the methodology applied in the field research and data analysis stages.

The results of the study, which largely draw on the interviews undertaken in the various communities, are presented in chapters four and five. Chapter four is a more detailed case study of Eco-development Committees operating in the Bhyundar Valley. The main activities in which they have been involved are waste management, traffic control and public awareness, under the guidance of the state Forest Department. Chapter five presents the results of a second case study of a planning process carried out at the village level, referred to as microplanning. One particular village, Lata, is the focus of this chapter. Both chapters describe the roles of each sector with a particular emphasis on participation in the processes. The chapters also link the process attributes with a number of outcomes that were either expressed by the interviewees or observed by the researcher. Finally, chapter six brings the results of the research together by addressing the research objectives. It draws conclusions on the nature of the roles of each sector and interactions among the roles. The chapter ends with policy recommendations for enhancing private and civic sector participation, in the Nanda Devi Biosphere Reserve.

2.0 RATIONALES FOR BIODIVERSITY CONSERVATION AND PARTICIPATION IN CONSERVATION

2.1 Introduction

Sustainable development can be viewed as an attempt to integrate the interests of those who believe that the highest value should be placed on economic growth and those who place the highest value on environmental protection and conservation (Grant 2003). The concept of sustainable development became popularized after it was endorsed in the 1987 Brundtland Commission report called *Our Common Future* and then again at the United Nations Conference on Environment and Development in 1992.

The notion of sustainable development focuses on eliminating two types of inequities that threaten human and natural systems; intergenerational and intragenerational. Intergenerational inequity implies that current human populations are using up the Earth's resources and altering our planet's chemical and energy cycles to the point where we are threatening the ability of future populations to sustain themselves. Intragenerational inequity refers to the generally disproportionate balance of wealth between northern and southern countries. The success and growth of "developed" nations have been based on the ability to appropriate natural resources whenever and wherever desired and then freely dispose of industrial wastes. Since it has now been recognized that these practices can no longer continue unabated, the Brundtland Commission suggested that it is the responsibility of wealthier countries to aid developing nations in the transition to a more sustainable world. The developing world clearly cannot use unsustainable wealthier nations as examples for development (Grant 2003). Most importantly, sustainable development embodies the notion that humans have to set limits on our use of natural resources and production of pollutants. Francis (1995) argued that sustainability is also about maintaining the Earth's capacity for renewal and evolution.

One significant way humans have been compromising the integrity of ecosystems is through habitat destruction. Habitat destruction is causing an unprecedented rate of species extinction, and thereby depleting genetic diversity

(WCED 1987). Species extinctions have largely been lamented from a scientific and ethical viewpoint, but rarely from an economic viewpoint (WCED 1987). The notion of sustainable development attempts to bridge this gap. From a sustainable development perspective, biodiversity is an extremely important resource for developing food, medicines and raw materials, provided the nations receive an equitable share of the benefits and earnings (WCED 1987). Daily (1997) argues that biodiversity also provides ecological services such as climate regulation, soil formation, and nutrient cycling. Theberge and Theberge (2002) add to the list the maintenance of fresh water resources, absorption of pollutants, and flood protection. All of these ecological services mean that biodiversity has a high economic value to nations, which should provide the economic incentive to protect biodiversity.

The most common means of biodiversity protection is the designation of an area as protected under law. In order to protect and enhance biodiversity worldwide, the World Commission on Economic Development (WCED 1987) recommended that the network of protected areas be expanded so that it represents all of the Earth's ecosystems. The concept is value laden, however, and the environmental, social and economic implications must be considered for both planning and management (Eagles 2002). The limitations of conventional protected areas may be addressed with other conservation tools, such as the biosphere reserve. Biosphere reserves evolved out of the necessity to satisfy the needs of humans while maintaining ecological integrity and biodiversity. A key element of the biosphere reserve concept was the involvement of people in both the conservation and sustainable use of biodiversity.

It is now acknowledged that participation and co-operation with local people is required to achieve conservation objectives and the broader goal of sustainable development. The rationale is that locals have a better capacity to anticipate localized, negative impacts. Furthermore, they should have the opportunity to influence decisions because they are the ones that have to live with the consequences (Mitchell 2002). Likewise, involving citizens in public deliberations about policy direction and development has the ability to strengthen

democracy (in a democratic system) and encourage the emergence of shared ethics. By considering the range of options revealed through broad participation, society may be better able to look past short-term goals and pursue the best course of action for humanity (Grant 2003). Sustainable development requires humans to consider their impact on the natural world at both local and global scales as well as their obligations to extant and future life. Furthermore, it requires a different model of society, which depends on active and thoughtful citizens.

2.2 Biodiversity Conservation

2.2.1 Protected Areas: The Traditional Approach

The International Union for the Conservation of Nature (IUCN), also known as the World Conservation Union, is a partnership of governments and non-governmental organizations that formed in 1948. With over 900 members representing 138 different countries, the IUCN has a mandate of assisting and encouraging societies to conserve the integrity and diversity of nature (IUCN, 2000). To aid in this process, the IUCN developed a classification system of protected areas to represent allowable gradients of human intervention (Stevens 1997). For example, a national park is considered a Category II protected area, which has the dual mandate of wilderness preservation and of being a place for human enjoyment (Dearden and Rollins 2002). The IUCN (1994(a) in IUCN 2000:3) defined a protected area as "An area of land and/or sea especially dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means." This definition reflects a more informed understanding of the role of protected areas in global conservation goals.

Protected areas have a long history, primarily in the forms of sacred sites or hunting reserves (IUCN 2003). The world's first legally protected area was created in 1872 in the United States and was called the Yellowstone National Park. Yellowstone was originally established to preserve an area of outstanding natural beauty as a "pleasure ground for the benefit and enjoyment of the people"

(Lothian 1976:11 in McNamee 2002:26). National parks were available for spiritual renewal, outdoor recreation, aesthetic pleasure, sources of tourism income, and places for education and scientific research (Dearden and Rollins 2002).

As the scientific understanding of biodiversity and ecosystems improved and the rapid rates of habitat loss became apparent, protected areas became the central tool for conserving biodiversity and ecological integrity. A network of national parks and other types of protected areas has been encouraged worldwide. As of 2003, the global network covered a total of 11.5% of total land area, 42% of which is situated in developing countries (World Resources Institute 2003). An important limitation, however, is that protected areas alone are unable to maintain biodiversity and ecological integrity.

Biodiversity and ecosystems perform essential ecological functions such as the maintenance of fresh water resources, climate moderation, absorption of pollutants, flood protection, energy capture, and the provision of food, habitat and gene pools (Theberge and Theberge 2002). Yet these functions do not operate only within park boundaries. For example, the flora and fauna in protected areas rely on the outlying landscape as a source for genetic diversity (Hermann *et al.* 2003). Isolated patches hinder wildlife movement, create barriers for reproduction, and cut off habitat required for survival (Labaree 1992). Essentially, the smaller or lower quality the patch of natural habitat, the lower the chances of survival for a given species because its ability to adapt to change is reduced (Dramstad *et al.* 1996). Experience has demonstrated that isolated protected areas surrounded by disturbed ecosystems perpetuate biodiversity destruction and compromise life support systems.

Throughout the evolution of the purpose of protected areas, planning and management were generally guided by the belief that human activity is detrimental to wilderness protection and must be prohibited or closely regulated (Leitmann 1998). This belief likely stemmed in part, from Garrett Hardin's (1968) influential article "The Tragedy of the Commons." Consequently, parks were not available for exploitation or occupation (Stevens 1997). The approach was

exclusionary (Oviedo and Brown 1999) and focused on minimizing impacts within the boundaries of a park (Wallsten 2003). As a result, conflicts over parks have been widely reported (Kemf 1993; Stevens 1997).

Historically, decisions about the size and location of parks and other types of protected areas have been made at the national or international level. Sometimes regional governments have also been granted the authority to establish a protected area. Parks and protected areas are usually established on public land and if necessary the government will acquire private land. The protected areas are then typically managed by a central government or appointed body (Leitmann 1998). During this process, indigenous settlements and subsistence practices were rarely recognized (Nepal 2002). Consequently, many indigenous and other people either live in or adjacent to protected land, land upon which they depend. The Yellowstone model of protected areas resulted in the relocation of many local communities. Access to their traditional land, waterways and resources was either denied or severely curtailed (McKay 2001). Resentment and hardship amongst those people who are adversely affected have led to poverty, violence and the destruction of livelihoods. These outcomes have precipitated further criticism from human rights advocates. Moreover, the effectiveness of protected areas has been called into question. Most failures in managing protected areas are a result of conflicts between the local people and the responsible agency (Borrini-Feyerabend 1999).

Researchers are finding that there continue to be additional threats to protected areas (McNeely 1999). For example, global market trends are increasing pressure on natural resources. Construction of roads and dams and concessions for mining and timber have all occurred within protected areas due to institutional weakness (McNeely 1999). In addition, there is a constant lack of financial support for even basic protected area management (Miller 1999). These "paper parks," only exist in theory but not in practice. Given the difficulty of protecting biodiversity in areas of higher population densities in the conventional manner, a different approach was necessary.

2.2.2 A Changing Paradigm for Conservation

The recognition of the value and vulnerability of biodiversity has heightened the imperative for effective conservation tools. In the search for the ideal approach, the improved understanding of ecological processes and the social dynamics of conservation have led to two related lines of new thought:

- Conservation of species and habitats cannot be achieved with strict nature reserves or national parks, thus more emphasis needs to be placed on "working landscapes." These are places where people live and work, are rich in biological and cultural diversity and have economic, social and scenic value; and

- Conservation depends on the involvement of people (Phillips and Harrison 1999).

The biosphere reserve is a conservation tool that reflects these concepts. Biosphere reserves were sanctioned as a new entity when the "Man and the Biosphere" (MAB) Programme was officially launched by UNESCO in 1970. Reserves are voluntarily nominated by national governments and remain under their jurisdiction. Once the reserves meet certain criteria, they are internationally recognized through the MAB program (UNESCO 2000).

This conservation tool was developed to meet three objectives. The first objective of the program was to emphasize the importance of conserving biological diversity through a system of protected areas. The second was to facilitate the sustainable co-existence of rural populations and ecosystems and the third was to provide field sites for researchers (Batisse 1997). The MAB program emphasized both conservation and the sustainable use of biodiversity. The first biosphere reserves were designated in 1976 and in the beginning, the selected sites were used for research and to maintain protected core areas (usually national parks) surrounded by buffer zones. As time passed, the concept evolved to incorporate emerging ecosystem-based management (EBM) principles. Biosphere reserves now represent an application of the EBM approach.

Ecosystem-based management is an approach to planning and management that has been a response to the biodiversity crisis (Grumbine 1994). Grumbine (1994:31) defined ecosystem management as a framework that "integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting native ecosystem integrity over the long term." The framework has been informed by principles of landscape ecology, systems ecology, conservation biology and adaptive management (Slocombe and Dearden 2002). Primary principles include the necessity of protected areas to maintain the integrity of the ecosystem and species, minimize risks of species extinctions and represent all ecosystem and habitat types (Theberge and Theberge 2002). Understanding and working with influences that affect parks beyond their administrative boundaries is also considered a fundamental premise of ecosystem-based management (Slocombe and Dearden 2002).

Approaches to accomplish these goals include gap analyses to identify critical unprotected areas, making protected areas large, creating boundaries according to natural units such as watersheds, maintaining buffer zones to protect core areas and establishing corridors between protected areas to allow the transfer of flora and fauna (Slocombe and Dearden 2002; Davey 1999). The biosphere reserve program has internalized many of these concepts. Biosphere reserves now have to meet the following criteria. They must:

- represent a major biogeographic region;
- have landscapes, ecosystems and/or species that need protecting;
- provide the opportunity to research and demonstrate integrated management of humans, land & biodiversity;
- have one or more relatively undisturbed core areas with long-term legal protection;
- have a buffer zone that surrounds the core areas with clearly delineated boundaries. Activities within this zone should not negate conservation objectives and should help protect the core areas; and,
- have a transition zone, where natural resources are managed sustainably in cooperation with communities, scientists, government agencies and other interested stakeholders that may be living or operating within this zone (UNESCO 1997).

While biosphere reserves addressed the first and third objectives, field experience demonstrated that they were not addressing the second objective: the needs and concerns of the local people (Batisse 1997). The Convention on Biological Diversity, ratified in 1992 by numerous countries, re-emphasized the need to recognize the dependence of indigenous and local communities on biological resources. The Convention also sought to promote partnership approaches to conservation-related decision making (IUNC 1997 cited in Nepal 1997). Participatory decision making is now being stressed at local, national and international levels in an effort to realize conservation goals (Slocombe and Dearden 2002).

Participation has often been used as a tool to realize pre-set conservation objectives, which is essentially a manipulative approach. Alternatively, taking a facilitative approach is an essential way to empower people to have control over the decisions affecting their lives. These shifts in policy require negotiation, collaborative planning and management, conflict resolution mechanisms and self-regulation (Oviedo and Brown 1999). In fact, global examples of participatory approaches have been termed collaborative management and co-management. These inclusive models are particularly effective when they emphasize the socioeconomic opportunities rather than the restrictions associated with effectively managed conservation areas (Wallsten 2003). Brosius and Russell (2003) went further by advocating conservation approaches that are location specific, historically informed and congruent with local conservation methods rather than relying on one specific model. The approach taken will affect power processes and negotiations and ultimately determine policy outcomes and the success of implementation (Jeanrenaud 1999).

2.3 Public Participation in Environmental Decision Making

2.3.1 The Evolution of Public Involvement

Two trends have converged to have a substantial effect on natural resource and environmental policies (Cortner 1996). First, the legislative framework designed to protect the environment has been expanding since the

1970s. Secondly, there has been mounting pressure to broaden the participation in environmental and natural resource decision making (Halvorsen 2001).

Decision making in the natural resource planning and management field (including conservation) has been largely "technocratic" in nature (Fiorino 1990). In other words, it has been science driven and "expert" based because of technical complexity (McCool and Guthrie 2001). The decision making has also been very political. In Western societies, this means that a few elected individuals who are supposed to represent the interests of the wider public make public decisions (Thomas 1995). This system is known as a "representative democracy" (Overdest 2000). The leaders have been referred to as 'the elite' because they have the power to make decisions that affect everyone's lives. Decision making has typically occurred behind closed doors with participation being a selective process (Cortner 1996), however, the acceptability of this paradigm is changing.

There has been an escalating demand amongst civil society for the opportunity to participate in all types of policy development, implementation and management (Thomas 1995), including natural resource and environmental management. In many cases, the pressure for wider public involvement has led to changes in legislation and policy and has resulted in substantial differences in the nature of participatory processes. For instance, the one-way information flow designed to sell plans and gain public support (Daneke 1977) is becoming a two-way communication process (Cortner 1996).

Public participation processes have also been impacted by the evolving definition of "public". The definition of the relevant public was broadened in the 1970s to include a range of citizens and groups (Thomas 1995). Some consider the relevant public to be those who are willing to attend meetings and be active participants, the "interested public" (Cortner 1996). While others maintain that the public refers to any citizen who is affected by or has an interest in the outcome (Daneke 1977). Those who do not actively participate may be characterized as the "inactive" public (Mitchell 2002). They may be independent or organized into groups, such as women's, labour and minority groups (Smith

1983). Some argue that a good public participation process should find ways to reach these individuals (Diduck and Sinclair 2002). Regardless of who is considered to be the public, it is important to note that the public interest is not homogenous but in fact consists of several discrete interests (Gelhorne 1971). Diduck (2004) describes these as "multiple publics" consisting of dynamic organizations, coalitions and individuals who have shifting interests.

2.3.2 The Rationale for Public Participation

Planning and management processes are affected by the manner in which the public, private and civic sectors are engaged in those processes; in other words, their roles. A 'role' can be defined as "those behaviors characteristic of one or more persons in a context" (Biddle 1979:58). Roles are derived from patterns of behavior. A person may have one or more roles and these may change depending on the context. Furthermore, roles may or may not be expected, accomplish a function, or be institutionalized (Biddle 1979). Planning and management are also impacted by the interactions between these roles, such as participatory decision making.

The rationales for civic sector participation evident in the literature can be divided into two main categories; theoretical and practical (Sinclair and Diduck 2005). A key theoretical basis for participation is the belief that participation is fundamental in a democratic society (Gelhorne 1971, Parenteau 1988; Sinclair and Diduck 1995). Barber (1984) claims that people can actually become responsible democratic citizens when they participate in a process of making socially acceptable decisions. This may be partly due to the fact that people learn democratic skills in the process (Fiorino 1990). Participatory democracy is considered the alternative to representative democracy (Overdest 2000), and has quite different implications for the participation process. Approaching environmental and resource based decision making from a participatory democracy perspective is an important acknowledgement of the social, political and economic dimensions (Fiorino 1990). Two additional theoretical constructs that justify participation include the notion that participation empowers people so

17

that they are able to adapt to or even drive change (Fitzpatrick and Sinclair 2003, Sinclair and Diduck 2005) and that participation facilitates social learning, which in turn could improve the sustainability of natural resource policy decisions (Webler *et al.* 1995; Daniels and Walker 1996; Sinclair and Diduck 2001; Fitzpatrick and Sinclair 2003).

Beyond the broader democratic and societal value, there are numerous practical justifications for public participation that have been realized through experience. Given the complexity and uncertainty of environmental decision making, a broader set of perspectives can improve planning and management (Mitchell 2002). For example, citizens can be a source of expertise in effectively defining the problems and identifying solutions (Shepherd and Bowler 1997; Mitchell 2002; Sinclair and Diduck 2005) because the local people can inform the process with important ecological, social and economic details (Brosius *et al* 1998). Meaningful participation introduces alternative perspectives (Sinclair and Diduck 2005) and it helps ensure that development occurs in the interest of the public good (Gelhorne 1971; Daniels and Walker 1996). Carr and Halvorsen (2001) maintained that public participation produces locally appropriate solutions and may increase the benefits realized by the local people. Meaningful public participation can create a sense of ownership (Mitchell 2002) and increase confidence in institutions (Gelhorne 1971). Furthermore, final decisions that incorporate both civic and expert knowledge are often considered more legitimate by a wider group of people, which in turn produces a supportive public and reduces conflict (Thomas 1995; Mitchell 2002). This may also avoid expensive and time-consuming legal battles (Sinclair and Diduck 2005) and enable the implementation of management plans (Landre and Knuth 1993). Despite these benefits, limitations have become evident in the wake of the burgeoning imperative for public participation.

Public participation processes can be unpredictable. They do not necessarily improve public opinion and in fact, if the process is not carried out in a meaningful and genuine fashion then the public can become even more dissatisfied. Other difficulties with these processes cited in the literature include

18

the challenge of achieving satisfactory representation, the diminished role of the professional, and with respect to natural resource issues, letting insufficiently informed people make decisions (McMullin and Nielsen 1991). One criticism of locally-based participation processes related to the management of public land, is that there should be broader input to reflect national interests. Data reported by Carr and Halvorsen (2001), however, indicate that local participants can represent the range in values from "preservation" to "utilization." An additional challenge is that participatory approaches are initially more time consuming and costly (Diduck 2004). Despite this challenge, participation has been justified by the myriad of benefits and the potential social, environmental and economic costs of not involving the public.

2.3.3 Evaluating Participatory Activities

Evaluating participatory processes has become important for ascertaining quality and developing a deeper understanding of the applications for and contributions of these processes (Diduck and Sinclair 2002; the Institute of Development Studies n.d.) Evaluations attempt to identify participation barriers, reasons for failed processes, characteristics of successful processes, and the most effective public involvement mechanisms. In effect, past evaluations can serve to guide and ensure the success of future participatory processes. This is particularly important for conservation since achieving meaningful local participation has proven to be very challenging (Little 1994).

One can quickly ascertain by reviewing the literature that there is no standard method for evaluating participatory processes. The selected criteria will depend on the goals for the evaluation. These may be comparing the process against its own goals, against an ideal or against other efforts (Conley and Moote 2003). One limitation of comparing a process against its own goals is that the criteria may not be broad enough to assess the appropriateness from other perspectives (Conley and Moote 2003). Smith (1983 cited in Diduck 2004) suggested that there are three dimensions of public participation that can provide a framework for evaluation: context, process and outcome.

Strategies for progress, including participation processes, must consider the cultural, historical and political context (such as the conflicting pressures on policy makers). Mitchell (2002:194) pointed out that, "any partnership or public participation exercise occurs with reference to previous events and decisions; objectives and expectations; and shifting ideological, economic and political circumstances." An awareness of the existing context and an internalization of lessons learned from previous experiences can potentially result in three important benefits. First, the stakeholders may be able to identify the most effective strategies as well as opportunities to build upon existing capacities. Furthermore, context insights are key to being able to determine the success of the initiative (Mitchell 2002).

The literature reveals that the process can be evaluated in several different manners. One approach is to evaluate the process against indicators of an ideal model. The "ideal" is usually based on a theoretical construct, such as participatory democracy (Fiorino 1990; Lauber and Knuth 1999; Carr and Halvorsen 2001). The participatory democracy perspective maintains that broad public participation legitimizes the process because citizens are the best judges of their interests (Fiorino 1990).

Research supports claims by participatory democracy theorists that there are a number of key indicators of a good process. For example, Lauber and Knuth (1999) demonstrated that the perceived fairness of the process, also called procedural fairness, affected the participants' satisfaction with the process and their judgments about the fairness of the final decision. Distributive fairness relates to the fairness of the actual decisions. Factors shown to affect the perception of fairness include opportunities for citizens to express their concerns (Tyler 1987), influence over the process and/or the decisions (Fiorino 1990; Lauber and Knuth 1999) and the balanced representation of all pertinent interests (Poisner 1996 cited in Halvorsen 2001). Halvorsen (2001) found that demographic information were not sufficient indicators of representativeness and suggested that political persuasion, length of residence and group representation were also key factors.

The openness, honesty and respectfulness of the process have been viewed as important (Hunt and Haider 2001; Smith and McDonough 2001). According to the public, a good process should foster social relationships so future processes can thrive (Tuler and Webler 1999). This may be achieved by using a mechanism whereby all participants interact face-to-face over a period of time (Fiorino 1990). Fiorino maintained that this element of the process facilitates mutual learning of shared values and the opportunity to overcome conflict. Research by Webler *et al* (1995) has supported this argument.

The process can also be evaluated against its own goals, which will partially be determined by the mechanisms chosen for involvement. Various mechanisms include public meetings, round tables, open houses, and advisory committees. The public opinion survey is one method that is used to represent the interests of those affected but not directly participating. The downside to this process is that they are only a snapshot in time and respondents do not get to participate in and learn from the planning and decision making process (Cortner 1996). Fortunately, there is a wide selection of mechanisms available in the toolbox that can be used to accomplish the three basic functions: information in, information out, and continuous exchange (Mitchell 2002). Diduck (2004:10) describes *information out* as meeting "the information needs and wants of key publics in a fair, systematic and timely fashion," *information in* as giving "interested publics opportunities to present their views on the issue or problem being considered" and *continuous exchange* as "ongoing dialogues among managers and key publics."

The process can also be evaluated according to the degree of citizen control. Arnstein's (1969) ladder is a framework that is used to evaluate a process from the perspective of the "citizen's" interests, which are not necessarily the same as those of the lead agency. The ladder represents the eight degrees of decision making power in a participatory process. Citizens have no power at the bottom rungs where the intention is only to "educate" the people through *Manipulation* and *Therapy*. At these levels citizens are essentially non-participants. The middle three rungs represent forms of tokenism. With *Informing*

21

and *Consultation,* the people voice their concerns but there is no guarantee they will be heeded. At the *Placation* level, people are allowed to provide advice but they still do not have the right to decide. The top three rungs represent true citizen power where participants are able to negotiate decisions in *Partnership* style, maintain *Delegated Power* or have full *Citizen Control.* Arnstein (1969) maintained that meaningful participation includes a redistribution of power.

Gradations (or degrees) of citizen participation have been articulated in a variety of other typologies since Arnstein's seminal work in 1969. All the typologies typically infer a continuum of increasing levels of interaction between the sectors, increasing commitment of all participants and increasing citizen influence (and therefore, expectations of influence) over decision making (Dorcey *et al.* 1994). For example, Dorcey and others (1994) advocated a model based on strategic purposes for seeking citizen involvement. The lowest level of involvement was presented as *inform*, which moved up to *educate, gather information and perspectives, consult, define issues, test ideas and seek advice, seek consensus* and at the highest level, facilitate *on-going interactions* to involve citizens in decision making. Pimbert and Pretty (1994) presented a further variation that focused on how citizens can be engaged. They suggested that at the lowest level *passive participation* occurs when people are only told what is going to happen. At the next level, *participation in information giving,* people participate by giving information to extractive researchers or managers but they have no influence. *Participation by consultation* occurs when people are allowed to present their views, but there is no obligation for the external agency to adjust the definition of the problems or solutions in light of those views. There is no share in decision making at this point. The next four levels were described as *participation for material incentives*; *functional participation,* intended to meet predetermined objectives; *interactive participation*, which involves joint analysis; and *self-mobilization/active participation*, where citizens have full ownership of the initiative to make decisions or change a system. Another influential continuum of participation was proposed by the UNDP (1997). This typology reflects decisional characteristics, beginning with *manipulation*, which is used to

22

indoctrinate people. Subsequent levels include the provision of *information* in a one-way communication flow, *consultation*, which entails two-way information flows but with no obligation to use the input, *consensus-building, shared decision making, risk-sharing, partnership,* where there is an equal level of respect between people who are working towards a mutual goal and lastly, *self-management* in order to optimize the situation for all.

Practical "rules of thumb" learnt from past efforts have become additional criteria for evaluating participatory processes. For example, the timing of the process impacts the degree of citizen control and has critical implications for the success of the development (Smith 1982). Timing relates to the entry points of participation in the planning and decision-making processes (Diduck 2004). Smith (1982) specified three phases of planning where participation can occur. The normative planning phase refers to the initial period when the issues are defined and decisions are made about what should be done. Analysis of alternatives and decisions about what can be done occur during the strategic planning phase. Decisions that determine what will happen occur in the operational planning phase (Ozbekhan 1969 cited in Smith 1982). Key decisions are usually not influenced by the participation process when it occurs late in the planning process, which is typically the case (Shepard and Bowler 1997; Sinclair and Diduck 2005; Diduck 2004). Diduck and Sinclair (2002) also found that a perception that the decision was a foregone conclusion was a key barrier to involvement. Planners should therefore, strive to incorporate participatory processes into the normative and strategic phases.

Factors affecting the breadth of involvement can also be used as evaluative criteria. The extent to which the process overcomes barriers to participation, thereby increasing the breadth of involvement, is indicative of effectiveness because research suggests that involving both the active and passive public benefits the process (Diduck 2004). Factors that limit involvement include inadequate notice about the process and deficient information because it is either physically inaccessible or too difficult to understand (Diduck and Sinclair 2002). Additionally, meetings held at inconvenient times for potential

23

participants, constrain public involvement and result in unequal opportunities (Smith and McDonough 2001; Diduck and Sinclair; Halvorsen 2001). People will also have difficulty participating if they do not have available financial resources. McMullin and Nielsen (1991) recommended using multiple participatory approaches to overcome barriers and reach a more representative public.

Whereas the above criteria are primarily process related, assessment of capacity building is an outcome-based evaluation. The development of institutional capacity and social learning form the primary criteria included in evaluation frameworks. Social learning is particularly relevant for complex natural resource and environmental issues (Diduck 2004). Webler *et al.* (1995) evaluated two main types of social learning that can occur during a participatory process: cognitive enhancement and moral development. Cognitive enhancement refers to an improved understanding of aspects such as the problem, possible solutions and the perspectives of others. Moral enhancement refers to a positive change in feelings of self-respect and personal responsibility, which translates into actions in the interest of the common good. The authors were able to identify elements that facilitate social learning, including clear rules, a non-hierarchical structure, continual face-to-face contact, activities such as site visits, and trust. Daniels and Walker (1996) used a framework they called "collaborative learning". The literature emphasizes the importance of mutual learning by all participants and of non-technical learning outcomes such as clarification of goals and identification of interests (Diduck 2004).

Other outcome-based evaluations may consider the extent of conflict resolution, the satisfaction of the participants, or the achievement of broad social goals (Beierle 1999). Although they incorporate some of the principles already mentioned, Beierle's (1999) five social goals have also been used as evaluative criteria: 1) educating the public; 2) incorporating public values into decision making; 3) improving the substantive quality of decisions; 4) increasing trust in institutions; and, 5) reducing conflict.

2.4 Participation in Conservation: India

2.4.1 Introduction

In order to appreciate the experience of conservation in India, it is necessary to understand the historical context of forest resource use and control in this country. Forests have played a key role in land use policy in India, dating back to the colonial period. Since India has a level of high biodiversity, wildlife protection became essential after a legacy of forest exploitation and habitat destruction. The management of forests and the development of protected areas have had a profound effect on the citizens of the highly populated India. The role of citizens in forest management has been on the rise for some time, however, participation related to conservation is limited. The creation of biosphere reserves and the implementation of eco-development strategies have been the primary attempts to combine protection goals for biodiversity and socio-economic goals for people.

2.4.2 Early Conservation

Throughout India's history, nature and wildlife conservation have risen and fallen as priorities. The earliest recorded conservation measure was adopted in 252 BC when Emperor Ashoka created reserves for wild animals (McKay 2001; Mitra 1989). Sacred groves and hunting reserves are also old traditions in India (Pachauri and Srdiharan 1998). Communities protected sacred landscapes, groves and valuable species for spiritual and secular reasons (Gadgil and Vartak 1996). The first legal protection began during the colonial period, when the British enacted the *Wild Birds Protection Act, 1887,* which was later updated and enacted as the Government of India's *Wild Birds and Animals Protection Act of 1912*. The Indian *National Parks Act* became law in 1934, however, the first law that actually delineated an area to protect wildlife was the *Hailey National Park Act of 1936* (McKay 2001; IBWL 1970). As the first national park situated in the current state of Uttaranchal, Hailey National Park was eventually renamed the Corbett National Park.

2.4.3 Forest Management

Prior to India coming under the control of the British colonial regime, social institutions were partially communal in nature, a convention that impacted natural resource management. Quota systems and social stratification led to considerable diversity in the use of resources and also served to protect against the mismanagement and depletion of resources (Gadgil and Guha 1992). Gadgil and Guha (1992) asserted that the most serious consequence of colonial rule was the loss of traditional resource protection and management systems.

British colonial rule recognized the importance of forests when it came to power in India in the early 1800s. War-related requirements for raw materials, the significant external demand for these resources and the expansion of the Indian railway made control over the forests strategically important. Land use became characterized by the transformation of resources into commodities and success became measured by money. In 1864 the Forest Department was established and later the *Indian Forest Act of 1865* was passed, which was eventually revised to the *Indian Forest Act of 1878*. The Act was intended to assert state control by demarcating forests into three categories: Reserved Forests, Demarcated Protected Forests (both state controlled) and Undemarcated Protected Forests (village forests). The primary goal of the state was to secure the forests to extract timber for its own benefit (Gadgil and Guha 1992).

This policy had serious implications for rural people who grew resentful for two main reasons. Firstly, control over state forests (and limited control by communities) was considered illegitimate. Secondly, large-scale extraction by the government of natural resources had consistently undermined the local subsistence economies, causing wholesale destruction of biodiversity, soil erosion and flooding (Gadgil and Guha 1995). The village forests were generally not supported by the state, so traditional use of most forests was denied. Conflict between the people and the state was common as the people struggled to retain their independence. The Kumaun district in the Himalayas is one region where discontent and backlash from the people literally paralyzed the administration. As a result, political authority over forest management was decentralized for the first

time during the colonial period. Decentralization came in the form of village forest councils called *van panchayats,* which provided an opportunity for local participation.

The *van panchayats* were set up in 1931 to allow locals to manage forests within the village boundaries and were governed by the Forest Council Rules of 1931 (Gadgil and Guha 1995). The elected councils had decision-making power and at the same time were accountable to the central Land Revenue Department. For example, they could fix levels of extraction of fodder and fuelwood, decide on fees, manage finances and maintain records. Along with this power was the requirement to regulate their people, thereby internalizing the enforcement. This has been accomplished by both mutual and third party monitoring. Third-party enforcement, where the villagers had a high level of participation through their contributions to the salaries of dedicated "guards," resulted in the least number of rule infractions. Agrawal (2002) believed that when villagers are involved in rule making and enforcement they are more inclined to accept these regulatory controls and the need to conserve. Agrawal asserted that forest councils have not been effective when there has not been enough forest to control, when levels of out-migration are high and when there is little support from higher levels of government. Gadhil and Guha (1995:170) stated that although this system needs improvement, it remains an "ecologically viable and socially equitable system of resource management."

Joint Forest Management (JFM) is the second form of government sanctioned, decentralized forest management based on popular participation. Whereas areas managed by the *van panchayats* do not overlap with those managed by the Forest and Wildlife Department, successful JFM ventures represent more of a partnership (Gadhil and Guha 1995). Success with JFM in improving the Arabari forest in West Bengal, prompted the Forest and Wildlife Department to establish village forest protection committees in other areas. By 1994, about forty Hill Resource Management Societies were protecting forests under joint forest management (Sharma 1994 cited in Hobley 1996). Jeffrey and Sundar (1999) asserted that JFM is a true partnership because of its legal status,

membership rules and the process used for village selection and forest patch selection. Hannam (1999) found, however, that Forest Department employees involved with JFM still considered the locals to be the source of forest destruction. Locals were treated as beneficiaries instead of equals. Although inadequacies exist within both systems, Gadgil and Guha (1995) believed that JFM can still be successful because the Forest Department spends less time, effort and funds managing forests. Furthermore, the participatory nature of the systems should accrue more benefits to the local people.

Community forest management (CFM) originated in the state of Orissa as a grassroots initiative to protect and manage forests. The first documentation of CFM dates back to1936 as a movement partially in response to distrust of the Forest Department. Advocates of CFM have resisted joint forest management because they believe that partnership with the State will undermine local initiatives (Human and Pattanaik 2000).

2.4.4 Post-Colonial Conservation

The Indian Board for Wildlife was created in 1952 and played an advisory role to the central government. It was instrumental in developing the National Wildlife Policy in 1970, which became the basis for the *Wildlife Protection Act 1972*. This act provided the legislative grounds for the establishment of protected areas nationally and was subsequently adopted by all states. Based on the Yellowstone model, all local people were to be removed from the protected areas and sanctuaries (Hobley 1996). According to the Act, an area may not become a national park until the government has total rights over the area and a boundary of a park cannot be changed unless a resolution has been passed by the state legislature (IUCN 1993). A major goal at the time was to reserve at least 4% of the total land for wildlife. The country now boasts 89 national parks and 500 wildlife sanctuaries (Government of India 2003).

Protection of wildlife and forests was enshrined in India's *Constitution Act 1977* with the Forty-Second Amendment, which provided the central government legislative control for conservation (IUCN 1993). However, the central

government maintained primarily an advisory role to the states until 1985, when the new Ministry of Environment and Forests was created. The Ministry's Department of Environment, Forests and Wildlife was given the administrative role of planning and coordinating environmental preservation, protection and forestry programs (IUCN 1993). This change in governmental structure may have been partially due to the fact that the Government of India adopted the World Charter for Nature, proclaimed by the United Nations in 1983. This proclamation called for a representative network of protected areas, which eventually became mandated in India's 1983 National Wildlife Action Plan (Pachauri and Srdiharan 1998). Management of protected areas, including biosphere reserves falls under the Forest and Wildlife Department of each state.

The National Forest Policy of 1988, which superceded the 1952 National Forest Policy, incorporated ecological concepts for managing forests. Furthermore, it was one of the first policies to mandate the involvement of the broader public in environmental protection and protected the rights of people dependent on the forests (Hobley 1996).

More recently, the *Wild Life (Protection) Amendment Bill* was passed in 2002, which has definite implications for the citizens of India. In particular, the bill proposed to enhance penalties but it also created two more categories of mixed use protected areas recognized by law: the *'Conservation Reserve' and 'Community Reserve'* (Government of India 2003).

In addition to traditional parks and sanctuaries, India embraced the biosphere reserve concept. The Indian National Man and Biosphere Reserve (MAB) Committee was constituted in 1972 to identify possible biosphere reserve locations representative of all major biogeographic regions in the country. Thirteen national biosphere reserves were eventually established, beginning in 1986, four of which have since obtained international recognition under the UNESCO MAB program (MoEF 2004). The primary goals of the national program were to:

1. conserve biodiversity and its ecological foundations;

2. conserve and ensure the sustainable use of representative ecosystems;

3. ensure participation of local communities for effective management of natural resources and devise appropriate measures for improving livelihoods of local people through the sustainable use of natural resources; and,

4. facilitate education and training as part of the overall management of biosphere reserves (Rai 2002).

Although the core zones are legally protected, the biosphere reserves themselves are not considered legal entities and have, therefore, not been fully implemented (Rodgers 1990). The central Ministry of Environment and Forests does, however, provide some financial assistance and oversight for biosphere reserve administration. Each reserve has its own director, and the state Forest and Wildlife Departments carry out planning and management tasks. The secretary of the national MAB committee identified the main constraints to implementing the above goals as limited resources, conflict between managers and locals and shared responsibilities for common properties (Rai 2002).

2.4.5 Social Implications

The movement to establish conservation areas (national parks, sanctuaries and biosphere reserves) has come with costs to the civic sector of India's society. All types of conservation areas have primarily been established by the central government whose strategy has been based on the belief that human population pressures are the main sources of environmental problems and, therefore, people must be excluded from national protected areas (Gadgil and Guha 1995). In India, this resulted in the displacement of many people, the denial of access to traditional land that was the base of subsistence activities, increased crop damage at the park peripheries and increased human deaths from animals (Gadgil and Guha 1992).

The effects of exclusionary, centralized decision making have left many questioning the legitimacy of these governments and have precipitated a growing unrest in affected communities. With political support waning and a lack of financial resources to properly manage local affairs, there has been a push towards decentralizing governments (Sayer 1999). There is an important assumption that only decentralized government, policy and legislation will enable local groups to participate effectively and that community conservation initiatives will be protected from outside threats, which may or may not be the case (Jeanrenaud 1999).

Eco-development emerged in the early 1980s as a mechanism to encourage ecological restoration in any location (Badola *et al* 2002). Eventually it became an alternative development model to take the pressure off of protected areas (Kishore 1998). Badola *et al.* (2002) suggested that the eco-development concept is akin to the Integrated Conservation and Development model used elsewhere. Promoted by the international World Wildlife Fund for Nature, eco-development became a strategy in India's National Wildlife Action Plan to strengthen protected areas by responding to the socio-economic needs of the local people. Essentially it promotes alternative livelihood practices so people benefit from conservation and the sustainable use of resources, both on common and private property (Badola, *et al.* 2002). With help from the World Bank, support for eco-development had been extended to approximately 80 protected areas by 1988 (Kishore 1998).

According to Kishore (1998:30-31), eco-development has involved unprecedented consultation with non-governmental organizations, villages and community organizations. They have helped to plan and design the eco-development projects by "defining the scope and selection criteria; strengthening village groups and initiating start-up activities; performing participatory rural appraisals for indicative planning; training exercises; and setting up village eco-development committees to sustain and formalize participation of local people in detailed microplanning and monitoring of various project activities." Micro-level

planning essentially means planning at the village level with broad participation of the local people.

A stated goal of the National Conservation Strategy is "to serve as a management guide for integrating environmental concerns with developmental imperatives" (1992:7). Micro-level planning is identified in section 5.2.1.4 of the strategy as one of several instruments that can be used to meet this goal, particularly where the conservation of land, water and biodiversity is a priority. Thus, microplanning has been the main vehicle for eco-development projects.

Baviskar (1999: 121) indicated that a deficiency of the eco-development strategy has been the lack of clear processes about how participation should be structured and a lack of "regular, accessible channels of communication between the park authorities and the villagers." Baviskar (1999) also claimed that the eco-development approach is based on the underlying philosophy that conservation takes priority over people. As a growing management regime, eco-development has yet to be supported with a legal and institutional framework.

Whether the system is centralized or decentralized, there needs to be consideration of all levels of interests, transparency in decision making and acknowledgement of accountability to ensure the credibility of participatory processes. There will inevitably be some impact on the natural environment where there are humans. Therefore, planning and management decisions need to consider which types and levels of impact are acceptable in conservation areas, whether from locals, tourists or pilgrims. At the same time, subsistence needs must be taken into account, particularly for the poor and landless who depend on public land to meet their biomass requirements (Gadgil and Guha 1995).

2.5 Summary

In summary, there is an imperative for biodiversity conservation worldwide. Biodiversity conservation is, in fact, a requirement of sustainable development. Protected areas are considered an important tool for enhancing and protecting biodiversity, however, biosphere reserves may offer a more

holistic option for conservation under certain circumstances. The concept inherently encourages a more inclusive, participatory approach to conservation and development. The international community has embraced participatory approaches, however, there is a pressing need to improve the quality of these processes so they are more responsive to local people.

There are many criteria for evaluating participatory processes, which can be organized into a context, process, outcomes framework. The present study applies this analytical framework to evaluate participatory processes intended to support planning and management activities in one Indian biosphere reserve. Participation and collaboration are evident in forest management in India, but are only emerging in relation to conservation. Given the history of conflict surrounding conservation programs in India, there is a necessity to find a healthier balance between the roles of the public, private and civic sectors in planning and management for conservation. This study aimed to identify opportunities for achieving that balance and for enhancing the quality of participatory initiatives in the Nanda Devi Biosphere Reserve.

3.0 RESEARCH DESIGN

3.1 Study Area: The Uttaranchal and Garhwal Context

The Nanda Devi Biosphere Reserve (NDBR), located in the Garhwal region of Uttaranchal, India, was chosen for this study (Figure 1). Uttaranchal covers 53,330 sq km and is divided into 13 districts situated in three distinct regions; the high mountain ranges of the Western Himalayas, the hilly mid-mountain region and the plains.

This item has been removed due to copyright issues. To view it, refer to its source.

Figure 1 - Uttaranchal, India

Source: www.mapsofindia.com

There is a wide variation of climates and vegetation in Uttaranchal. The forests range from sub-tropical to temperate to alpine, resulting in a rich array of biodiversity. To preserve its valuable resources, the state has one of the highest

numbers of protected areas in the country with six national parks and six wildlife sanctuaries (Uttaranchal website n.d.). The Valley of Flowers National Park (87 sq km) and the Nanda Devi National Park (717.5 sq km) form the two core zones of the Nanda Devi Biosphere Reserve.

According to 2001 census data, the state has a population of 8,479,562 residing primarily in larger cities such as Rishikesh, Haridwar and Dehradun (Government of India, n.d.). The remainder of the population is scattered in rural towns and villages throughout the state. The state is also divided into two regions known as Kumaon and Garhwal. These two regions, previously the northern divisions of Uttar Pradesh, officially became the independent state of Uttaranchal on November 9th, 2000.

The lack of investment in these mountainous regions during British rule spurred the call for the new state (Handa 2002). At the time of Independence, the primary economic activities in the Garhwal region included subsistence agriculture, seasonal employment servicing pilgrims and trans-Himalayan trade (Rangan 1996). Demands for the creation of the new state escalated after Independence because of sustained and amplified economic marginalization. There continued to be a lack of development assistance and the little that did occur was considered "insufficient, unsuccessful and/or environmentally damaging" because decision makers in the plains knew little about the hills or the needs of the inhabitants (Mawdsley 1999:106).

Trans-Himalayan trade was also halted in 1962 after the border war with China, and rights to small-scale extraction from Reserve forests were limited under new forest policies instituted in the early 1970s (Rangan 1996). On the other hand, commercial extraction facilitated by the Forest Department continued unabated. Consequently, these decisions resulted in the intensification of forest use in community and civil forests around settlements. In addition, unsustainable exploitation of government (reserve) forests by outsiders occurred because of their desire to maximize profit and the government's inability to control the exploitation due to limited manpower and financial resources (Ramakrishnan *et al.* 2000).

The desperation of the situation was acutely felt in the Garhwal region. A cooperative organization of young men called the Dashauli Gram Swarajya Sangh (DGSS) began organizing large protests in response to unfavorable government action and inaction. Once the option of embracing the trees to stop the felling was conceived, the movement became known as the 'Chipko' movement (Chipko means "to hug"). The movement became particularly famous when women from the villages of Lata and Reni spontaneously protected their surrounding forest from contractors after all the men of the villages had been called away to the town of Chamoli. From that point forward, Chipko became know as a peasant movement in defense of traditional forest rights (Guha 1999).

Protesters of the Chipko movement had a variety of demands, including a ban on large-scale extraction by outside forest contractors, the promotion of local forest labor co-operatives, and reinstituting access rights to forests (Rangan 1996). When the state was unresponsive to the demands, an appeal to the central government elicited a number of legislated responses that ironically ended up reducing local development opportunities. A constitutional amendment passed in 1976 required central government consent on any project requiring large-scale conversion of forests to other land uses. In addition, a fifteen-year ban was imposed in 1980 on cutting green trees higher than 1000 meters (Rangan 1996). Considering that 64% of Uttaranchal is classified as forest, these changes had significant impacts on the local people (FRDC 2001). A new piece of state legislation that severely limited government jobs and educational opportunities for the hill people precipitated agitation again in 1994, which led to hunger strikes and violent clashes (Mawdsley 1999). Eventually the Governments of India and Uttar Pradesh created the new State of Uttaranchal.

One year after the new state was created, the Forest and Rural Development Commissioner Branch issued a book entitled, *One Year of FRDC: Uttaranchal in Retrospect*. In the book, the branch emphasized the importance of forests in the new state and issued a vision:

> The subsistence level agriculture of the mountain tracts have to be transformed into a niche-based, high value, low volume production regime

with the assistance of the massive biomass, which Uttaranchal forests so abundantly provide (FRDC 2001:11).

Projects being emphasized included the conservation and cultivation of medicinal plants and herbs and the cultivation of fruit trees. The FRDC also had plans to strengthen community participation in natural resource management and poverty alleviation initiatives, in part by establishing a Citizen's Charter for the Forest and Wildlife Department (FRDC 2001).

3.1.1 The Nanda Devi Biosphere Reserve

The reserve covers 5860.69 sq km of the districts Chamoli, Pithoragarh and Bageshwar (Figure 2). Field research was undertaken primarily in the district of Chamoli and to a limited extent, in the state capital Dehradun. The core protected areas were both established in 1982 and the larger biosphere reserve was established nationally in 1988. It became internationally recognized by UNESCO in 2004.

This item has been removed due to copyright issues. To view it, refer to its source.

Figure 2 - Approximate Location of the NDBR

Source: www.mapsofindia.com

There is a high level of biodiversity within the Biosphere Reserve with 18 species of large mammals, approximately 400 species of trees, 200 species of birds, 552 species of herbs and shrubs, and 18 species of grasses (Maikhuri *et.al.* 1999). These numbers may even be higher since the area of the NDBR was increased significantly in size in the year 2000. Both national parks were granted World Heritage Site status: Nanda Devi in 1992 and the Valley of Flowers in 2005. The natural beauty of the area is being marketed to a growing tourism industry, but the NDBR is also a desirable destination for both Hindu and Sikh pilgrims. Badrinath, one of the four holiest temples for Hindus, is located in the NDBR along with the sacred Nanda Devi peak. The second holiest Sikh temple, Hemkund Sahib, is also located adjacent to the Valley of Flowers National Park. As a result, the NDBR has experienced an influx of pilgrims and tourists that has been growing every year.

3.2 Research Design

3.2.1 Introduction

The research design was based on the qualitative paradigm (Creswell 1994). The flexibility of qualitative methods provides the opportunity to acquire very rich data (Halvorsen 2001). While several assumptions of this paradigm have been identified in the literature (Creswell 1994), this study was characterized by the following assumptions:

- Qualitative researchers are interested in meaning – how people make sense of their lives, experiences and their structures of the world;
- The qualitative researcher is the primary instrument for data collection and analysis. Data are mediated through this human instrument, rather than through inventories, questionnaires or machines;
- Qualitative research involves fieldwork. The researcher physically goes to the people, setting, site or institution to observe or record behavior in its natural setting; and,
- Qualitative research is descriptive in that the researcher is interested in process, meaning and understanding gained through words or pictures (Merriam 1988:19-20).

Within this framework, an exploratory, case study strategy was applied, which proved useful for determining the 'what', the 'how' and the 'why' of complex social phenomenon (Yin 1989). Yin (1989:23) defined a case study as an empirical inquiry that:

> investigates a contemporary phenomenon within its real-life context, when the boundaries between phenomenon and context are not clearly evident and in which multiple sources of evidence are used.

The downside to this approach is that the data are very situation specific and therefore cannot be easily generalized.

Investigative topics included the planning and management activities occurring in the Nanda Devi Biosphere Reserve, the roles of the public, private and civic sectors during these processes and the interactions among these sectors. The selection of this reserve was influenced by the opportunity to conduct the research in this particular region of India. There were also planning and management activities occurring at this site where it was evident that the government was not taking sole responsibility and was attempting to establish roles for the civic and private sectors.

Past evaluations of participatory processes were used to develop a data collection and analysis framework for this study (Appendix A). The framework consisted of a list of attributes organized to provide information about the context, process and outcomes of participatory processes. This framework allowed for collection of data that could be analyzed against principles of meaningful public participation established in the literature (Fiorino 1990; Webler *et al.*1995; Moote *et al.* 1997; Shepherd and Bowler 1997; Lauber and Knuth 1999; Tuler and Webler 1999; Carr and Halvorsen 2001; Smith and McDonough 2001; Diduck and Sinclair 2002; Beierle and Cayford 2002; Mitchell 2002; Diduck 2004). This type of evaluation is also referred to as theory-based evaluation (Chess 2000).

3.2.2 Field Research

Fieldwork was undertaken over a three-month period in the fall of 2004. For an effective case study, it is important to use multiple information sources (Yin 1989), therefore the fieldwork relied on key informants, informal semi-

structured interviews, the review of secondary data sources and participant observation. Emphasis was placed on obtaining information from individuals at village and household levels. These data were augmented and contrasted with information from the state Forest and Wildlife Department and local enterprises. The multitude of sources also served to ensure the validity of the data.

Key informants were selected based on their involvement with or their unique knowledge of the particular activity/process being studied. Senior members of the Forest and Wildlife Department were the first key informants identified because they were the primary decision makers and were in possession of a significant amount of relevant information. Initial consultations at this level led to the receipt of documents pertaining to the history and management of the Nanda Devi Biosphere Reserve and the two national parks. The consultations and documentation were useful for providing context and for selecting the case studies. Subsequent discussions were used to clarify or validate data obtained from the documentation and interviews. A timeline analysis was also conducted with key informants to determine when participatory processes occurred in relation to key decisions.

The open-ended, semi-structured interviews were used to gain an in-depth understanding of the selected processes. All of the interviews were guided by a plan of inquiry, which had a list of questions to prompt the narrator to speak on various points of interest (Russell and Harshbarger 2003) (Appendix B). The selection of individuals and/or groups for interview purposes was based on non-probability sampling. Techniques included the snow-ball sample, whereby individuals were identified by recommendations from other participants in the study, the convenience sample, whereby people were selected for their accessibility and availability and the purposive sample, whereby interviewees were selected for a purpose (Russell and Harshbarger 2003).

One male translator was used for most interviews in the villages. He was formerly a tour guide in the area, and was thus very familiar with the region and its people. All participants were selected based on their willingness to participate in the study. At the village level, the translator and researcher simply walked

through the village and spoke to those individuals who had time for a discussion. Every effort was made to ensure the discussions were private, to remove any outside influences on the responses. Each participant in the study was informed of the purpose, assured personal confidentiality and given the opportunity to not participate. Tables 1 and 2 list the number of people by sector that was interviewed for this study.

Table 1 - Interviews Conducted Regarding EDC activities

	Civic Sector		Private Sector	Public Sector
	Men	**Women**	**Non-local Stakeholders**	**Forest and Wildlife Department**
Bhyundar/ Ghangaria Village	▪ 14 individuals ▪ 2 groups (Note: all but three were EDC members)	▪ 8 individuals ▪ 2 groups	▪ Porters – 1 group ▪ Shop owners – 5 ▪ Mule owners – 1 group ▪ Gurudwara manager – 1 ▪ Sweeper – 1	▪ Divisional Forest Officer ▪ Sub-divisional Forest Officer ▪ Assistant Wildlife Warden ▪ Wildlife Guard
Govindghat/ Pandekeswar Village	▪ 3 individuals	▪ 1 individual	▪ Shop owners – 3 ▪ Mule owners – 1 individual and 1 group ▪ Sweepers – 1 group ▪ Gurudwara manager – 1	**District Panchayat** ▪ 1 employee

Table 2 - Interviews Conducted Regarding Microplanning in the NDBR

	Civic Sector		Private Sector	Public Sector
	Men	**Women**	**Non-local**	**Forest and Wildlife Department**
Lata Village	▪ 14 individuals ▪ 2 groups	▪ 10 individuals	▪ 2 individuals	▪ Divisional Forest Officer ▪ Sub-divisional Forest Officer ▪ Forest Guard
Tolma Village	▪ 2 individuals	▪ 2 individuals		
Reni Pulli/ Walli Village		▪ 6 individuals		

A critical content analysis was conducted of documents specific to the Nanda Devi Biosphere Reserve and the two case studies. Government officials or community members provided all the documents, which included previous studies, planning documents, management plans, legislation and meeting

ledgers. Analysis of these documents provided insight into critical context and process dimensions. Participant observation was used to identify and validate roles, and to pay particular attention to the dynamics of power relations. Participant observation was used during group interviews, at meetings and throughout the numerous hours spent trekking to the study villages.

3.2.3 Case Study Selection

The villages of Bhyundar and Lata were chosen for in-depth study because they met three main criteria. First, the communities had to be engaged in planning or management activities within the NDBR. Given the large area and varied land uses within the NDBR, the activities and villages for the study were selected in the field. Second, the activities had to be examinable according to a context-process-outcomes framework (Smith 1983), and finally the research had to be able to inform policy within the context of the larger project. These villages were also recommended by the Forest and Wildlife Department or the local villagers (Figure 3).
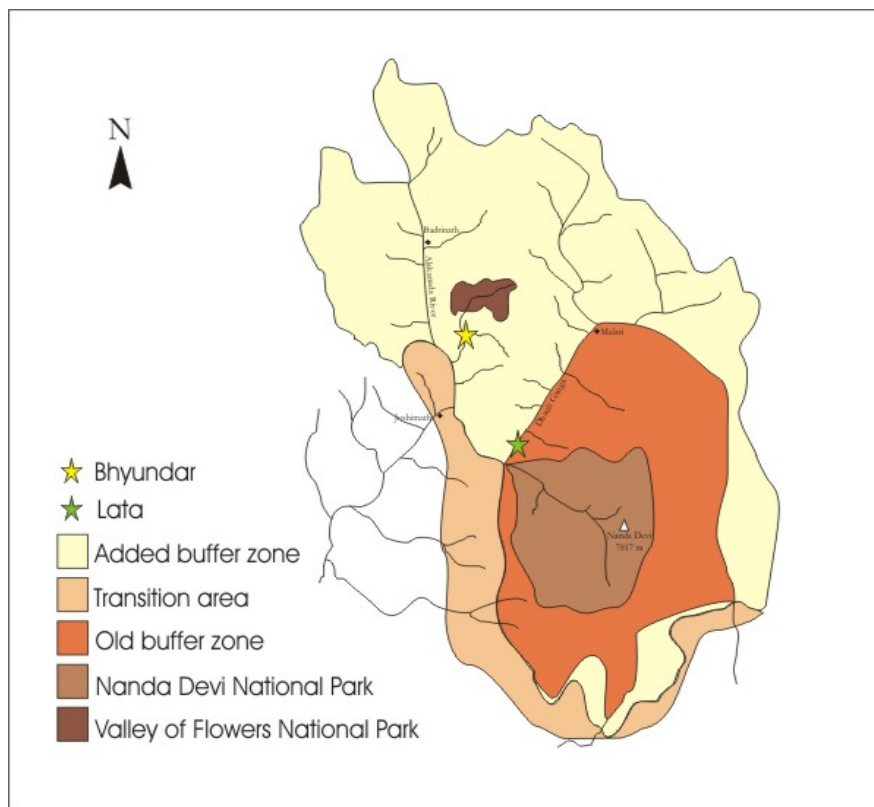
Figure 3 - Village Locations in the NDBR

The village of Bhyundar (84 families) had an active eco-development committee (EDC) that was involved with a newly established system to deal with waste accumulation and traffic along the heavily used route to the Valley of Flowers National Park and Hemkund Sahib Sikh temple. Time was also spent in Govindghat to examine the role of its new EDC. Both Bhyundar and Govindghat are situated in the Bhyundar Valley. The village of Lata (102 families) was selected because of its historical relationship with the Forest and Wildlife Department and it's development of a village microplan that was in the implementation phase. Time was also spent in each of the villages of Tolma and Reni speaking to local individuals about their experiences with the microplanning process. Lata, Tolma and Reni are situated in the Niti Valley.

The EDC activities and the microplanning process became the focus of the research because they were active, dynamic processes that engaged several people from the various sectors. The activities were also observable during the course of the field research. The researcher has also had previous experience with waste management systems and the tourism activities were already being actively researched. There were other processes occurring, such as the development of the medicinal plant market, which would have been excellent research opportunities to pursue.

3.2.4 Data Analysis

Chambers (1998) indicated that words are more likely to be translated into action when the research is credible. In order to ensure credibility, the purpose of the research was made transparent to all participants. The researcher constantly reviewed and adjusted the plan of inquiry to ensure questions were comprehensible to the participants and relevant to the research. All of the data collected from interviews, observations and general reflections were recorded in a logbook. A basic level of analysis occurred in the field so it could be validated by key informants. Data were crosschecked by repeating questions with different people, comparing answers and comparing the different forms of data, a process commonly called triangulation (Russell and Harshbarger 2003).

Upon returning from the field and transcribing all data in the logbooks, the data were analyzed with the QSR NVivo software package. The software allows data to be coded by attaching category labels to words or groups of words and then segmenting them into themes with similar characteristics (Tuler and Webler 1999). Given that a framework of participation attributes developed from the literature guided data collection, most of the data categories paralleled this framework (Appendix A). In some cases new categories were established to reflect data that emerged during the course of the research. NVivo is advantageous for data analysis because it allows consistent, flexible and rapid data management (e.g. coding, sorting and text retrieval). The capability of making links and producing concept diagrams with the software also allows one to take an exploratory approach to the data (Gibbs 2002). Traditional paper-based techniques are clumsy, error prone and restrictive in comparison.

Four typologies of public participation were chosen for the purpose of evaluating the interactions between the various interests in the two case studies (Table 3): Arnstein's ladder (1969), which is the classic model used to evaluate power sharing from the civic sector perspective; the Pimbert and Pretty continuum (1994) that focuses on how people participate; the UNDP typology (1997) that reflects decisional characteristics; and the typology proposed by Dorcey *et al.* (1994), which is based on the purpose of seeking citizen involvement. These four models each reflect a different interpretation of participation levels. Combined they provide a more comprehensive picture of the degree of participation that was actually occurring than any individual model on its own.

Table 3 – Participation Typologies

Arnstein (1969)	Pimbert and Pretty (1994)	Dorcey *et al.* (1994)	UNDP (1997)
Citizen Control (citizen control): - Citizens have full power to plan, make decisions, and manage.	*Self mobilisation/ active participation:* - Independent initiatives to change systems - May or may not challenge existing distributions of wealth and power.	*On-going interactions:* -To involve citizens in decision making	*Self-management*: - Stakeholders interact in learning processes, which optimize the well-being of all concerned.
Delegated Power (citizen control) - Citizens have been given some power to make decisions. - There is accountability to the citizens.	*Interactive participation:* - Joint analysis and action plans - Formulation of new local groups or the strengthening of existing ones that take control over local decisions. - Systematic and structured learning processes.	*Seek consensus:* - Determine areas of common ground and areas of divergence. - Explore options and arrive at recommendations for action.	*Partnership*: - Exchange among equals (in terms of balance of respect) working towards a mutual goal. - Mutual responsibility and risk sharing.
Partnership (citizen control): - Enables participants to negotiate and engage in trade-offs with traditional power holders. - Shared planning and decision making.	*Functional participation:* - People participate to meet pre-determined objectives - Involvement occurs after major decisions have been made.	*Test ideas and seek advice:* - On proposed options regarding a policy or decision, or asking for additional proposals.	*Risk-sharing:* - Expands beyond decisions to encompass the effects of their results, - Accountability is fundamental at this level.
Placation (tokenism): - Participants are allowed to advise but have no right to decide.	*Participation for material incentives:* - People provide resources, for example labour, in return for food, cash or other material incentives. People have no stake in prolonging activities when the incentives end.	Involve the public in *defining issues* regarding a policy area.	*Decision making*: - Consensus is acted upon through collective decisions, - Shared responsibilities for outcomes.
Consultation (tokenism): - Participants can voice their concerns/opinions, but there is no guarantee their input will be heeded.	*Participation by consultation:* - External agents listen to views but define both problems and solutions and may modify these in light of people's responses. - No sharing in decision making - No obligation to the people.	*Consult* the public, getting their reaction to a proposed initiative.	*Consensus-building*: - Stakeholders interact to arrive at negotiated positions tolerable to the entire group. - Vulnerable individuals and groups tend to remain silent or passively acquiesce.
Informing (tokenism): - Informing citizens of their rights, responsibilities and options. - One way flow of information.	*Participation in information giving:* - People give answers to extractive researchers and managers using questionnaires, surveys or similar approaches. - No opportunity to influence proceedings	*Gather information and perspectives* in order to supplement other sources of information in developing a policy or decision.	*Consultation:* - Two-way communication, - Opportunity to express suggestions and concerns, - No assurance that input will be used at all or as intended.
Therapy (non-participation): - "Cure" the participants. - Get them to adopt power holders' values.	*Passive participation:* - People are told what is going to happen or has already happened. - Unilateral announcement by an administration - The information being shared belongs only to the professionals.	*Educate* the public about the background to a decision or policy, indicating the alternatives and their pros and cons.	*Information:* - Stakeholders are informed about their rights, responsibilities, and options - Emphasis is placed on one-way communication, with neither channel for feedback nor power for negotiation.
Manipulation (non-participation): - "Educate" the participants, - Engineer support, - Public relations.		*Inform:* the public of a government initiative and its decision making process.	*Manipulation*: - Essentially 'non-participation', - Participation is contrived as the opportunity to indoctrinate.

This research attempted to present the views and voices of each sector of society, so in some cases, the following chapters support important issues with conversational reproductions extracted from the interview data. Given that the data obtained from the villages have been interpreted both by the translator and the researcher, these reproductions should not be considered direct quotes.

3.2.5 Threats to Validity

Due to the fact that a translator had to be used for most of the interviews in the villages, misinterpretation was the most likely threat to validity. Responses from participants were often longer than those relayed by the translator, so the translator was frequently reminded that the responses needed to be in the participants own words rather than a shortened version by the translator.

Dichter (1989) suggested that another common threat to validity in qualitative research is people telling the researcher what they think the researcher wants to hear in hopes of getting some type of foreign assistance. While it is possible this happened during the course of this research, every effort was made to ensure that people understood that the researcher was merely a student not affiliated with any non-governmental or governmental organizations.

3.2.6 Ethical Considerations

A study that uses qualitative data collection techniques runs the risk of raising peoples' expectations. Although the intent was to make policy recommendations for a more conducive environment for participatory processes, care was taken to explain to participants what could and could not be expected from participating in this research. Participants were asked to give their verbal consent before proceeding. All of the raw data were kept confidential and participants were assigned a pseudonym to conceal their identity.

4.0 THE ECO-DEVELOPMENT COMMITTEE: A MECHANISM FOR PARTICIPATION?

4.1 Introduction

While policies in India mandate increased levels of public participation, clear goals and principles were absent from participatory processes pertaining to the Nanda Devi Biosphere Reserve. Therefore, principles of meaningful participation established in the literature were used to evaluate the manner in which the civic and private sectors were participating in two ongoing initiatives in the NDBR: through the activities of the Eco-development Committees and the microplanning process. The data are organized according to the context-process-outcomes framework for each case in the current and following chapters.

4.2 The NDBR: Setting the Context

The Uttar Pradesh Forest and Wildlife Department was the responsible authority for the Nanda Devi National Park and the Valley of Flowers National Park when they were established on Reserve Forests in 1982. The department also became responsible for administration of the encompassing Nanda Devi Biosphere Reserve when it was established in 1988. When Uttaranchal was formed in 2000, the new Forest and Wildlife Department assumed the same responsibilities. The Forest and Wildlife Department (FD for short) became one of eleven departments under the Forest and Rural Development Commissioner Branch (FRDC) of the Uttaranchal government. A new state body, called the Biosphere Reserve Authority, was also formed to provide oversight of the NDBR (FRDC 2001).

The state owns most of the land within the NDBR although there are small private holdings as the buffer zone is inhabited by 47 different villages. The people belong mainly to two ethnic groups, the Indo-Tibetan (also called the Bhotiya) and the Indo-Aryan. The Bhotiya people in the Chamoli District are from the Tolchha sub-community and reside in the Niti Valley. The people in the Bhyundar Valley are Indo-Aryan. The primary land uses within the buffer zone include rain fed cultivation on terraced slopes, animal husbandry, and collection

of non-timber forest products. Terraced farming constitutes less than 1% of the buffer zone (Maikhuri *et.al.* 1999).

The creation of the Nanda Devi National Park created a legacy of conflict between the people in the Niti Valley and the Forest and Wildlife Departments for both Uttar Pradesh and later, Uttaranchal. Before the Nanda Devi National Park was established, villagers from Lata, Tolma and Reni accessed the area for forest products and grazing pastures. The Bhotiya traditionally practiced transhumance, which is the seasonal migration of shepherds and their herds between high alpine meadows and lower altitude locales (Nautiyal *et.al.* 2003). Rearing sheep and goats, small-scale agriculture and the sale of locally made woolen items were major occupations among these people (Silori and Badola 2000). Tourist activities in the area were also an important source of income between 1974 and 1982. The Nanda Devi basin became a sought after destination for trekkers and mountaineers, which resulted in approximately 8-10 mountaineering expeditions every year and required many local porters and guides (Kandari and Gusain 2001). When the park was created and access was denied as a result of perceived degradation to the natural environment (Sitling 2003), the tourism income vanished. Pressure in the remaining pastures also increased to the point that livestock numbers had to be reduced. These hardships have been compounded by crop losses and predation of domestic animals by wildlife (Maikhuri *et.al.* 2000).

Led by Lata's village chief in 1998, people from ten villages surrounding the Nanda Devi National Park entered the park en masse to protest their situation and demand the restoration of their access rights and compensation for losses (Rawat 2004). The people have also made public their conflicts with the Forest and Wildlife Department. In cooperation with a Dehradun-based NGO, the community of Lata has used the internet and other media to gain support for their locally developed tourism plans. A section of the park was finally re-opened in 2003 to limited tourism with a commitment to local management rights of the tourism activities (Rawat 2004). The new Uttaranchal FD officials took other steps to improve the relationship with the Lata community. For example, they

established a wool-carding plant for which the Women's Welfare Group was responsible. Among other things, the group used revenues to operate the plant and provide loans to other community members. Along with women's groups in other communities, the Lata group also began receiving, a portion of eco-fees collected from tourists by the FD.

The Valley of Flowers National Park is primarily an alpine pasture surrounded by peaks in the larger Bhyundar Valley. The area was made famous when mountaineer Frank Smythe wrote about how he accidentally came across the valley and marveled at the abundance of alpine flowers (Smythe 1947). People have never lived within the boundaries of the park. The Valley of Flowers was primarily used for herb gathering and as a grazing location for livestock until this activity was banned upon the creation of the Park (UP Forest and Wildlife Department, n.d.). Controversy about the ban continues to this day because of evidence that the floral diversity is being threatened by one plant species that used to be kept in check by the herds (Kala *et al.* 2003). In contrast to the NDNP, low impact tourism was allowed to continue in the Valley of Flowers. Given the loss of grazing lands for livestock, villages surrounding both these parks have significantly reduced their animal herds and have turned to various alternative livelihoods (Nautiyal *et al.* 2003, Ramakrishnan *et.al.* 2000).

The closest human settlement is the village of Bhyundar. The people migrate six kilometres down the valley to a winter village called Pulna (Figure 4). These two migratory villages lie between Govindghat and Ghangaria, two seasonal settlements that service the tourists and pilgrims between May and October (Kuniyal *et al.*1998). Tourism now constitutes the primary source of income for Bhyundar (Srivastava n.d.). The destinations include the Valley of Flowers National Park, an important Sikh temple called Hemkund Sahib and an adjacent Hindu temple. The park and the temples are accessible by a 16-19 km pathway following the Pushwati River in the Bhyundar Valley, which can be traveled only by foot or mule.

This item has been removed due to copyright issues. To view it, refer to its source.

Figure 4 - The Bhyundar Valley
Source: Adapted from a map provided by the Uttaranchal
Forest and Wildlife Department, District Chamoli

The seasonal community of Govindghat grew at the start of the route, serving as an accommodation and logistics base. During the tourist season, the community consists of hotel owners from the adjacent settlement of Pandekeswar, the Sikh Gurudwara, local and non-local shopkeepers, mule owners and porters. Thirteen kilometers up the pathway, the seasonal community of Ghangaria provides the same services as Govindghat except the hotel owners come from the village of Bhyundar.

The number of park visitors and Sikh pilgrims has grown substantially in the previous 50 years. Capitalizing on this influx of people, up to 300 temporary shops were erected along the trail during the tourist season to service the tourists and pilgrims. The shops became the source of non-biodegradable waste such as plastic bottles, wrappers and disposable raincoats. In addition, the shopkeepers were meeting their energy needs by collecting fuelwood from the surrounding forests (Berkmuller *et. al.* 1988). Up to 200 mules travel this path daily, so mule stands are set up haphazardly in convenient locations. The deposition of mule dung on the pathway and at the stands continues to be a significant source of fecal contamination (Banerjee 2004). All the waste being generated was polluting the surrounding ecosystem, including the Pushwati River. The increasing tourism pressures and pollution prompted the new Uttaranchal Forest and Wildlife Department to become heavily involved in management and conservation activities in the Bhyundar Valley.

In addition, a variety of other planning processes were set up over the years to manage the ongoing challenges, particularly those associated with the national parks. In 1999, funding from the World Bank allowed the state to initiate eco-development projects in villages impacted by the national parks. Emphasis was placed on reducing the dependency of the locals on the natural resources and finding alternative sources of income. Examples of eco-development investments included solar lamps, liquid petroleum gas tanks for cooking, water tanks, cows that provide more milk on less food, sewing machines, and frames for making carpets. Communities were able to decide on the eco-development investments they wanted and the details of implementing the selected projects, provided they did two things: create an eco-development committee and have the committee develop a microplan (village level plan) in cooperation with the village but with guidance from the Forest and Wildlife Department. In 2002, The World Bank directed the committees, via the FD, to use any remaining money for loaning purposes in order to be able to sustain the funds.

Since the state Forest and Wildlife Department was legally responsible for the parks, the department regularly submitted annual plans to the Government of

India for each park. At some point it became obvious to the Forest and Wildlife Department that biodiversity needed to be managed at broader levels of both space and time. The landscape also needed to be understood in terms of both natural and human influences (UA Forest and Wildlife Department 2002). As a result, the NDBR administration began a consultation process in 2001 to develop a ten-year landscape management plan for the NDBR. The plan was finalized in 2002 and became the guiding document for subsequent NDBR annual plans.

The Landscape Management Plan and subsequent annual plans discussed the management activities occurring in the NDBR. NDBR planning and management activities are listed in Table 4. The key planning and management activities that involved the participation of the civic and private sectors in the NDBR included the microplanning process, public education, waste management in the Bhyundar Valley, rehabilitation of degraded lands, tourism and development of a medicinal plant market. Traffic control on the Valley of Flowers trek route was also a process that involved all three sectors, but it was an activity initiated by the civic sector.

Table 4 - NDBR Planning & Management Activities

Planning	Development of the 10 Year Landscape Master Plan	
	Development of the NDBR Annual Plans	
	Development of annual plans for the two national parks	
	Development of village level microplans	
Management	Eco-development Activities	Distribution of: 1. Fruit plants 2. Liquid Petroleum Gas (L.P.G.) tanks 3. Solar lanterns 4. Weaving machines 5. Croiler chickens 6. Medicinal plants
	Value Addition Activity	1. Grassland improvement & management 2. Purchase & distribution of wool

	Rehabilitation of Landscapes (Habitat management)	1. Maintenance of forest nurseries 2. Maintenance of medicinal plant nurseries 3. Plantations in degraded forests 4. Soil conservation works (check dams, retaining walls) 5. Construction of water holes and percolation tanks
	Tourism Development	1. Development of new trails 2. Maintenance of old trek routes 3. Registration of home stays 4. Controlling access to the national parks
	Capacity Building & Awareness	1. Nature competitions in the schools 2. Nature camps for school children 3. Training programs for staff 4. Development of nature centre in Joshimath & Interpretation Centre in Ghangaria 5. Interpretative signage on the Govindghat-VoF/Hemkund trek route 6. Exposure visits
	Waste Management	Trek Route from Govindghat to the Valley of Flowers and temples.
	Monitoring	1. Polygonum tests plots in VoF 2. Biodiversity expeditions 3. Plantation, forest & national park monitoring
	Social Welfare Activity	Health camps
	Protection & Communication	Boundary pillars, supplies
	Compensation	For animal lifting
	Fire Management	Monitoring, fire breaks

4.2.1 A Mandate for Participation

Policies relevant to civic and private sector involvement in planning and management of the Nanda Devi Biosphere Reserve are all at the national level. They include the *National Forest Policy* (1988), the *National Conservation Strategy* (1992), the *National Policy Statement for Abatement of Pollution* (1992)

and the *Guidelines for Protection, Maintenance, Research and Development in Biosphere Reserves* (1999).

Section 3.3 of the *National Forest Policy* and section 5.3.2.1 of the *National Conservation Strategy* (1992) state that biosphere reserves are important tools for conserving biodiversity. The *Forest Policy* goes on to specify in section 4.6 that both public and private sector organizations involved in forest management must engage the civic sector in the "protection, regeneration and development of forests" (1998:5). The *Conservation Strategy* iterates in section 4.4 that participation of the people is required for achieving conservation goals. The *Strategy* goes on to specify particular instruments for action.

Sections 7.2, 9.0 and 12.0 of the biosphere reserve *Guidelines* (1999) state in various ways that a broad base of local people must be engaged in biosphere reserve planning and management. Section 15 (III) indicates that a local committee, under the guidance of the state government, should oversee peoples' participation for any given biosphere reserve. Section 3.3 in the *Policy Statement for Abatement of Pollution* (1992) specifies that the public is to be involved in decision making. Section 8.1 states that "Local authorities play a key role in abatement of pollution and environmental concerns need to be built into the way they operate" (1992:5). Section 11.0 recognizes that citizens need to play a key role in environmental monitoring and pollution prevention.

The ten-year landscape management plan resulting from the consultation process iterated five basic objectives of management in the Nanda Devi Biosphere Reserve. All five objectives point to opportunities for greater involvement of the civic and private sectors, while objective number four specifically reaffirms the commitment to participatory processes:

1. To conserve biodiversity within the natural and semi-natural ecosystems and also to safeguard the genetic diversity of species in a regional context;
2. To provide opportunities for ecological and environmental research including baseline studies, both within the core areas and buffer and transition zones;
3. To promote information dissemination and environment education/capacity building of all the stakeholders;

4. To maintain harmonious relations with local people in a regional context and to involve them more and more in the management of the reserve; and,

5. To adopt and develop sustainable use strategies (UA Forest and Wildlife Department 2002).

4.3 Sector Roles in the Bhyundar Valley

Interested parties were considered to be those who either directly or indirectly impact or are impacted by the planning and management systems. The following sections identify the specific actors and their roles in eco-development activities occurring in the Bhyundar Valley. The remainder of this chapter evaluates the interactions between these roles.

4.3.1 Public

The two public sector actors with roles in eco-development activities in the Bhyundar Valley include the Forest and Wildlife Department and the District Panchayat. Eco-development initially began in the Bhyundar Valley because the Bhyundar village had been impacted by the closure of the Valley of Flowers National Park. The nature of the eco-development activities changed significantly by 2003 as a result of the actions taken by the FD in response to the extent of pollution in the valley. Beginning in 2001, the FD began by beautifying and improving the reserve forest areas over which they had control. An attractive entrance gate to the Valley of Flowers National Park was constructed, the forest rest house in Ghangaria was renovated and an interpretation centre was built and operated by the FD. All the signs covering the trees along the pathway were removed and a limited number of interpretative sign boards were erected. According to the FD, "the idea was to make the common visitor aware about the significance of the Valley of Flowers, to generate more interest about this important natural resource and to develop a sense of local pride in this unique heritage" (Banerjee 2004). Another official stated that these actions were taken because, "The Forest and Wildlife Department is responsible for protecting the forest" (5S).

In 2002, the FD took the next step of dismantling most of the teashops along the trail. The teashops were considered to be the primary source of the waste problem. The FD had to hire non-locals to do the deconstruction work because there was resistance from the community of Bhyundar since villagers owned many of the shops. "There was a lot of conflict with the community. Controlling the encroachment [of the teashops] was the most difficult part" (5S). The FD held meetings with the local people to set up the new system of teashops on the trail. "We had to decide who is getting the shops and where they would be located" (5S). According to a number of villagers, the FD decided that "every family would get one shop" (BV10CMFe), no outsiders would be allowed to own shops and the shops would be set up according to a "chatti system" (groupings of shops located at distances from each other).

The third step was to remove the existing garbage in the valley. The non-locals hired to remove the teashops were also paid for the garbage removal task. However, the FD did persuade the local women of Bhyundar to participate. The FD provided a contract to the Women's Welfare Group, also called the Mahila Mangal Dal, which in turn recruited the local women and paid them 100 rupees per day of work. By 2003, sixty tons of garbage had been removed from the valley.

The FD realized that there needed to be a system to maintain the renewed cleanliness of the valley. Officials saw an opportunity for the local youth. According to one official, "We tried to get at their consciousness. I struck at their self-respect. I could sense the potential with the youth. I said, 'if you rise up, I will support you'" (5S). Furthermore, the FD realized that locals needed a revenue source to be able to sustain a new system. Through discussion with the locals the FD discovered that the District Panchayat had been collecting a management fee from the mule owners who transported tourists. The FD declared that the District Panchayat did not have the authority to collect a management fee in the NDBR. The Divisional Forest Officer (DFO) and the Director of the NDBR took their case to the District Magistrate and Commissioner in the winter of 2002. Eventually an order was issued removing the authority to collect the fee from the

District Panchayat. The FD took over fee collection initially and renamed the management fees as "eco-fees." Eventually the FD granted the fee collection authority to Bhyundar's Eco-development Committee (EDC), with oversight by the forest ranger. The forest ranger and a number of forest guards keep a constant presence in the valley during the tourist season.

Two employees of the District Panchayat were kept on to train the EDC in how to keep its records. They were also there to maintain transparency, since the District Panchayat had been assured by the Forest and Wildlife Department a 20% return on the revenue collected under the new system. Twenty large concrete garbage bins were also constructed along the route by the District Panchayat. The District Panchayat used to dictate what the mule owners were allowed to charge the tourists, but the rules were largely ignored. This responsibility was effectively relinquished upon the receipt of a letter from the FD notifying the Panchayat that the EDC Govindghat would take over responsibility for fixing the rates and ensuring compliance. According to the DFO, the District Panchayat did not officially endorse this decision but neither was there an effort to block the new system.

Primary and secondary data revealed the activities in which the public sector is or had been involved (Table 5). The activities (or behaviors) that have similar characteristics, goals or outcomes were grouped together, in order to classify the roles. A descriptive statement to identify the role was then assigned to each group. With the exceptions of helping with the Mule Rotation System and providing the loan to EDC Govindghat, the FD initiated all the activities (in that section). The data demonstrate that the FD was the primary public sector actor in the Valley, whereas the District Panchayat played a minimal role.

Table 5 - Public Sector Roles in the Bhyundar Valley

Public Sector - Forest and Wildlife Department	
Activities	**Roles**
- Arranged for waste removal - Stopped encroachment on the trail - Erected signage along the trail - Controls entrance to the National Park	Provides biodiversity protection
- Instructed mule owners to follow EDC rules	Enforces the

- Controls entry to the National Park - Monitors EDC accounts	rules
- Hired laborers to clean the valley - Provides ongoing employment of FD related positions (e.g.rangers and guards)	Provides employment
- Constructed the Interpretation Centre - Paid for signage along the trail - Provided the computer for interpretation centre - Paid for 50% of exposure visit to southern parks - Provided a loan to EDC Govindghat to get them started	Provides financial support
- Arranged for EDC to collect fees - Arranged the slideshow production - Arranges annually for a chartered accountant to audit the EDC books - Arranges annually for waste to be purchased and recycled	Provides logistical support
- Sent EDC members on an exposure visit to southern national parks - Provided computer training for one EDC member - Provided training for checkpost duties	Builds capacity
- Encouraged the villagers to get involved in keeping the valley clean - Suggested that women should be involved (checking mules and monitoring sweepers) - Suggested the EDC take over operation of the Interpretation Centre	Acts as an advisor
- Helped set up the Mule Rotation System - Made arrangements for an insurance plan - Calls meetings	Facilitates plans
- Determined the rule of one shop per family on the trail - Required a chatti system for shops along the trail - Developed the "Friends of the Valley of Flowers" marketing plan	Makes decisions
- Wants to implement software for tracking mule rotation system - Wants to make the Govindghat office more high tech - Is trying to find a solution to the mule dung problem - Wants the EDC to publish and sell calendars for the upcoming year	Makes plans
Public Sector - District Panchayat	
- Rents office space to EDC Govindghat	Provides services
- Trained EDCs on keeping ledgers	Provides logistical support
- Checks EDC accounting	Enforces the rules
- Paid for bin construction	Provides financial support

4.3.2 Civic

The villagers of Bhyundar and Pandekeswar (Govindghat) were the primary actors in the Eco-development Committees (EDCs). During the course of this research, two members of the IUCN did come to the Bhyundar Valley to assess the Valley of Flowers for World Heritage Site status. The Valley of Flowers was subsequently granted this status and within a matter of months the

entire Nanda Devi Biosphere Reserve was officially recognized by UNESCO (a process that had been started a few years earlier). Given the newly elevated status of the Nanda Devi Biosphere Reserve there will likely be a higher degree of pressure and/or support for conservation related activities in the area, such as those being executed by the EDCs. Otherwise, the IUCN had no direct impact on EDC activities at the time of the research.

The Bhyundar Eco-development Committee (EDC) was originally established in 1999 through the projects funded by the World Bank. The original responsibility of the committee was the development and implementation of a microplan that had projects intended to reduce the community's reliance on the surrounding natural resources (examples are detailed in section 4.1). The responsibilities of the EDC changed considerably when it was granted the authority to collect and manage the eco-fees. According to a study produced for the Department of Tourism, the current EDC aims are to:

- keep the trek trail clean;
- keep the valley region free from plastics;
- provide employment opportunity to the rural unemployed; and,
- conserve the environment of the valley region (Tata Consultancy Services 2003).

It is not clear where this information came from, since neither the community nor FD produced a document that detailed the above purposes of the EDC for the present study.

Part of the eco-development process was to form a volunteer-based executive committee that had a president, vice-president, secretary, motivator and a few others with both male and female representation. In Bhyundar's case, two women and eight men were on the original committee. All were local with the exception of the secretary who was a FD employee. The secretary's role was to keep meeting minutes and provide a joint signature with the EDC president before any funds could be withdrawn from the EDC account. The motivator's role was to encourage people to come to meetings and be involved.

The structure of the committee changed considerably when the nature of the committee changed. The new structure and responsibilities are detailed in

Figure 5. There was no active motivator in the community during the course of this research. According to the study produced for the Tourism Department, the Divisional Forest Officer (DFO) in Joshimath played the role of motivator (Tata Consultancy 2003), but again, neither the DFO nor people in the community mentioned this role. The EDC president is in charge of the day-to-day operations of the system. For example, the president manages the money and hires sweepers to collect garbage along the trail. There are three head sweepers who are responsible for the crew in their respective sections and each kilometer of the trail is maintained by one sweeper. The EDC president deals primarily with the head sweepers by paying wages and supervising the quality of the work. All of the sweepers are from outside the region. Other members of the EDC monitor the sweepers to make sure they are doing their job.
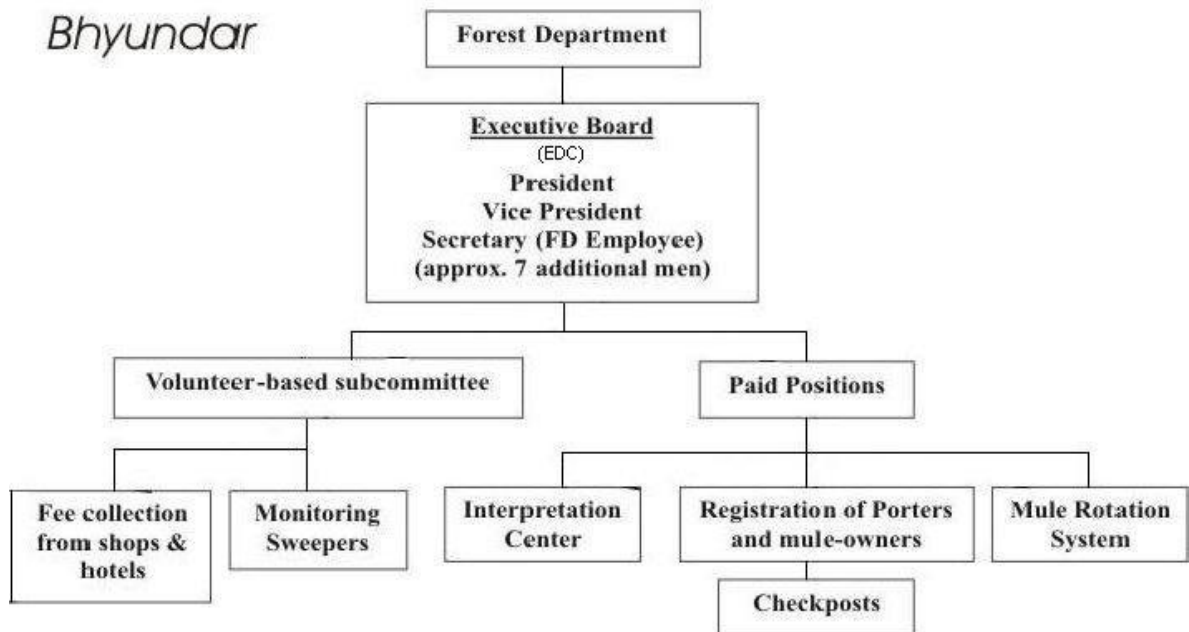
Figure 5 - Structure of the Bhyundar Eco-development Committee

Local men were hired to staff three checkposts where they collect the eco-fees from tourists taking mules, check receipts or operate the mule rotation system (introduced in 2004). Six local girls were hired to check receipts and

ensure that all mule owners and porters are registered. The registration system was a new element that also began in 2004. Three additional girls were hired to run the Interpretation Centre, which the Forest and Wildlife Department had handed over to the EDC. During the tourist season, the center offers a slideshow presentation (for a fee) and souvenir merchandise. All eco-fees and revenue from the Interpretation Centre is considered EDC revenue. At the time of the research, at least two of the three females also helped the president with the accounting, since he kept the ledgers of all accounts and meetings.

The EDC Bhyundar was so successful in 2003 that a number of men from the nearby village of Pandekeswar expressed interest in forming their own EDC and working in Govindghat. According to the DFO, "they approached me and said they also wanted to form an EDC" (1S). The structure of the new committee was similar to Bhyundar with the exception of a female treasurer and one non-local member (the Gurudwara manager) (Figure 6). Everyone on the EDC executive was nominated and selected by the community except for the Gurudwara manager who was recruited by the Forest and Wildlife Department. The DFO felt that the Gurudwara had to be involved in any local initiative, since the Sikh temple was responsible for attracting so many pilgrims to the area. In May of 2004, the EDC Govindghat began functioning. EDC Govindghat's primary responsibilities were operating the mule rotation system, charging tourists fixed rates for the use of the mules and paying the mule owners at the end of each day. The EDC also collected eco-fees from hotel and shop owners and helped to monitor the sweepers.
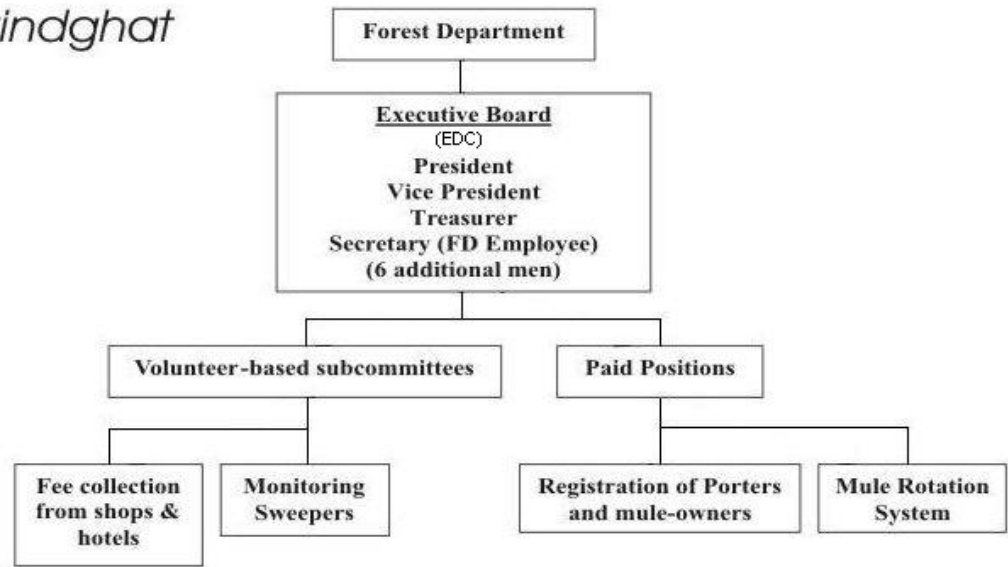
Govindghat

Figure 6 - Structure of the Govindghat Eco-development Committee (operating in the Bhyundar Valley)

The Van Panchayat and the Laxman Temple Committee were the only other local organizations operating in the Bhyundar Valley. The Van Panchayat was responsible for managing the civil forest and the temple committee was responsible for maintaining the Hindu temple located at the top of one trail in the area. Although many of the same individuals from the community of Bhyundar were on the same committees, these other two committees had no direct affiliation with EDC Bhyundar activities. The civic sector activities and roles in the EDC are summarized in Table 6.

Table 6 - Civic Sector Roles in the Bhyundar Valley

Civic Sector - Bhyundar & Govindghat Eco Development Committees	
- Employs sweepers, locals, one ex-army personnel to patrol park and one police officer to help keep order in Ghangaria	Provides employment
- Operates the checkposts and Interpretation Centre	Acts as a laborer
- Pays for wages of a park patroller and a police officer, - Pays for educational material - Pays for food & beverages for V.I.P.s	Provides financial support
- Collects fees - Purchases supplies - Maintains ledgers (meetings & accounts) - Pays for auditor	Manages the day to day details of the system

- Registers mule owners & porters - Operates Mule Rotation System	
- Monitors sweepers - Monitors mule owners & porters	Enforces the rules
- Sells souvenirs	Provides services
- Operates slideshow - Answers biodiversity related questions	Educates pilgrims and tourists
- The EDC Bhyundar president taught the EDC Govindghat president how he manages the affairs	Builds capacity
- Organizes meetings	Provides logistical support
- Does not cut trees - Monitors for poachers - Monitors tourists in the Park (to ensure they are following the rules)	Provides biodiversity protection

4.3.3 Private

The main private sector actors in the Bhyundar Valley include the mule owners, porters and shopkeepers. These people were considered operators of small enterprises. A larger enterprise is the Sikh Gurudwara. Two Gurudwaras operate in the Bhyundar Valley: one at the trailhead in Govindghat and the other in Gangaria. A Sikh Gurudwara is a place of prayer or temple that may also be historically important (Delhi Sikh Gurudwara Managament Committee, n.d.). The Gurudwara also provides free lodging to pilgrims on their way to other temples, such as the sacred Hemkund Sahib. While a religious organization may typically be considered a sector of civil society, in this context the Sikh Gurudwaras were deemed a part of the private sector because they were the primary economic force in the area. They also were influential lobbyists for further development in the area.

Given that thousands of Sikh pilgrims make the trek up to Hemkund Sahib, located six kilometers beyond the seasonal settlement of Ghangaria, the Sikhs have a vested interest in EDC activities. The Gurudwara managers had already donated 120,000 rupees to the EDCs for trail maintenance and intended to donate more the following year. Through daily prayers, the Gurudwara managers also began encouraging pilgrims to minimize their impact by reducing litter and leaving the biodiversity untouched. At the time of the research, however, the Sikh community was putting significant pressure on the Forest and Wildlife Department to allow them to construct a road to Hemkund or Ghangaria.

In the meantime, one Gurudwara manager indicated that he would like to be involved in the mule rate discussions the following year, since there were many complaints from the pilgrims.

The mules and their predominantly Muslim owners had a significant presence in the Bhyundar Valley. This group of people typically came from other areas of India, hoping to capitalize on the influx of people needing help to reach Hemkund Sahib, the adjacent Hindu temple or the Valley of Flowers National Park. Approximately 200 mules traveled the pathway daily, transporting people and supplies for the business owners in Ghangaria. The mule owners were required to register with the Govindghat or Bhyundar EDC (depending on where they were based) and pay 100 rupees per mule upon arriving in the area to work for the season. Prior to 2004, the mule owners would charge the pilgrims or tourists whatever could be negotiated, but this changed in 2004 when the new EDC Govindghat and the Forest and Wildlife Department required the mule owners to follow a fixed rate and rotation system.

There were approximately 300 porters working this trail in the peak season. Most of the people were either from Nepal or other states in India. Beginning in 2004, the porters were also required to register with the EDC Govindghat and wear identification tags. The shopkeepers and hotel owners were required to pay an eco-fee to the EDC each season, and this fee was based on the size of the business. The people from Bhyundar village typically owned the teashops along the trail and the hotels in Ghangaria. In general, people from outside the region operated the teashops and other stores that were set up in both Ghangaria and Govindghat. Many had been coming to the Bhyundar Valley during the tourist season for several years. Table 7 summarizes the roles of the private sector stakeholders in the Bhyundar Valley.

Table 7 - Private Sector Roles in the Bhyundar Valley

Private Sector	
- Provides advice to the EDC (Sikh Gurudwara manager, Govindghat only)	Acts as an advisor
- Donates money to the EDCs (Sikh Gurudwara)	Provides financial support
- Transports goods (Mule owners)	Provides services

- Transports tourists & pilgrims (Mule owners/porters)	Provides services
- Sells goods and operates accommodations	Provides services
- Purchases & recycles waste	Provides services

4.3.4 Role Perception

Table 8 indicates the number of people who discussed the various activities (and therefore roles) of each sector. The numbers suggest that most people had a good understanding of how each sector was involved in EDC operations. This point is noteworthy because large discrepancies in perceptions between sectors may be cause for current or future conflict. The table also illustrates that people generally only listed the roles at the level at which they interacted with each respective sector. For example, those in the private sector only mentioned protection and enforcement as FD roles, presumably because their experiences with the FD were not at any other level. Likewise, the women did not have anything to do with the mule rotation system nor did they see the various forms of logistical support the FD provides, therefore these roles were not mentioned by the women.

The Divisional Forest Officer felt that the locals wanted the Forest and Wildlife Department to continue having a role in the EDC activities. His statement was corroborated by a number of people although the perception of what that role should be varied. For example, one EDC member said "we prefer it if the government only gives ideas" (BV5EDC). Another member stated that "they should act as a liaison between the EDC and other government departments" and "The Forest and Wildlife Department should control the number of tea shops" (BV9EDC). And another stressed that "the DFO must continue checking the EDC accounts" (BV10EDC), a comment which alludes to a certain level of mistrust.

Table 8 - Number of Respondents that Discussed each Role

Category	Public	Civic		Private*
Forest and Wildlife Department		Men	Women	
Biodiversity Protector	1	2	2	4
Enforcer	2	6		2
Capacity builder	3	3	2	
Employer		1	5	

Financial supporter	1	3	1	
Logistical supporter	2	3		
Planner	1	1		
Advisor	2	4	2	
Decision maker			2	
District Panchayat				
Service provider	2	3		
Logistical supporter	1	1		
Enforcer	1	5		
Financial supporter		1		
EDC				
Manager	3	3	2	3
Financial supporter	2	2	1	
Enforcer	2	5		4
Employer	1	2	1	3
Laborer	1	5	6	3
Capacity builder		1		
Biodiversity protector	1	1		
Logistical supporter	1	1		
Service provider	1	1	2	2
Educator	1	1	2	
Private Sector				
Advisor (Gurudwara)	1	1		1
Financial Supporter	1	2		2
Service provider	1	2		3

* The Private Sector category is considered to be mule owners, porters, shopkeepers, sweepers, and the Gurudwara managers.

4.4 Evaluating Participation: Process Attributes

The following sections assess participation in EDC related activities according to four main attributes: characteristics of meetings, breadth of involvement, degree of participation and perceived fairness.

4.4.1 Characteristics of EDC Meetings

Standard mechanisms for public participation in the North American context include open houses, round tables, workshops and surveys. Given the low literacy rates and few communication options in this region, the primary mechanism for engaging people in the Bhyundar Valley was the face-to-face public meeting. One planning meeting was called by the Forest and Wildlife

Department in the village of Bhyundar just prior to the 2004 season. Most of the community attended (no one else was invited) and some decisions were made by consensus. While the meeting was deemed respectful, one community member indicated that the rain hitting the tin roof at the outdoor venue made it very difficult for most people to hear or participate.

During the peak season, meetings were supposed to occur on the 15th and 30th of each month in Bhyundar according to the EDC president and the DFO, but in reality they happened only sporadically. Two meetings did occur during the research period, but they were not on these dates. The purpose of the first meeting was to receive visiting dignitaries, and the community was notified of the visit a few days in advance. The second meeting seemed to happen with no advance notice, which may explain the limited attendance. No decisions were made at this meeting either, since the purpose was to meet with journalists. In contrast, EDC Govindghat had meetings regularly once per month.

4.4.2 Breadth of Involvement

Breadth of participation refers to the extent to which different individuals, interests and/or organizations are involved (or not) in a particular activity or management function (Diduck 2004). Breadth comprises a number of different aspects including the types of participants, how representative they are of the various publics, their capacity, and the duration of participation (ongoing versus a finite event). Breadth is also affected by the physical and cognitive access to information. Specifically, information deficiencies may reduce the extent of involvement (Diduck and Sinclair 2002).

In Bhyundar, the majority of the village (approximately 70 people) had paid the EDC membership fee (45 people in Govindghat) when asked to do so, but the significance of that membership was unclear. There were no written, defined rules for membership or operation for either EDC. One woman in Bhyundar stated, "They asked us each to pay 100 rupees as an eco-fee and asked us to watch over the sweepers, which we have done, but we haven't received any benefits." Membership did afford people the prospect of being an employee of

the EDC, but there were a limited number of paid positions. All of the paid positions and many of the male volunteers were also given uniforms to wear, which helped to create the EDC identity. It was clear, however, that not all paid EDC members were actively participating in EDC activities.

An important consideration of breadth is gender representativeness. It was the opinion of the NDBR director that, "EDC membership is something that should rightfully be afforded to the women" (3S). Women were engaged in the initial cleanup and the younger women were also given the opportunity to have paid positions in the new system. But none of the older women EDC members in Bhyundar were involved in any day-to-day EDC activities and no females were involved in any decision making. As one of the women on the executive board indicated, "I have no specific responsibilities" (BV11CM). There was supposed to be another woman on the Bhyundar EDC executive, but no one seemed to know of her. A number of the women expressed that they want a bigger role. Upon asking what that role should be, they listed two activities: helping to clean in areas the sweepers do not get to, cleaning in the off season or helping to plant trees.

There are four main barriers to female participation in EDC activities (planning, decision making, or employment), particularly for the older women. The women generally stay in the village of Bhyundar tending to the household and working to meet their basic needs, while the men are living and working in Ghangaria four kilometres away. Any decision making related to day-to-day operations is made by the men in Ghangaria. So the women have a lack of time and are constrained geographically. Thirdly, the DFO admitted that the men in the Bhyundar village have actually discouraged the women from cleaning, which suggests that cultural expectations are also a factor. Finally, there appeared to be a lack of will to find a meaningful contribution that the women could make.

The gender situation is slightly different with the EDC Govindghat. When the EDC Govindghat was formed, two women were given positions on the executive board. According to one of them, "at first they were only planning to have one woman on the executive board, but I suggested that there be two so

we can rotate because of our other responsibilities" (GG4EDCFe). She went on to say that as the treasurer she was responsible for depositing all the EDC money into an account and monitoring the income and expenditures. Other than the two females on the executive board, however, no other females were observed to be actively working with the EDC Govindghat. Like Bhyundar, the women are situated a few kilometres away in Pandekeswar, which may explain limited the female involvement.

While the EDCs made an effort to involve females to a certain extent, the EDCs did lack representation from a few key interests in the area. It seemed to be the overwhelming consensus amongst the male EDC respondents in Bhyundar that only local community members should be allowed on the committee. Curiously, the EDC president (former village headman) actually resided in the regional centre of Joshimath and only went back to the Valley during the tourist season to manage the EDC, but this fact was not mentioned by the villagers. All non-local shopkeepers and mule owners who participated in the study were not EDC members and some even acknowledged that, "even if I wanted to join, the EDC wouldn't allow me because I am not local" (6P, 7P). Some EDC members in Bhyundar did indicate that mule owners or shopkeepers were allowed to join meetings to voice any complaints they have, but that they are not specifically invited. Several shopkeepers expressed interest in either attending meetings or being EDC members. As one businessman stated, "it would be good if a limited number of outsiders were allowed [to participate] because it would be a learning opportunity for the EDC" (7P). One shopkeeper said that EDC membership should also be given to all businessmen in Ghangaria (shopkeepers and horsemen). "If we have good cooperation with them [the EDC], the horsemen and shopkeepers will also feel they have duties and will take responsibility. Otherwise we will always feel like outsiders" (4P).

Mule owners in Govindghat did not participate in EDC planning or management activities on an ongoing basis, but they were invited to two meetings prior to the season in 2004 to help determine the mule rates that tourists and pilgrims would pay for the upcoming season. According to two

different people, up to twenty mule owners attended each meeting. The DFO explained that, "At first the mule owners didn't agree [with the fixed rate], so we had to say that if they didn't comply they wouldn't be allowed to work this route. We encouraged them to try it this year as an experiment. We said that if there really is a loss [in income] we will revise it further" (1S). One horseman suggested that mule owners should have a representative at the meetings on an ongoing basis. A local Forest and Wildlife Department employee also expressed this sentiment. According to a number of respondents, only Forest and Wildlife Department employees and EDC members are usually present at meetings, although EDC members in Govindghat seemed more open to the idea of attendance by non-locals.

Participants in Govindghat seemed comfortable with the accessibility of information. According to the manager of the Gurudwara, "everybody comes to the monthly meetings. They [the executive] provide a list of expenditures, activities, and achievements to the entire committee." Although the books are not necessarily open for people to look at (many are unable to read anyways), the information is presented in an understandable format. In contrast, a few respondents in Bhyundar indicated that its wider membership has never been privy to the financial affairs. "I don't know anything about the finances. They have never talked about it. They should have a meeting after the season to tell us what they have done and future plans" (BV7CMFe). Another EDC member declared, "They have never had a meeting about finances. I found out that they [the EDC] made 9 lakhs last year through the newspaper" (BV15EDC). And another member lamented, "Accounting is done behind the curtain. There is no transparency" (BV15EDC). This lack of transparency has created doubt in the minds of some respondents about the integrity of the EDC Bhyundar and the Forest and Wildlife Department. "The EDC is carrying all the money. Some people are getting employment, but otherwise money is probably going only to the DFO and the [EDC] President" (BV8CMFe).

No one had physical access to the information other than a couple of people in the executive. Even though the EDCs had supposedly been trained on

how to keep the books, the information was disorganized and unconsolidated. Consequently, at the end of the season receipts were missing and information was unclear, even for the EDC presidents. The DFO did realize that this was an issue and indicated that he wanted to have someone trained on how to input the data into a computer for the following season.

4.4.3 Assessing the Degree of Participation

As Sherry Arnstein (1969) noted, there are several possible gradations of citizen participation. The four selected typologies were used to evaluate the interactions between the interests in the Bhyundar Valley. Specifically, the general day-to-day management activities (the activities listed in Table 6) and three planning activities were assessed against the typologies (the initial planning to cleanup the valley, the planning meeting in May 2004 and lastly, the season review meeting).

In the normative stage of planning to clean the Bhyundar Valley and establish mechanisms to keep it clean, the Forest and Wildlife Department asserted it's authority. According to one official, "We did not want to leave any trace of the old system." Both the DFO and the former director of the NDBR stated that they spent a lot of time in the community trying to make them understand why the current system was not working and what the benefits would be to change. The cleanup of the valley and the chatti system of shops were non-negotiable. The FD also wanted the community to be in charge of keeping the valley clean, which they only agreed to when the opportunity to manage the eco-fees became available. These data suggest that the planning phase can be placed at the "Therapy" rung of Arnstein's ladder, the "Inform" and "Educate" level of the Dorcey *et al.* typology and as "Passive participation" according to the Pimbert and Pretty model.

The degree of participation increased at the planning meeting in May of 2004 to reflect the "Placation" rung of Arnstein's ladder and the "Consensus-building" level of the UNDP typology. According to respondents, a number of decisions were made by consensus at that meeting, including who was eligible

for the paid EDC positions (hotel and shop owners were not), who would get the paid positions, the eco-fee rates for hotels and shopkeepers and shop locations on the trail. According to at least two people, the wider committee also agreed by consensus to reduce the wages of the checkpost employees from the original suggested amount of 4000 Rs/month to 3000 Rs/month.

The "non-participation/passive-participation" levels were repeated at the end of the 2004 season at meetings called by the DFO with each of the two EDC presidents. According to the DFO, the purpose of the meetings was "preliminary work for the main village level meetings - to know how we fared, shortcomings, strengths, areas needing improvement. To discuss future plans and our economic situation. To know what financial liabilities we have to meet" (1S). While this event did include each president of the EDCs, it was clearly very selective and lacking broad participation. In the process of reviewing the financial situation of EDC Bhyundar, a number of decisions were made, primarily by the DFO. The DFO decided that the EDCs would not try to sell water bottles again because it was a money-losing venture in its first year. He stated that certain costs would be split between the two EDCs. He directed the EDC Bhyundar to bear some of the costs associated with maintaining the Valley of Flowers (employing one person and fixing a bridge). His justification was, "It is our understanding that it is not only the EDC's responsibility to clean. They should be involved in all activities." And in reference to employing one person for patrolling, "this is one way they are protecting the Park." EDC Bhyundar was also required to pay to have a policeman stationed in Ghangaria during the season to help keep order.

The DFO went on to direct the EDC Bhyundar president to pay the girls who had been checking mules 2000 rupees each for the season and he offered to send them on a tour. The amount of compensation for the girls had not been decided at the village level meeting in May, so the girls were expecting to be paid at least 5000 rupees for their services for the entire season. This expectation was based on the knowledge that the three girls working at the interpretation centre were each earning 5000 rupees per month during the season. The DFO also

stated that the EDC will pay 50% of printing costs to sell calendars the next year. He indicated that he hopes to sell them for 20Rs. When the EDC president suggested other publication options, such as a guidebook for the Valley of Flowers or brochures the DFO responded, "Our focus is the calendar."

The locals generally understood that the power was still primarily in the hands of the Forest and Wildlife Department as indicated by the following observations: "The Forest and Wildlife Department has to approve all projects. Sometimes they will make adjustments" (BV8EDC) and "The FD checks all the accounts. The FD has the main role" (BV5EDC). Despite this, many respondents felt like they did have some influence. Referring to the meeting in May one EDC member said, "Everyone had an opportunity to speak up. The DFO is taking all of our suggestions seriously" (BV2EDC).

The EDC president did have some decision-making power, however, he took the paternalistic approach of the Forest and Wildlife Department. For example, the financial status was not as good as they were anticipating at the end of the 2004 season, so the EDC president decided unilaterally that the checkpost people would get paid less the following season to try and save money. No other options were considered at this point, and it is unknown if he was able to follow through on that decision.

Participation in the ongoing management of the system during the season (the operational phase) was higher up the continuum, as there were paid employees and volunteers. The EDC president also had the freedom to make purchases he deemed necessary for EDC operations. The DFO had indicated that expenditures did not have to be approved by him, as long as they were approved by the committee. During the 2004 season, the EDC president had purchased a generator for the Interpretation Centre, but given that the entire committee had not met since May, it was unclear whether they even knew about the generator. Even though the EDC president did make decisions by himself, one EDC member commented that, "The chairman [president] cannot go ahead with an idea if he is the only one who wants to do it" (BV9EDC), indicating an expectation of shared decision-making power. Table 9 summarizes this

information visually by situating the various planning and management activities (identified in the legend by color) along the typology spectrums. The activities were only situated on a particular spectrum when they could be adequately described by that spectrum. As a result, one activity set could be described across all four spectrums, where the other activities could only be placed on one, two or three spectrums. Where two colors are present in one level of a typology, two activity sets were relevant to that category.

Legend

Participation in Planning		Participation in Management	
	Initial planning to change the status quo in the Bhyundar Valley		Day to day operations
	Planning meeting in May 2004		
	Season review meeting		

Table 9 – Degrees of Participation in the Bhyundar Valley

Arnstein (1969)	Pimbert and Pretty (1994)	Dorcey *et al.* (1994)	UNDP (1997)
Citizen Control (citizen control): - Citizens have full power to plan, make decisions, and manage.	**Self mobilisation/ active participation:** - Independent initiatives to change systems - May or may not challenge existing distributions of wealth and power.	**On-going interactions:** -To involve citizens in decision making	**Self-management**: - Stakeholders interact in learning processes, which optimize the well-being of all concerned.
Delegated Power (citizen control): - Citizens have been given some power to make decisions. - There is accountability to the citizens.	**Interactive participation:** - Joint analysis and action plans - Formulation of new local groups or the strengthening of existing ones that take control over local decisions. - Systematic and structured learning processes.	**Seek consensus:** - Determine areas of common ground and areas of divergence. - Explore options and arrive at recommendations for action.	**Partnership**: - Exchange among equals (in terms of balance of respect) working towards a mutual goal. - Mutual responsibility and risk sharing.
Partnership (citizen control): - Enables participants to negotiate and engage in trade-offs with traditional power holders. - Shared planning and decision making.	**Functional participation:** - People participate to meet pre-determined objectives - Involvement occurs after major decisions have been made.	**Test ideas and seek advice:** - On proposed options regarding a policy or decision, or asking for additional proposals.	**Risk-sharing:** - Expands beyond decisions to encompass the effects of their results, - Accountability is fundamental at this level.
Placation (tokenism): - Participants are allowed to advise but have no right to decide.	**Participation for material incentives:** - People provide resources, for example labour, in return for food, cash or other material incentives. People have no stake in prolonging activities when the incentives end.	Involve the public in **defining issues** regarding a policy area.	**Decision making**: - Consensus is acted upon through collective decisions, - Shared responsibilities for outcomes.
Consultation (tokenism): - Participants can voice their concerns/opinions, but there is no guarantee their input will be heeded.	**Participation by consultation:** - External agents listen to views but define both problems and solutions and may modify these in light of people's responses. - No sharing in decision making - No obligation to the people.	**Consult** the public, getting their reaction to a proposed initiative.	**Consensus-building**: - Stakeholders interact to arrive at negotiated positions tolerable to the entire group. - Vulnerable individuals and groups tend to remain silent or passively acquiesce.
Informing (tokenism): - Informing citizens of their rights, responsibilities and options. - One way flow of information.	**Participation in information giving:** - People give answers to extractive researchers and managers using questionnaires, surveys or similar approaches. - No opportunity to influence proceedings	**Gather information and perspectives** in order to supplement other sources of information in developing a policy or decision.	**Consultation:** - Two-way communication, - Opportunity to express suggestions and concerns, - No assurance that input will be used at all or as intended.
Therapy (non-participation): - "Cure" the participants. - Get them to adopt power holders' values.	**Passive participation:** - People are told what is going to happen or has already happened. - Unilateral announcement by an administration	**Educate** the public about the background to a decision or policy, indicating the alternatives and their pros and cons.	**Information:** - Stakeholders are informed about their rights, responsibilities, and options - Emphasis is placed on one-way communication, with neither channel for feedback nor power for negotiation.
Manipulation (non-participation): - "Educate" the participants, - Engineer support, - Public relations.	- The information being shared belongs only to the professionals.	**Inform:** the public of a government initiative and its decision making process.	**Manipulation**: - Essentially 'non-participation', - Participation is contrived as the opportunity to indoctrinate.

4.4.4 Perceived Fairness

A number of respondents felt that the decision making process at the planning meeting May 2004 was fair, but they had issue with the fact that not all the decisions were honored by the EDC Bhyundar president. For example, three local people were supposed to work in the interpretation centre but two of the three women who ended up working these positions were considered non-local and were family members of the EDC president. This was not viewed favorably by a number of people. As one respondent said, "the EDC only employed family members and some are not even local" (BV2CM). Another sentiment related to fairness was revealed by the statement that, "the Forest and Wildlife Department still seems to favor certain people. They should treat everyone equally" (4P).

4.5 Evaluating Participation: Outcome Attributes

Participatory processes can also be evaluated by various outcome attributes. The attributes assessed in this study include the extent of implementation, whether or not planning had improved, relationships, capacity building, the motivation of the participants and evaluations from participants and outsiders.

The new EDC system in the Bhyundar Valley has increased the level of engagement among the sectors. In the past, the stakeholders acted rather independently and collaboration between the groups was non-existent. The Forest and Wildlife Department was only taking care of the national park, while the locals, mule owners and porters were all focused on their individual livelihoods. After the EDCs were established, discussion and collaboration began to occur between the FD and the EDCs (or at least certain members of the EDCs), between the EDCs and various members of the private sector and to a limited extent, between the FD and members of the private sector. According to one elder, he had "never before seen a partnership between the local people and the government" (BV3CM). These observations are also reflected in the quotation by a businessman operating in Ghangaria:

Before the Forest and Wildlife Department acted on its own. Since they established the EDC, they have to continually meet to discuss ways of improving the Valley and they are constantly sharing ideas (5P).

An EDC member in Govindghat echoed this observation:

Since the EDC has been established, more Forest and Wildlife Department employees are taking an interest. We are sharing ideas and communicating (GG4EDCFe).

Evaluations from participants in the EDC system suggest that collaboration has resulted in improved planning and successful implementation. Had the Forest and Wildlife Department tried to implement these initiatives unilaterally, chances are that it would not have succeeded. Extensive human resources were required for the route maintenance and sections of the route pass through civil forests, areas that are beyond FD jurisdiction. At least one person realized this fact; "Neither on their own would have been able to accomplish what they have" (7P). In addition, 2004 was the first year mule rates had been successfully controlled, which had its benefits: "Without fixed rates there was a lot of competition and steep discounts" (GG6P). Or naïve tourists and pilgrims would also be negotiated into paying inflated prices.

Local respondents identified additional social and environmental benefits of the EDC system:

The Forest and Wildlife Department is much more active and is taking more responsibility for their jobs (7P);
Employment and preserving our surroundings (BV7EDC);
Maintaining the trail well (5P);
I am very happy with the EDC because they keep things peaceful (9P);
The tourists are much happier (7P);
Improved plant growth (BV3EDC);
Grass is growing now where plastics used to cover the ground, and our animals aren't dying anymore from eating the plastics (BV8CMFe);
Before it was very dirty where the plastics were falling and no grass would grow there. Sometimes, the animals would eat the plastic and die (BV7EDCFe);
The EDC is good for tourism and will be a big resource for local development (GG2EDC);

Community pride has increased and it's providing employment for locals (GG3EDCFe);
The main benefit has been a cleaner environment (GG4P);
The registration system is good because it helps keep theft down (BV4EDC); and,
The registration and rotation system makes everyone honest (GG6P).

The tourists and pilgrims who visited the Interpretation Centre during the course of the research did seem to be very impressed with the cleanliness of the valley and the information being made available at the Centre.

The people (both local and non local stakeholders) were also able to identify many situation-specific issues and solutions because they were in the best position to evaluate the system. For example, some respondents thought that certain people were giving extra business to particular mule owners in exchange for money, so they had suggested a different numbering system. The sweepers were also concerned that their income had decreased compared to their wages as District Panchayat employees. There was some worry that the EDC Bhyundar was losing sight of its original goal: "It is turning into an economic development committee" (5P). Other respondents also felt there needed to be more emphasis in the EDC on protecting the environment and creating awareness amongst themselves and tourists. One local FD employee suggested that "NGOs, the Forest and Wildlife Department or other EDC members should teach everyone the basics of the local ecology at the EDC meetings" (3S). This idea was repeated a few times. A number of women from Bhyundar tried to enter the Valley of Flowers National Park to collect herbs at the end of the 2004 season and no one within the EDC discouraged them or explained the importance of refraining from this activity. According to the DFO, this was a responsibility of the EDC. The data suggest, however, that no one realized that this was an EDC responsibility.

Even though the porters are a transient group of people, approximately seven porters who were interviewed felt that the new registration system was effective and worthwhile. The mule owners who participated in the study did identify a number of issues with the new system. In theory, the customer books

and pays for the mule through the EDC at the beginning of the route. The EDC is then able to control the price (at the fixed rate) and rotate the mule owners so they are all getting equal opportunity to earn money. This system worked to a certain extent but in reality people would often negotiate for a mule further up the path when they realized they needed help reaching the top. These transactions would not be captured in the system. A second problem was related to the eco-fee. Anybody taking a mule was required to pay the 20 rupee eco-fee on top of the rate for the actual mule. This fee was not charged until further up the trail at a different checkpost, at which point some people would refuse to pay the extra fee. Since the mule owner did not want to lose the business, he would often bear the cost of that additional fee. One mule owner also suggested that a numbering system needed to be put in place to discourage bribing, as some mule owners would give extra payments to certain EDC members to get extra work. In addition, several mule owners wanted an insurance system and veterinary care available in the area because of the steep and dangerous nature of certain trail sections. Clearly the mule owners were in a position to identify issues and solutions, and every mule owner who was interviewed indicated that mule owners (or representatives) should have a right to participate in the EDC management system.

There was a perception that participation in the EDC system had improved relationships. As this research did not have the opportunity to witness the nature of the relationships both before and after, the frequency of similar comments was taken as evidence. When asked how the relationship had changed between the FD and the community, one EDC member said, "Now we are much happier with the Forest and Wildlife Department. The partnership has brought the government and community closer together" (BV5EDC). A businessman commented that, "the community is much happier and closer with the Forest and Wildlife Department" (5P). The men in particular appeared to have a newfound trust and respect for the Forest and Wildlife Department. A number of people also expressed that relationships were better within the Bhyundar community. "The EDC has fostered a good relationship between the people" (BV9EDC). Another

respondent commented that there were "positive feelings among the community" (BV6EDC). A shopkeeper indicated that many of the shopkeepers were also happier, "because everything looks much better now (7P)."

One EDC Bhyundar member noted that there had been some capacity building. At least one local girl was trained how to use the computer. In reference to the exposure visit to see initiatives of other EDCs around the country, one respondent indicated that he had "learned better and practical ways of interacting with tourists" (BV6EDC). The EDC presidents were also learning how to manage and be accountable for large sums of money.

The motivation of the people involved in a process affects the likelihood of success. The reasons for highly motivated people (or unmotivated people) may also be indicative of what is or is not effective about the process. Indicators of motivation include participant optimism, commitment to the issue, perceived influence on the process and perceived influence on outcomes.

The Divisional Forest Officer (DFO) perceived a lack of commitment amongst the youth in Bhyundar, particularly in comparison to those in Govindghat. He commented that "some people in Bhyundar only participate because of pressure from the others." His explanation for the low motivation in Bhyundar, particularly compared with the enthusiasm in Govindghat was, "Govindghat people have not lost anything whereas the Bhyundar people have. They went from owning 300 shops on the trail to 76 shops, so they have lost earnings." During the meeting at the end of the season, the DFO told the EDC Bhyundar president that he needed to more effectively engage the youth.

A local respondent from Bhyundar commented that a lack of motivation was apparent for another reason: "some boys are getting discouraged because they aren't getting paid" (BV15EDC). Motivational issues may also have something to do with power dynamics occurring in Bhyundar. One EDC member said that, "A couple of members are more powerful, so when they want to do something they will do it" (BV8EDC). A key member of the EDC was not very optimistic about the system. He predicted that, "Once the DFO leaves, within three years this whole thing will fall apart" (BV15EDC). Generally, motivation

issues appeared to be due to a lack of individual benefits and lingering mistrust rather than a lack of perceived influence on process or outcomes.

Despite the power struggles and unoptimistic views of the future by some, there was evidence of commitment and pride in both paid and volunteer EDC members. EDC Govindghat organized a procession and tree planting ceremony on Earth Day, 2004 and they also provided financial support for the local school on their own initiative. A businessman noted, "The EDC members have also started to watch for illicit activities" (5P). Both paid and volunteer EDC members could be seen wearing their EDC uniforms and individuals were observed taking initiative by either picking up garbage themselves and making sure tourists were following the rules. Support for these observations came when one EDC member commented, "We are now proud to say that we are from this Valley" (BV9EDC).

The EDCs were also gaining recognition from outside groups and agencies. For example, the Gurudwara had donated money to both the EDCs to help them in their endeavors. The state governor also visited and donated money to the cause and the EDC presidents were invited to the state capital to tell their story on National Pollution Day 2004. According to the DFO, "the state government has recognized the work of this EDC and is now using it as a model." In reference to the EDC activities, one IUCN representative stated in a community meeting that he had never before seen a similar model in South Asia and that there was the potential for this model to spread elsewhere as people learn about it.

4.6 Summary

In summary, NDBR administration planned key meetings and determined the scope of the EDC responsibilities. The EDC as it has evolved in the Bhyundar Valley, is a mechanism that has increased civic sector involvement in management activities in the NDBR. Private sector involvement in planning or decision making was limited, but the cooperation of small private enterprises was an important factor in the successful implementation of the EDC system.

The EDC is also a mechanism that increases the effectiveness of FD planning and management efforts. This is because the EDCs were educating and informing others about the biodiversity in the valley and the value in keeping the valley clean. The EDCs also enabled the FD to plan additional initiatives for the valley. The EDC mechanism can be strengthened in a number of ways: by minimizing barriers to involvement that still exist, by defining clear roles and responsibilities and by improving accountability in the EDC management system with a more rigorous and transparent reporting and evaluation process.

This item has
been removed
due to copyright
issues. To view
it, refer to its
source.

Plate 1 - The bank of the Pushwati River pre-cleanup

Photo courtesy of UA Forest and Wildlife Department

This item has
been removed
due to copyright
issues. To view
it, refer to its
source.

Plate 2 - Mountain of plastic collected from the Bhyundar Valley

Photo courtesy of UA Forest and Wildlife Department

Plate 3 - Mules drop off sacks at garbage collection point

Plate 4 - Interpretation Centre in Ghangaria

Plate 5 - Section of trail between Bhyundar and Ghangaria

Plate 6 - Procession of Sikh pilgrims arriving in Ghangaria

5.0 MICROPLANNING: A MECHANISM FOR PARTICIPATION?

5.1 Microplanning: Setting the Context

There have been three progressive catalysts for microplanning within the NDBR. The first microplans were initiated in 1999 for eco-development projects under World Bank funding. Plans were initiated again in 2002 after the completion of the NDBR Landscape Management Plan. The third impetus has been the use of microplans for compensating villages affected by the Vishnu-Prayag hydroelectric project occurring in the area. This study focused on a village plan developed under general NDBR planning.

According to NDBR administration, "it is a basic process to prepare microplans in the landscape management process. There is no legislation or formal policy requiring us to do microplans, but it is a general belief that we should do it" (1S). Both the DFO and Chief Wildlife Warden indicated that the state of Uttaranchal has never adopted formal microplanning guidelines. The general process for developing a microplan was determined by comparing three documents. The first description came from unpublished eco-development guidelines produced for the Corbett Tiger Reserve. The second came from unpublished microplanning guidelines produced by the World Food Organization and the third description came from a published book entitled *Eco-development Planning for Conservation: A Guideline* (Badola *et al.* 2002).

Although the process for developing a microplan varies slightly depending on its application, there are some basic steps that are common to all three guidelines. First, the FD is supposed to select the villages eligible to do a microplan, in cooperation with other people, such as a non-governmental organization. In the NDBR, the eligible villages are those that have had their livelihoods impacted by protected areas and have experienced additional difficulties, such as wild animals killing livestock (Singh 2000). More recently, villages that have been impacted by a large hydro-electric project have also been chosen. Once the village is chosen, a group of people forms a spearhead team. This group can be multi-disciplinary, such as forestry, community development,

and/or agriculture personnel. Another option is to include the head of the village, NGO representatives and FD personnel. Either way, this team is supposed to commence the process in selected villages.

The village is supposed to form a committee that consists of a president, treasurer, secretary, motivator and a few others. The president acts as the chairman of the committee and the secretary's role is to record meeting minutes. Once the plan is developed, the treasurer is supposed to keep track of the financial information, such as how much money has been given to the village for various projects, project costs, which people had been paid and the amount of money remaining in the account. The main responsibility of the motivator is to notify the community about meetings and encourage people to attend. The committee is also supposed to have representation from females and lower castes.

Using participatory rural appraisal methodologies, the spearhead team and the microplanning committee work with the village to develop the microplan. A microplan is a detailed document that has the following information:

1. Description of the Village
- population and demographic structure;
- activity schedules;
- natural resources of the village;
- village facilities;
- landuse;
- economic status;
- health status;
- historical background;
- landholding and cropping patterns;
- stakeholders;

2. Impact Assessment
- relationships between humans/animals and the natural resources (e.g. quantity of resources being used and from where);
- the present and future demands on the natural resources;

3. Planning
- analysis of problems (Issues are prioritized; probable causes and potential solutions are identified);
- a list of planned projects, sometimes with a schedule and monetary value;
- indicators for monitoring and evaluation;

4. Mutual rights and responsibilities
- benefit distribution and access to resources;
- mutual responsibilities; and,
- records management (Badola *et al.* 2002).

The FD is responsible for approving the microplan, and only those projects that support conservation should be approved for the plan. Once a microplan has been developed, the FD invests in the projects, and the recipients of the investment have to pay a percentage of the value of the investment into a committee fund. According to one guideline, the microplanning committee can then use this fund to provide loans to community members (Singh 2000). None of the guidelines suggest involving the private sector in this process.

The DFO indicated that the community microplans help set the priorities for NDBR annual plans. Where community microplans did not exist, communities were requested to list their preferred development options for the upcoming year on a short, standard form sent out annually by the FD (Appendix C). This form provides an indication as to the types of activities considered acceptable to the FD. Table 10 lists the villages in the NDBR that had completed microplans and/or the annual feedback form for the Forest and Wildlife Department. The 2004/2005 annual plan for the biosphere reserve stated that 10 villages in the buffer zone and 10 villages in the transition zone would have the opportunity to develop microplans that year. However, upon a request for the list of villages, it was noted that all were in the transition zone. Furthermore, there did not appear to be any preparations for those plans prior to the end of the field research period in mid-November. At the time, the FD was facilitating the development of microplans in several other villages through financial compensation from the Vishnu-Prayag hydro-electric project. There was never any indication that these latter plans contributed to overall NDBR planning. Given that there are 47 villages in the NDBR buffer zone (34 in Chamoli), 52 in the transition zone and no villages had completed plans since 2002, village level microplanning clearly had a minor role in broad scale NDBR planning.

Table 10 - List of Villages with Completed or Scheduled Microplans

Zone	1999	2002/2003	2003/2004	2004/2005	
	World Bank (Original EDCs)	NDBR/ World Food Program		NDBR (Feedback Forms Only)	NDBR *not yet started at time of research
Buffer	Bhyundar Pandekeshwar Patudi Baragaon Tapovan Reni Pulli Peng Jujgu Bhalgaon Tolma Phagti Jelam Kosha Malari	Lata Reni Walli Gahar/ Bhangule Long	No microplans were prepared.	Farkai Mana Pandekweshar Bhangule Lambagarh Kaileshpur Malari Niti Bampa Ghamsali Jelam Dronagiri Tolma Bhalgaon Reni Lata	
Transition		Sutol Kunol Tugasi Merag Parsari			Sutol Kunol Gahar Peri Pana-Irani Bana Tatra Mundoli Belagarth Vinayak Pagrasu Pall Jhakhola Kimana

5.2 Sector Roles in the Microplanning Process: The Case of Lata
5.2.1 Public: The Uttaranchal Forest and Wildlife Department

Lata residents were originally supposed to develop the village microplan in 1999 but due to the history of conflict between this community and the FD, the community refused to participate. When the FD initiated microplanning again in 2002, the people in Lata were prepared to participate. The planning process used in Lata essentially followed the steps listed in the previous section, even though the FD had secured funding for the Lata microplan through the World Food Organization. Table 11 lists the roles of the public sector that were inferred directly or indirectly from both planning and implementation activities mentioned by respondents throughout the research.

Table 11 - Public Sector Roles in the Microplanning Process

Public Sector – Forest and Wildlife Department	
Activities	**Roles**
- Selects villages that get to do micro-plans in any given year - Determines the acceptable activities for the plan - Participates in selection of the villagers who get to work on any given project	Makes decisions
- Helps the villages develop the plans - Secures funding for the micro-plan development and ensuing projects - Provides fruit trees and medicinal plants to villages to supply the market	Facilitates plans
- Controls micro-plan activities - Encourages alternative livelihoods - Rehabilitates (or facilitates the rehabilitation of) degraded areas - Educates locals about conservation	Provides biodiversity protection
- Meets with the villagers	Communicates information
- Gathers data about the natural and economic assets of the villagers	Ensures the distribution of benefits in an equitable manner
- Purchases supplies needed for projects (e.g. piping) - Tracks accounting - Disburses funds	Administers finances
- Employs & trains the facilitators - Employs villagers	Provides employment
- Organizes training - Organizes exposure visits - Organizes meeting dates - Prepares the written plan	Provides logistical support
- Educates people about the microplan and conservation	Educates

To elaborate further, FD employees were the facilitators for the microplans produced in 1999 but the facilitators were outsourced for all plans developed in 2002, including the Lata plan. However, the FD was guiding the facilitators in their tasks.

5.2.2 Civic: Lata Village Residents

A microplanning committee was struck in Lata to help develop and implement the microplan. The roles of the committee members were not different than those listed in section 5.1, however, according to one community member, the motivator was also supposed to remind the FD to make payments to the village so the planned projects could be accomplished. Table 12 lists the roles played by civic sector participants.

Table 12 - Civic Sector Roles in the Microplanning Process

Civic Sector – Lata Citizens	
- Decides on which projects they want to do - Distribution of work	Makes decisions
- Work for various projects (e.g. construct checkdams)	Works as laborers
- Reports to the broader community on project costs (Note: information is not detailed. Totals are provided by the Forest and Wildlife Department)	Communicates information
- Coordinates meetings - Records minutes - Tracks expenditures	Provides logistical support
- Motivate people to attend meetings and be involved.	Motivates people
- Does not cut trees - Minimizes collection of non timber forest products from the core zone - Monitors for poachers	Provides biodiversity protection

5.2.3 Role Perception

Table 13 identifies the number of people that mentioned one or more of the activities that constituted a role. It is evident that people knew who was doing what, with a couple of exceptions. People knew that the FD was gathering data about their village and providing them with fruit trees and medicinal plants, but they may not have been aware that these activities translated into an equitable distribution of benefits or market development. Several respondents had opinions about what the roles should be. For example, several respondents suggested that the private sector could play a role by identifying marketable products:

It would be better if outside businesses would help with planning for their expertise, to teach us, and advise us. For example, to determine the size of carpets we should make, or the color of pullovers (LV2CM); and
The private sector should be involved in planning to take our goods (LV6CM).

Several of the locals also suggested that they could help the FD protect the national park if they were actually employed to monitor for poachers and guard the core zone. Finally, many expressed frustration that they did not have as much control as they would like, particularly over timing and funds, which indirectly indicates that they would like more decision-making power. The FD appeared to be content with the roles that each sector had in the process.

Table 13 - Number of Respondents that Discussed each Role

Category	Public - FD	Civic – Lata Villagers	
Forest and Wildlife Department		Men	Women
Provides biodiversity protection	3	7	6
Educates	2	3	1
Provides employment	1	6	1
Administers finances	0	8	6
Provides logistical support	2	6	5
Makes decisions	2	6	3
Ensures equitable distribution	3	3	1
Facilitates market development	1	2	1
Lata villagers			
Work as laborers	1	7	3
Provide biodiversity protection	1	3	4
Provide logistical support	0	3	4
Make decisions	2	2	3
Communicate information	0	1	3

5.3 Evaluating Participation: Process Attributes

The following sections assess participation in the planning and implementation activities listed in Tables 11 and 12, according to four main attributes: characteristics of meetings, breadth of involvement, degree of participation and perceived fairness.

5.3.1 Characteristics of Microplanning Meetings

The villagers described how the Forest and Wildlife Department called a number of community meetings in the beginning to start the micoplanning process. According to the FD, the community was given at least 10 days notice prior to the meeting. The first meeting was used to discuss the purpose and process of the microplan. Clarity of purpose is an important feature of a successful process. According to the final document, the main aims of the Lata plan were to conserve the natural resources, develop income-generating projects and make small investments in the village. This appeared to be the general understanding of the villagers as well. In response to questioning about the purpose of the microplan, respondents answered:

> Education for the uneducated, forest protection (e.g. monitoring for illegal activity) (LV12CM);
> Employment for local and poor people (we don't use contractors from the outside). The Forest and Wildlife Department also asked us to protect the wild animals and not to cut trees (LV22CM);
> The FD wanted to develop our village because the Nanda Devi Park was cut off from us. The Forest and Wildlife Department came and told us that through the microplan we could get alternative livelihoods for the benefit of locals and for the protection of the forest (LV25CMFe); and
> Economic and social development of the village. The DFO and CF explained that if our economic situation is better then we shouldn't need to rely on the forest (LV2CM).

The FD organized the second meeting, which was open to everyone, to facilitate the community selection of the microplanning committee. Further meetings were held with the social researchers (facilitators) to produce resource maps, social maps and a health ranking. After the public meetings, the researchers spent two days doing household surveys. According to the FD, this meant that the facilitators discussed with the villagers, "what they need, what outcomes they want, what the effects were [of the way they were going about their businesses and lives] and the selection of work" (1S). The researchers explained the household surveys were intended to "collect physical and financial information about problems related to the forest and soil, and to determine what kind of problems they had and potential solutions…because in community

meetings people don't always speak up." After the researchers collected the data, they wrote up the information and submitted it to the FD for review. A follow up meeting was held with the community to confirm the elements of the microplan.

After the microplan had been developed, the microplan committee called a series of meetings every 1-2 months between September 2003 and May 2004. Two meetings were also held in August and according to one respondent, meetings had been held since that time but were not recorded in the ledger.

5.3.2 Breadth of Involvement

According to the social researchers, the initial public meetings were open to the whole community and they continued for a total of three days. One researcher stated that approximately 10% of the Lata villagers showed up on the first day, but "participation increased day by day" (1R). No records were discovered of participant numbers in the development of the resource maps, social maps, pie diagrams, and in the health ranking exercise. By going household to household, the social researchers were able to reach the inactive public, but this would have been the only time the inactive public would have voiced their opinions. Ongoing participation for most people in the community was minimal.

Community attendance at the follow-up meetings initiated by the committee ranged from nine to thirty nine people. Two respondents indicated that when the committee met, the whole community was called, but several others indicated that they never went to meetings because they were never called. Some respondents said they would like to attend if they were invited. Analysis of the meeting ledger showed that there was usually more than the nine or ten committee members in attendance at the majority of the meetings, suggesting that more people were notified about the meeting. Perhaps only certain areas or people of the village were invited routinely but were missed during the course of this research. Attendance numbers at meetings do not actually reflect the extent of participation. A number of committee and non-committee respondents said

that the committee members were the main people doing the planning for the village because they were the primary people attending meetings. By this time, however, the main planning process for the microplan had been completed.

At least three of the members on the committee were women, and two of them had key roles: the president and motivator. In addition, members of the women's welfare group often attended and sometimes led the meetings when the president was not available. As mentioned previously, the women in Lata have a history of mobilizing. The community, the FD and the social researchers were the only parties involved in the microplanning process. The private sector was completely absent from the process.

Access to information was primarily in the form of a list of completed projects, including the associated costs, that was painted on the exterior wall of a building in the community. The complete list of projects, including the outstanding items, was in the final microplan but no one in the community that was interviewed had ever seen the final plan.

5.3.3 Assessing the Degree of Participation

A number of steps in the microplanning process can be used to assess the degree of civic sector participation in the process. Rather than assess each activity or meeting individually, broad steps in the process were examined: the selection of the village, the selection of the microplanning committee, provision of input into the plan, and the implementation phase. Specific activities within each broad phase were then used to help illustrate points of discussion.

The microplanning process is typically driven by the FD. According to the DFO, "the FD selects which village gets to do a microplan based on equity" (who has done what in the past). The Conservator of Forests confirmed that this was the process: "We see if there is any need in the community before deciding who gets to do a microplan. It has to be need based." In the case of Lata, the opposite occurred. The FD made arrangements for Lata to produce a microplan when the community decided it was ready, however, the FD still had the authority to agree or disagree. The FD also determined the process of developing the plan.

94

Development of the plan consisted of the selection of the committee, the provision of community input and final approval of the plan. According to the villagers, the FD and the social researchers, the community nominated and selected all members of the microplanning committee and provided input into the plan. During the course of the research, a copy of the plan was brought to the community to discuss the projects listed in the final plan. Table 14 lists the plans in the document and from whom each idea originated, according to two village respondents.

Table 14 - Projects Listed in the Lata Microplan

(V = Villagers, FD = Forest Wildlife Department)

2003 Plans	Whose idea? Respondent #1 (Male)	Whose idea? Respondent #2 (Female)	2003 Plans Completed?
1. Tree plantation	V	V - We wanted them because oak trees provide good fodder.	No
2. Bamboo plantation	V -Untouchables have to go too far to collect it	V - Because we need to use Bamboo for our baskets and now we buy them from the Untouchables. They have to go too far to collect it, so we requested a closer plantation.	No
3. Grass patch	V - for employment	V	Yes
4. Irrigation tank	V	V	Started this year (2004)
5. Drinking water (pipeline)	V	V	Started this year (2004)
6. Land conservation work (check dams)	V	V - Many years ago, there was a landslide above the Untouchables side, so we requested a checkdam there.	Yes
7. Better seeds	V	V - Villagers wanted better seeds, because sometimes our crops weren't good enough for the businessman, or we weren't getting enough money.	No
8. Professional training	V (e.g. to make preserves)	V - We told the NGOs that a lot of our fruit is spoiling. So we requested training on how to preserve the fruit. Two days ago was the first training but it was too late because the fruit season is finished.	Yes - Two sessions
9. Education for elders (employment)	V	The NGO women suggested to us to educate the elders, because they are always signing with	Yes

		their thumbprints.	
10. Exposure visit	F.D.	F.D.	Yes - Five or six tours have been done.
11. Fruit tree/herbal medicine plantation	V - Last year, the FD distributed six trees for each family, this year - 10 trees. The villagers had to pay two rupees per tree to the MMD. - A few villagers have started medicinal plant operations.	FD - The FD suggested we plant these to earn money.	Yes
12. Paying the motivator (employment)			Yes
13. A machine to cut the grasses	F.D. - no one knew about this before)	Researchers (F.D.) - Since the jersey cows cannot graze like the cows we have, the researchers suggested we buy machines to cut grasses. Were supposed to receive five in the first year. Nothing has been purchased because it's difficult to divide them and we are not sure where to keep them. If they keep them in a communal place, no one will take care.	No
14. Stall for watering and feeding cattle	F.D. - We told them the problem, they suggested solution.	Researchers (F.D.) - The researchers explained that this is a way to feed and water the larger jersey cows. Were supposed to get 38 in the first year and 30 in the second.	No

Table 14 indicates that the majority of the plans in the final document did originate from the community. Three other interviewees from the community, however, stated that the FD also suggested ideas:

> The Forest and Wildlife Department showed us a list of potential plans and activities and the villagers came up with our list from that (LV7CM);
> The Forest and Wildlife Department came here and told us they wanted to make a water supply and tank for the community. The Forest and Wildlife Department also had other ideas e.g. for check dams and grass patches (LV8CM); and
> Project ideas were provided by the Forest and Wildlife Department (E.g., check dams, plantations, grass patches). They said they would finance it and that we had to decide where to put them (LV3CM).

The list of projects in Lata's final microplan was very similar to the plans produced in other villages. This may be because the Forest and Wildlife Department recommended and approved certain projects or because the communities were having common issues (or a combination thereof).

Quotes from various officials illustrate that the Forest and Wildlife Department was the final decision-making authority on the projects. The DFO stated that, "The Forest and Wildlife Department weighs the financial and technical feasibility of the plans the villagers want to do. All works must be approved by the FD and technical committee (if necessary). Members of the technical committee may come from the Wildlife Institute of India, the Soil Conservation Institute, the Horticulture Department, Animal Husbandry, Wadia Institute of Himalayan Geology etc." Further support for this observation came when one official commented, "This is not only a development program. It is a development and conservation program. We have to choose the activities selectively because the villagers tell us all of their problems" (2S).

The people in Lata were allowed to determine details of some projects, such as who would go on exposure visits and locations for water sources, checkdams, and grass patches. People in the community also collectively decided on the monthly wage for the teachers and devised a system of dividing physical labor work equally between the wards in the village. "When the plans were approved, we held a big meeting to distribute the jobs" (LV25CMFe).

Sometimes the community decided that every family would work on a project, which was deemed favorable by a number of respondents. "It is good that the whole village works together on projects because some of the poor and older people can work in groups. They usually try to take 20 people from each ward. There are 20 families in each ward so one person from each family has the opportunity to participate [get work]" (LV26CMFe). According to the Divisional Forest Officer, the FD normally helps select who should get the employment for any given job based on their inventory of economic information, but Lata was the exception. "The main FD intervention is making sure there is equity in the distribution of benefits." This role partially stemmed from a history of unequal distribution of benefits by headmen in some villages.

The Forest and Wildlife Department retained control over most of the funds. If money needed to be disbursed for paying laborers, they delivered it to the community. In reference to the money that did get delivered, "The FD keeps the same records of our accounts, which means we can't misuse the money" (LV25CM). Otherwise, the Forest and Wildlife Department spent the money by purchasing supplies for projects, such as the water pipeline, arranging for expertise for training or sending people on exposure visits. According to one committee member, "we do not know how much money they spend on the exposure visits and supplies" (LV2CM). A frequent topic in the meeting ledger was requests for money from the FD to carry out projects specified in the microplan, to pay the motivator and teachers, and for general supplies to help them function as a committee. The FD also stipulated that at least 10% of the value of all work had to be set aside in the EDC account for repairs.

The Forest and Wildlife Department maintained control over the timing of project implementation. For example, near the end of the study period, the Forest and Wildlife Department had organized a one-day training session in the village to teach the people how to make fruit preserves, an activity that was listed in the microplan. Respondents said that the Forest and Wildlife Department came to the village the day before and called a meeting upon their arrival. Whoever was around and interested signed up for the training session. Thirty-seven people

99

attended the session the next day, however, it was mostly men. Some female respondents commented that they would have liked to have attended the session but they were either too busy because it was in the middle of the harvesting season or they did not know about it. Another respondent indicated that the fruit season was long finished, so much of the excess fruit had already gone to waste. He said that it would have been more helpful if training occurred during the fruit season. This example demonstrates that the community had no control over the timing or duration of this training session. Table 15 summarizes this information visually by situating the various planning and management activities (identified in the legend by color) along the typology spectrums. The activities were only situated on a particular spectrum when they could be adequately described by that spectrum. As a result, one activity set could be described across all four spectrums, where the other activities could only be placed on one, two or three spectrums. Where two colors are present in one level of a typology, two activity sets were relevant to that category.

Legend

Participation in Planning		Participation in Management	
	Determination of the planning process		Money management
	Selection of the village		Project timing
	Selection of the committee		Project implementation
	Input into the plan		

Table 15 - Degrees of Participation in the Microplanning Process

Arnstein (1969)	Pimbert and Pretty (1994)	Dorcey *et al.* (1994)	UNDP (1997)
Citizen Control (citizen control): - Citizens have full power to plan, make decisions, and manage.	*Self mobilisation/ active participation:* - Independent initiatives to change systems - May or may not challenge existing distributions of wealth and power.	*On-going interactions:* -To involve citizens in decision making	*Self-management*: - Stakeholders interact in learning processes, which optimize the well-being of all concerned.
Delegated Power (citizen control): - Citizens have been given some power to make decisions. - There is accountability to the citizens.	*Interactive participation:* - Joint analysis and action plans - Formulation of new local groups or the strengthening of existing ones that take control over local decisions. - Systematic and structured learning processes.	*Seek consensus:* - Determine areas of common ground and areas of divergence. - Explore options and arrive at recommendations for action.	*Partnership*: - Exchange among equals (in terms of balance of respect) working towards a mutual goal. - Mutual responsibility and risk sharing.
Partnership (citizen control): - Enables participants to negotiate and engage in trade-offs with traditional power holders. - Shared planning and decision making.	*Functional participation:* - People participate to meet pre-determined objectives - Involvement occurs after major decisions have been made.	*Test ideas and seek advice:* - On proposed options regarding a policy or decision, or asking for additional proposals.	*Risk-sharing*: - Expands beyond decisions to encompass the effects of their results, - Accountability is fundamental at this level.
Placation (tokenism): - Participants are allowed to advise but have no right to decide.	*Participation for material incentives:* - People provide resources, for example labour, in return for food, cash or other material incentives. People have no stake in prolonging activities when the incentives end.	Involve the public in *defining issues* regarding a policy area.	*Decision making*: - Consensus is acted upon through collective decisions, - Shared responsibilities for outcomes.
Consultation (tokenism): - Participants can voice their concerns/opinions, but there is no guarantee their input will be heeded.	*Participation by consultation:* - External agents listen to views but define both problems and solutions and may modify these in light of people's responses. - No sharing in decision making - No obligation to the people.	*Consult* the public, getting their reaction to a proposed initiative.	*Consensus-building*: - Stakeholders interact to arrive at negotiated positions tolerable to the entire group. - Vulnerable individuals and groups tend to remain silent or passively acquiesce.
Informing (tokenism): - Informing citizens of their rights, responsibilities and options. - One way flow of information.	*Participation in information giving:* - People give answers to extractive researchers and managers using questionnaires, surveys or similar approaches. - No opportunity to influence proceedings	*Gather information and perspectives* in order to supplement other sources of information in developing a policy or decision.	*Consultation:* - Two-way communication, - Opportunity to express suggestions and concerns, - No assurance that input will be used at all or as intended.
Therapy (non-participation): - "Cure" the participants. - Get them to adopt power holders' values.	*Passive participation:* - People are told what is going to happen or has already happened. - Unilateral announcement by an administration	*Educate* the public about the background to a decision or policy, indicating the alternatives and their pros and cons.	*Information:* - Stakeholders are informed about their rights, responsibilities, and options - Emphasis is placed on one-way communication, with neither channel for feedback nor power for negotiation.
Manipulation (non-participation): - "Educate" the participants, - Engineer support, - Public relations.	- The information being shared belongs only to the professionals.	*Inform:* the public of a government initiative and its decision making process.	*Manipulation*: - Essentially 'non-participation', - Participation is contrived as the opportunity to indoctrinate.

5.3.4 Perceived Fairness

Due to an oversight in the field, data with respect to the perceived fairness of the microplanning process are lacking. There seemed to be a general feeling that there was not enough opportunity for people to be involved in an ongoing manner. In addition, a few unappreciatively charged that the FD was holding private meetings with one or two committee members (usually the motivator).

5.4 Evaluating Participation: Outcome Attributes

The outcome attributes assessed in the microplanning case study include changes in relationships, capacity building, whether or not planning had improved, the motivation of the participants and the extent of implementation.

An oft-stated goal of public involvement is improvement in relationships, indicated by the resolution of conflict and increased trust among the public. In the case of Lata, there was a general consensus that the relationship between the FD and the community had improved. Numerous reasons were cited, including better and more frequent communication and the benefits the community had received from the FD. One state official indicated the community's relationship had improved with the FD "because of the way it was negotiated [the microplan]. We had frequent interaction with the community and we increased their awareness" (5S). The social researchers also said they noticed a difference immediately after the development of the plan. "The people seemed happy with the final plan. They started trusting more" (1R). These observations were supported with comments from community members. One village respondent felt things had improved because of the willingness of the Divisional Forest Officer to provide benefits to the local people. Other reasons listed from people in the community included:

> Because they are giving training and distributing items (LV13CM);
> The relationship with the Forest and Wildlife Department used to be bad. But since they have established the micro plan and given us a [wool] carding plant we are much happier (LV25CMFe); and
> After we did the microplan then we were much happier with the Forest and Wildlife Department. Five years before we used to always be fighting. After 2003 we became friendlier with them and there was increased communication (LV7CM).

Some acknowledgements of improvement came with caveats:

> The relationship with the Forest and Wildlife Department is better than before, but they still haven't given enough money (LV7CM);
> The relationship with the Forest and Wildlife Department has improved, but the budget is coming slowly (LV22CM);
> The relationship has improved because they are giving us employment, although it isn't regular enough (LV23CM); and
> Some people are getting employment, but the employment is only short-term (a few days per month). It would be better if we could work more regularly (LV22CM).

The Divisional Forest Officer had cautious optimism. "Reaction is very slow. I can't say they are all happy. They are waiting and seeing. When 100% of people used to be against us, at least 30 to 40% are happier now with the Forest and Wildlife Department in the last 2 years. After 20 years of loggerheads, it won't change immediately." Unfortunately, the enhanced trust was being undermined by the fact that the FD retained control over the funds and the timing of implementation for any given project. And in the opinion of many respondents, the projects were not occurring in a timely manner. In this respect, the process was still a hindrance to the citizens

Another important goal of participatory processes is to increase the capacity of the civic sector. This was one main weakness of the microplanning process. Some of the locals knew that one purpose of the microplan was to protect the forest and wild animals, but no one was able to describe any further the underlying reasons for this purpose. Perhaps this is because the FD only discussed the benefits of the microplan in the first couple of meetings with the villagers rather than facilitating an ongoing learning process. There was some instrumental learning through the provision of training for making fruit preserves and growing medicinal plants. In addition, the FD sponsored visits to other communities, which exposed Lata villagers to alternative crop options, alternative animal varieties (cows), and composting operations. However, at the time of this research, none of that knowledge had been applied in any way nor were there plans to do so. There seemed to be some interest in applying the knowledge, but

there had been no follow-up from the FD to aid the process. Finally, the people tasked with teaching the elderly how to read and write were only paid for two months and hardly anyone in the community was able to take advantage of the training that was offered. The microplanning process did succeed in clarifying goals and identifying the interests of both the village and the FD.

A third objective of public involvement is to improve the planning process. The data illustrate four important ways the microplans improved the effectiveness of FD planning and management, particularly for conservation. The FD was ensuring that all activities in the village microplan served the broader conservation goals. The department was facilitating the development of alternative livelihoods to reduce the peoples' reliance on the natural resources and was employing local people to help rehabilitate degraded areas and participate in other conservation works (grass patches, checkdams etc.). Finally, in exchange for helping to develop the village the people were expected to help protect the natural resources, by monitoring for poaching and forest fires. The microplan also served to perpetuate the status quo management of the national park.

From the civic perspective, the microplanning process resulted in some positive impacts. A few projects created short-term income generation such as the construction of the checkdam, grass patch, and the reading/writing lessons. The fruit trees, medicinal plants, bamboo plantation and improved seed had potential for sustained income generation. It is worth noting that a year after the development of the plan the village had only received support for the medicinal plants and fruit trees, which were priorities for the state government, even though some of the other projects would have had more immediate benefits for the villagers. At the time of the research, a small number of families had invested their time in trying to cultivate medicinal plants.

Also from the civic perspective, the microplanning could have been improved if the private sector was somehow involved. "The community is encouraged to grow apples, nuts and apricots, but there is a marketing problem, so there hasn't been a substantial benefit" (LV2CM). The government has also

104

given financial assistance to buy cows and sheep, "But there is no market for the milk" (LV1CM).   A few villagers did indicate that planning related to implementation could have been improved if the villagers had been consulted. The comments were primarily in reference to the training sessions for fruit preserves and medicinal plants. One respondent stated that a two day training seminar on medicinal plants had been held six months prior, in the regional center of Josimath. Although he had faith in the medicinal plant market, he felt the training was inadequate for a number of reasons. He felt that the duration of the training was too short, as many people left with several unanswered questions, and there had been no follow up since that time. He also felt strongly that the training should have been in the village so more people could have attended and that the training program should have incorporated knowledge from the elders. The fruit preserves training was better in the sense that it was held in the village, but there was inadequate notice about the session and it was simply an inopportune time for many of the villagers. One respondent suggested that training sessions should incorporate both technical knowledge from the FD and local knowledge from the elders, rather than just the technical knowledge that was presented. Incorporating local knowledge helps ensure that the plans are sensitive to the needs and values of the local people.

There was a willingness to continue working together, amongst the respondents who did participate in the planning process, because they believed the FD had taken their ideas seriously and had not cancelled their plans. The FD recognized this change in motivation, as evidenced by the assertion that, "the community has come to understand the need to work with the government" (5S). A lack of motivation was also apparent. Those who did not participate either thought they would have had no influence on the process or outcomes, or they were too busy:

> I have never attended any meetings because I didn't have any ideas (LV23CM);
> I never attended the meetings because it is out of my capacity. I am too old (LV16CM); and
> I never went to microplanning meetings because I am too busy (LV10CM).

With regards to implementation, seven of thirteen projects slated for 2003 had not been started or completed according to the schedule. One respondent commented that it was because "the Forest and Wildlife Department is delaying and the motivator isn't active" (LV26CMFe).

5.5 Summary

The microplanning process was undertaken in Lata to involve the villagers in finding ways to further reduce their dependence on the Nanda Devi National Park. At the same time, the strategies were supposed to address the villagers' socioeconomic needs by creating alternative opportunities for sustained income generation and by making improvements in the village, within the mandate of the biosphere reserve. Since the microplanning process is intended to be by the people for the people, it was also expected that the process would further quell the civil unrest that was brewing in the village.

The development of the Lata microplan did provide an occasion for people to participate in a decision-making process that had the potential to improve their lives, as long as the decisions fell within the conservation mandate of the FD. However, it really was a finite process that afforded very limited opportunities for meaningful participation. The barriers to participation indicated directly or indirectly by the participants included a lack of time because of the need to meet their basic needs, geographical constraints, inadequate notice and lack of opportunity. Although the participants in the process may not have realized it, the list of acceptable activities also appeared to be a forgone conclusion. It was clear in the community that the initial enthusiasm for the microplan was waning, and the skepticism was threatening to take over again.

Plate 7 - Public signboard detailing microplan projects

Plate 8 - Lata villagers grinding grain

6.0 CONCLUSIONS & RECOMMENDATIONS

6.1 Preamble

Broader participation in government-led initiatives, such as biodiversity conservation, has experienced growing credence in India as around the globe. As outlined in the literature review, this trend is particularly relevant and useful for creating biosphere reserves that function according to the intended mandates of conservation and the sustainable use of biodiversity. For this reason, participation can be considered a key link between conservation and sustainable development.

The legislative and political framework in India perpetuates centralized, governmental decision making for the establishment of both protected areas and biosphere reserves in India. However, mechanisms have emerged that provide greater opportunity for the general public to have a role in planning and management processes of existing conservation areas. This research set out to highlight opportunities for improving the balance between the public, private and civic sectors and for enhancing the quality of participation in eco-development and microplanning in the Nanda Devi Biosphere Reserve.

The underlying logic for this study is twofold. First, conflict can often be reduced or avoided by engaging stakeholders in the decision-making processes affecting their lives (Webler *et al.* 1995; Shepard and Bowler 1997; Diduck 2004). Biodiversity does not coincide with human defined jurisdictions, which means that biodiversity conservation necessitates interaction between diverse interests. As a result, biodiversity conservation is complex and often complicated by conflict (Shepard and Bowler 1997). This reality is especially evident in India, where conservation initiatives have historically been associated with high levels of conflict (Gadgil and Guha 1995). Secondly, high quality participatory mechanisms that allow the civic sector to interact with other sectors have a range of benefits that can lead to improvements in planning and management processes (Daniels and Walker 1996; Shepard and Bowler 1997; Brosius *et al.*1998; Mitchell 2002; Sinclair and Diduck 2005). These improvements in turn,

enhance the likelihood of attaining the dual mandates of conservation and sustainable use of natural resources. Any means by which we are able to achieve these mandates are especially important in the context of fragile mountain ecosystems, such as the Himalayas.

The approach of the research then, was to assess the roles of the public, private and civic sectors in planning and management activities and to assess the interactions among those roles. This chapter brings the results of the eco-development and microplanning case studies together by making conclusions on the results in the context of the original objectives of the research outlined in the first chapter. The specific objectives were to: (1) describe the background and context of planning and management in the NDBR; (2) determine the roles of the public, private and civic sectors during selected planning and management activities; (3) describe what members in each of the sectors thought the roles were, and what the roles should be; (4) investigate the extent of civic and private sector participation in those activities; and, (5) evaluate the effectiveness of the participation. The chapter concludes by providing recommendations for policies and practices appropriate for the involvement of the private and civic sectors in the Nanda Devi Biosphere Reserve.

6.2 Addressing the Objectives of the Study

6.2.1 The Contextual Circumstances of the Nanda Devi Biosphere Reserve

The research first focused on understanding the institutional setting of the NDBR and then locating villages that were engaged in planning and management activities. One key regulation and one policy were guiding decisions of the FD officials: The *Wildlife Protection Act, 1972* and the *National Forest Policy, 1988.* Other policies relevant to the planning and management of the reserve included the *National Conservation Strategy* (1992), the *National Policy Statement for Abatement of Pollution* (1992) and the *Guidelines for Protection, Maintenance, Research and Development in Biosphere Reserves*

(1999). Most of these policies as well as the NDBR Landscape Management Plan all had provisions for civic sector participation.

It was determined that planning and management activities in biosphere reserve initiatives, and particularly in the NDBR, are complex processes because of multiple jurisdictions and pre-existing relationships characterized by conflict. Although not a government-sanctioned form of engagement, this region has a long history of social protest against ruling authorities. In the 1970s a resurgence of peasant resistance was the primary form of civic engagement with forest administration. Furthermore, women in both the Bhyundar and Niti valleys played prominent roles in these social protests (Guha 1999).

The establishment of the new state provided an opportunity to reopen dialogue and begin working with the communities on addressing long-standing issues and challenges. It was determined that the Eco-development Committee management system in the Bhyundar Valley and the microplanning process were two activity sets in the NDBR where the government was not taking sole responsibility and was attempting to establish roles for the civic and private sectors.

It was also determined that there were some notable differences between the two case studies. For example, the people in each case were from different ethnic backgrounds. Secondly, there was a history of conflict in both cases, but the conflict in the Lata case had been going on longer and occurred for many different reasons. The conflict in Lata was also more recent and therefore, fresh in people's minds. Furthermore, the people in Bhyundar were more fortunate than those in Lata because their location in relation to two very important destinations resulted in government approved, alternate and viable forms of livelihood. These factors influenced the types of roles and both the opportunities and effectiveness of participatory processes described in this study.

6.2.2 Understanding the Roles of the Public, Private and Civic Sectors
Determining the roles of the public, private and civic sectors during selected key planning and management activities was necessary in order to address the subsequent objectives. Furthermore, having an understanding of

110

roles is important for identifying opportunities to achieve desired outcomes. Hanna and Jentoft (1996) argued that the spheres within which people are embedded (e.g. ethnic groups, professions, communities, organizations, etc.) determine roles and values. These roles and values in turn influence the actions of resource users in relation to nature.

In the EDC case study as outlined in chapter four, the variety of roles was extensive for both the public and civic sectors and less so for the private sector. It is also clear in Table 16 that there was considerable overlap in the type of roles across sectors.

Table 16 – Summary of Roles in the EDC system

Public - Forest & Wildlife Dep.	Public - District Panchayat	Civic	Private
Provides biodiversity protection		Provides biodiversity protection	
Enforces the rules	Enforces the rules	Enforces the rules	
Provides employment	Provides services	Provides employment	Provides services
Provides financial support	Provides financial support	Provides financial support	Provides financial support
Provides logistical support	Provides logistical	Provides logistical support	
Builds capacity		Builds capacity	Acts as an advisor
Acts as an advisor		Provides services	
Makes plans		Acts as a laborer	
Facilitates plans		Manages the day to day details of the	
Makes decisions		Educates pilgrims and tourists	

The existence of particular roles at least partially determined the success of conservation initiatives in the Bhyundar Valley. In the microplanning case detailed in chapter five, many of the public sector roles were the same as those identified in the first case (Table 17), however, there was less variety in the civic

sector roles and the private sector was not involved at all. Finally, it was clear in both cases that the FD had a greater number and more powerful roles than the other sectors.

Table 17 – Summary of Roles in the Lata Microplanning Process

Public	Civic
Provides biodiversity protection	Makes decisions
Makes decisions	Works as laborers
Facilitates plans	Communicates information
Administers finances	Provides logistical support
Provides logistical support	Motivates people
Communicates information	Provides biodiversity protection
Ensures the distribution of benefits in an equitable manner	
Educates	
Provides employment	

6.2.3 Perceptions of Roles

Analysis of respondent perceptions about roles indicated that there was not a large gap between what the people thought the roles were for each sector, and the reality of the situation. For example, in the EDC case (chapter four) many people pointed out that one responsibility of the FD was to enforce the rules. In the microplanning case (chapter five) several people noted that the FD was supposed to administer the finances. For the most part, respondents seemed comfortable with the roles but did make recommendations for improving the quality and/or expanding the number of roles for the civic and private sectors. This latter point is important given that legitimacy is dependent on public

perception and opinions (Shepard and Bowler 1997) and legitimacy in turn, affects the extent of conflict.

6.2.4 Evaluating Participatory Processes in the NDBR

As outlined in the literature review, there are key aspects that need to be considered when evaluating participatory processes in environmental planning and management. Participatory processes were evaluated in these two case studies by investigating the characteristics of meetings, breadth of involvement, the degree of civic and private sector participation in the selected activities and perceived fairness. Consistent with the history of the region, although radically different in form, varying degrees of civic engagement were evident in both cases.

In both cases, face-to-face community meetings were definitely the most effective means of communication because of low literacy rates and the lack of communication infrastructure. The Forest and Wildlife Department supported the idea of community meetings in both Bhyundar and Lata, but minimal activity occurred without the direction of the DFO. This finding suggests that people in both the EDC Bhyundar and Lata had not taken ownership of their respective processes. The engagement was higher for the EDC Govindghat.

Participation in the Bhyundar Valley EDCs did not seem to be affected by old issues related to the Valley of Flowers National Park or commercial forestry, but rather new issues that developed in the process of cleaning up the valley. The local, male contingent of the Bhyundar Valley had the greatest involvement and key roles in the EDC system. Private enterprises operating in the Bhyundar Valley were somewhat engaged in the system, but it was clear that they wanted a stronger voice in the decisions affecting their livelihoods (waste management and traffic control). For the most part, the women were the least engaged in the EDC system. In comparison, the key civic roles in the microplanning process were held by women.

The results demonstrate that civic and private sector participation in decision making was minimal, translating into little citizen power. The EDCs

were in a position to be able to provide input into the planning for the Bhyundar Valley, however, to date it has largely been a top-down process. The Forest and Wildlife Department had suggested all of the ideas and the community had for the most part, willingly gone along with them. It is clear that the EDCs did have a central role in managing the solid waste and traffic along the route bypassing their villages (i.e. implementation). In addition, they were educating and informing others about the biodiversity in the valley. They were accomplishing these tasks by working together with various members of the private sector and public sector. EDC members were involved in monitoring certain aspects of the system, such as tourist and pilgrim compliance with the new rules and ensuring the sweepers were doing their jobs. However, there were no mechanisms in place for the EDC Bhyundar to monitor the financial health or effectiveness of the system until the end of the year, at which time only a couple select people reviewed the information that was available.

Historical conflict between the government and Lata villagers in the Niti Valley did appear to have affected the breadth of participation in the microplanning process. Some individuals did not participate at all because of mistrust and bad feelings over past government decisions related to Nanda Devi National Park. The Lata microplanning process was also weakened because even though the development and implementation of the plan was open to everyone, certain aspects of the process were not overly successful at overcoming the barriers to involvement and reaching the 'inactive" public. This group constituted the majority of the people, primarily because they were too busy trying to meet their basic needs.

Those who did participate had the opportunity to decide which developmental and conservation works they wanted to include in their microplan, even though the Forest and Wildlife Department defined the scope of the plan to achieve the government's conservation goals. The involved citizens were also able to decide on implementation details of certain projects. However, they were less engaged in the implementation phase because of renewed disappointments about the lack of control over funds and therefore, the timing of implementation.

They also had no input into the content of training sessions organized by the FD. These findings demonstrate that there was very little citizen power in this process. Unfortunately, noteworthy conclusions about the perceived fairness of the processes cannot be made as a result of a lack of data. However, various comments suggested that the lack of follow-through by the Forest and Wildlife Department on projects identified in the microplan was threatening to exacerbate historical conflict in Lata.

6.2.5 Outcomes as Indicators of Effectiveness

As outlined in chapter two, the literature indicates that broad participation has several positive outcomes on both social and practical levels. For example, each sector has inherent strengths and partnerships among the sectors can optimize these advantages, thereby increasing the effectiveness of planning and management efforts. This is particularly important in the natural resource and environmental fields, which are characterized by complexity, uncertainty and conflict (Diduck 2004). It has also been demonstrated that broad participation can improve relationships and build capacity (Webler *et al.* 1995; Sinclair and Diduck 2001; Fitzpatrick and Sinclair 2003). Thus, improved planning, capacity building and improved relationships were the primary indicators of effectiveness used in this study.

In the case of the EDCs, the engagement of the citizens definitely resulted in an improved management system for both solid waste and traffic control. Ultimately, the locals were helping to preserve biodiversity through pollution prevention and in the process were realizing several social benefits. The Lata microplan also improved the effectiveness of FD planning and management, particularly for conservation. A few people in both cases had received some training or had been on an exposure visit but there was no follow up to ensure that knowledge was applied in the local context. As a result, there was a minimal amount of capacity building.

One important and positive outcome was that relationships had improved between the sectors involved in each process. Unfortunately, the newfound trust

that had been developed was threatened from a core operational policy of the Indian government: employee transfers. Building relationships and trust requires time, however, most FD officials are transferred after a period of 5 years. This shortcoming was recognized by both civic and public sector participants that had witnessed the effects of this policy. In fact, shortly after the completion of this research, the Divisional Forest Officer, who had made many positive changes in the NDBR, was transferred out. A significant level of cooperation has been attained, at least in the case of the EDCs. The difficulty now will be sustaining and improving that mechanism.

6.3 Recommendations

The two case studies in this research illustrate that there has been progress in the application of participatory processes in the Nanda Devi Biosphere Reserve. Officials appeared to be genuinely making an effort. If "rhetoric" and "reality" were on a continuum, these case studies would perhaps be slightly closer to reality. However, there is definitely a need to bolster civic and private sector participation in planning and management. This can be accomplished in part by establishing an enabling legislative and policy framework. For example, there lacks specific mechanisms to ensure participatory processes are being applied, particularly in biosphere reserves. Therefore, the existing national *Guidelines for Protection, Maintenance, Research and Development in Biosphere Reserves* (1999) should be revised to include:

1) A reporting mechanism, such that the local committees must report on and be accountable for their activities. This information would then be compiled by the biosphere reserve management authority and made public;
2) A requirement that the biosphere reserve annual plans be developed in cooperation with representatives from local committees and then shared with the communities;
3) A mechanism to improve the openness and transparency of the selection process for microplan eligibility;
4) A requirement that villages receive copies of their microplans and that the microplan be communicated to all villagers; and,
5) A requirement for the BR authority to conduct annual reviews of microplans with the villages.

116

At the state level, a policy should be enacted to ensure that development does not undermine the activities and mandate of biosphere reserves in that jurisdiction. In terms of the Nanda Devi Biosphere Reserve, the reserve authority is not complying with the national *Guidelines* (1999), which state that a local committee be established under the control of a single steering committee to oversee peoples' participation for any given biosphere reserve. There is a small steering committee of "experts," but it meets only sporadically and at the discretion of the Divisional Forest Officer. The steering committee does not appear to set the direction for NDBR development and management activities in a comprehensive fashion. Therefore, the legitimacy of civic sector participation in planning and management would be greatly enhanced if an inclusive committee were established and required to conduct meetings on a regular basis.

The roles of each sector could be strengthened if the breadth and degree of public involvement were improved. This could partially be accomplished if both government officials and community leaders were provided with professional training on effective participatory processes. Responsibilities also need to be clearly defined and formalized. As there is currently no policy or by-law governing operations for revenue-generating EDCs, the Nanda Devi Biosphere Reserve authority should develop, in conjunction with the Bhyundar and Govindghat communities, a clear policy detailing roles, responsibilities and procedures for managing the revenue generated through their activities. An important feature of the market economy is accountability, therefore job descriptions, pay rates and the budget should be clearly delineated and transparent. Several respondents did indicate that the direct monetary benefits from the EDC system were not being distributed equitably. A clear code of practice could institutionalize accountability both to the FD and the broader EDC membership thereby potentially facilitating broader engagement in decision making.

Accountability can also be achieved by establishing a requirement for the EDCs to prepare a written report at the end of each season summarizing all relevant details. This information should be shared with the community at the end of the season at which time everyone could participate in a planning session for

the following season. Looking ahead, there are many types of decisions that could easily involve the broader community, such as defining the purpose and direction of the EDC, identifying the issues facing the EDC, finding solutions, defining operational characteristics (e.g. a code of practice) and establishing monitoring mechanisms. There has been growing pressure to develop additional road infrastructure in the Bhyundar Valley, so the EDC should also play an integral role in any future discussions.

Women and private enterprises should also be included in EDC planning and management activities. The breadth and degree of female participation in the Bhyundar Valley could be increased in a number of ways. For example, separate planning meetings that include the women could be held or alternatively, female representatives could attend meetings and then report back to the women in the village. Women in Pulna or Bhyundar could host travelers if a homestay program was developed and promoted. Women could also produce handicrafts and other local products that could be sold to tourists and pilgrims on the trail. There appeared to be no local products for sale in the area, so this could be an endeavor supported by the EDCs, particularly if the initiative were used to build capacity and educate the people about biodiversity conservation and sustainable development.

The private sector could play a more prominent role by identifying market opportunities and helping to develop the opportunities for high value, biodiversity-based micro enterprises. This strategy, enabled perhaps by a dedicated investment fund, would stimulate civic sector creativity, conservation and the sustainable use of biodiversity. This strategy would also foster local adaptations and economic diversity (and therefore resilience to change).

Planning and management in the NDBR would also be strengthened if inhabitants were involved in systematic monitoring and documentation of the economic and social benefits from conservation. It has been recognized in the literature that awareness of these benefits has been successful at eliciting community participation (Little 1994). This strategy would necessitate increased investments in education and institutional capacity building. Focus areas should

be the significance of biodiversity conservation in mountain ecosystems and effective collaboration techniques. An understanding of the link between participation and conservation definitely needs to be fostered in all three sectors.

Three directions for the new state are being pursued simultaneously: development of the tourism market, high value agriculture and hydro-development. Combined with the new international status of the Nanda Devi Biosphere Reserve, development pressures are on the rise. The lessons learned about participatory processes from these two conservation-related cases should be applied as the state moves forward with these initiatives.

REFERENCES

Agrawal, A. 2001. The Regulatory Community: Decentralization and the Environment in the Van Panchayats (Forest Councils) of Kumaon, India. *Mountain Research and Devlopment.* 21(3): 208-211.

Arnstein, S.1969. "A Ladder of Citizen Participation". *Journal of the American Institute of Planners*. 35 (4): 216-224.

Barber, B. 1984. *Strong democracy : participatory politics for a new age*. Berkeley : University of California Press.

Banerjee, A.K. 2004. Community Based Trail Management and Eco-Tourism Initiatives in the Valley of Flowers National Park Tourism Zone. Unpublished report prepared by the Uttaranchal Forest Department: Nanda Devi Biosphere Reserve.

Barkin, D. and M. Dominy. 2000. Mountain lands: Regions of refuge or ecosystems for humanity? In *Mountains Regions: A Research Subject. Proceedings from the International Mountain Research Workshop in Autrans*.

Batisse, M. (1997) Biosphere reserves: a challenge for biodiversity conservation and regional development. *Environment* 39(5): 8–33.

Baviskar, A. 1999. Participating in Eco-development: The Case of the Great Himalayan National Park. In R. Jeffery and N. Sundar, eds., *A New Moral Economy for India's Forests?* New Delhi: Sage Publications.

Beierle, T.C. 1998. Public Participation in Environmental Decisions: An Evaluative Framework Using Social Goals," Discussion paper 99-06. Washington: Resources for the Future Inc. In A. Dorcey and T. McDaniels, 2001. Great Expectations, Mixed Results: Trends in Citizen Involvement in Canadian Environmental Governance. In E.A. Parson, ed., *Governing the environment's persistent challenges, uncertain innovations*. Toronto: Toronto University Press.

Ibid. 1999. Using Social Goals to Evaluate Public Participation in Environmental Decisions. *Policy Studies Review*. 16 (3-4): 75-103.

Beierle, T.C. and J. Cayford. 2002. *Democracy in Practice: Public Participation in Environmental Decisions.* Washington: Resources for the Future.

Berkes, F. and J.S. Gardner. 1997. Mountain Environments and Sustainability. In *Sustainability of Mountain Environments in India and Canada*. University of Manitoba Copy Centre.

Borrini-Feyerabend, G. 1999. Collaborative Management of Protected Areas. In S. Stolton and N. Dudley, eds, *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas*. London: Earthscan Publications.

Brosius, J.P. and D. Russell. Conservation from Above: An Anthropological Perspective on Transboundary Protected Areas and Ecoregional Planning. *Journal of Sustainable Forestry*. 17(1-2): 39-65.

Brosius, J.P., A.L. Tsing, and C. Zerner. 1998. Representing Communities: Histories and Politics of Community-based Natural Resource Management. *Society and Natural Resources* 11(2):157-168.

Carr, D.S. and K. Halvorsen. 2001. An Evaluation of Three Democratic, Community-Based Approaches to Citizen Participation: Survey, Conversations with Community Groups, and Community Dinners. *Society and Natural Resources*. 14:107-126.

Chambers, R. 1997. *Whose reality counts? Putting the first last*. London: Intermediate Technology.

Chaturvedi, G. 2002. Ecotourism in Gangotri Region of the Garhwal Himalayas. *Tourism Recreation and Research.* 27(3): 41-51.

Chess, C. 2000. Evaluating Environmental Public Participation: Methodological Questions. *Journal of Environmental Planning and Management*. 43(6): 769-784.

Cohen and Uphoff 1977. In Clayton et. al. *Empowering People: A Guidebook to Participation.* A report prepared for the United Nations Development Programme. Accessed February 2006 online at: http://www.undp.org/cso/resource/toolkits/empowering/intro.html

Conley, A. and M.A Moote. 2003. Evaluating Collaborative Natural Resource Management. *Society and Natural Resources*. 16:371-386.

Cortner, H. 1996. Public Involvement and Interaction. In A.W. Ewert, ed., *Natural Resource Management: The Human Dimension*. Colorado: Westview Press Inc.

Creswell, J. W. 1994. *Research design: qualitative & quantitative approaches*. California: Sage Publications

Daily, G.C. 1997. Ed. *Nature's Services.* Washington, DC: Island Press.

Daniels, S.E. and G.B. Walker. 1996. Collaborative Learning: Improving Public Deliberation in Ecosystem-based Management. *Environmental Impact Assessment Review.* 16(2): 71-102.

Daneke, G.A.1977. Public Involvement in Natural Resource Development: A Review of Water Resource Planning. *Environmental Affairs.* 6(1):11-31.

Davey, A.G. 1999. National System Planning for Protected Areas. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas*. London: Earthscan Publications.

Dearden, P. and R. Rollins. 2002. The Times They Are Still A-Changing. In P. Dearden and R. Rollins, eds., *Parks and Protected Areas in Canada.* Oxford: Oxford University Press.

Debarbieux, B. 2002. Mountains in Scientific Research: Status, paradigms and perspectives. In *Mountains Regions: A Research Subject. Proceedings from the International Mountain Research Workshop in Autrans*.

Dichter, T.W. 1989. The Enterprise Concept: A Comment on Innovations in Participatory Approaches to Development. In W.P. Lineberry, ed., *Assessing Participatory Development: Rhetoric Versus Reality.* Boulder: Westview Press.

Diduck, A.P. and A.J. Sinclair 2002. Public Participation in Environmental Assessment: The Case of the Nonparticipant. *Environmental Management*. 29(4): 578-588.

Diduck, A.P. 2004. Incorporating participatory approaches and social learning. In B. Mitchell, ed., *Resource and Environmental Management in Canada: Addressing Conflict and Uncertainty*. Toronto: Oxford University Press, 497-527.

Dramstad, W.E. *et al.* 1996. *Landscape Ecology Principles and Land-Use Planning*. Washington: Island Press.

Dudley, N. *et al.* 1999. Challenges for Protected Areas in the 21st Century. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas*. London: Earthscan Publications.

Dwivedi, O.P. and Kishore, B. 1984. India's environmental policies: a review. In: Singh, Shekhar, ed., *Environmental policy in India*. New Delhi: Indian Institute of Public Administration, 47-84. In J.B. Michael , ed., Nature Reserves of the Himalaya and the Mountains of Central Asia, Oxford:Oxford University Press.

Eagles, P. 2002. Environmental Management. In P. Dearden and R. Rollins, eds., *Parks and Protected Areas in Canada.* Oxford: Oxford University Press.

Francis, G. 1995. PI's perspective on sustainability. Eco-Nexus Eco-Research Newsletter, University of Waterloo:4. In B. Mitchell. *Resource and Environmental Management.* Harlow, England: Pearson Education.

Fiorino, D. 1990. Public Participation and Environmental Risk: A Survey of Institutional Mechanisms. *Science, Technology, and Human Values.* 152:226–243.

Fitzpatrick, P. and A.J. Sinclair. 2003. Learning Through Public Involvement in Environmental Assessment Hearings. *Journal of Environmental Management.* 67(2):161-174.

Forest and Rural Development Commissioner Branch. 2001. *One Year of the FRDC Branch: Uttaranchal in Retrospect.* A report to the Government of Uttaranchal. Dehradun.

Gadgil, M. and R. Guha, 1992. *This Fissured Land: An Ecological History of India.* Los Angeles: University of California Press.

Ibid. 1995. *Ecology and Equity: The use and abuse of nature in contemporary India.* New Delhi: Penguin Books.

Gadgil and Vartak. 1996. The Sacred Groves of Whestern Ghats in India. *Economic Botany* .30(2):160.

Gelhorne, E. 1971. Public Participation in Administrative Proceedings. *The Yale Law Journal* . 81(3):359-404.

Glaser, B.G. and A.L. Strauss. 1967. *The Discovery of Grounded Theory: strategies for qualitative research.* New York: Aldine de Gruyter.

Government of India, 2003. Annual Report 2002-2003. Ministry of Environment and Forests. Accessed February 2004 online at::
http://envfor.nic.in/report/0203/ar-main.htm

Ibid, 1988. National Forest Policy 1988. Ministry of Environment and Forests, Government of India, New Delhi. 13pp. In J. B. Michael, ed., *Nature Reserves of the Himalaya and the Mountains of central Asia.* Oxford: Oxford University Press

Government of India, n.d. Accessed March 2004 online at:
http://upgov.up.nic.in/upinfo/census01/cen01-6.htm

Government of Uttaranchal, n.d. Accessed March 2004 online at:
http://gov.ua.nic.in/chamoli/

Garhwal Post, 2001. *In Many Ways We Are Better Off Than Most States.* 28
January 2001. Accessed March 2004 online at:
http://garhwalpost.com/interview/in_many_ways.html

Gibbs, G. 2002. *Qualitative data analysis: Explorations with NVivo.* Buckingham:
Open University Press.

Grant, J. 2003. *Community, Democracy and the Environment.* Lanham:
Rowman & Littlefield Publishers Inc.

Grumbine, R. E. 1994. What is Ecosystem Management? *Conservation Biology.*
8(1): 27-38.

Guha, R. 1999. The Unquiet Woods: Ecological Change and Peasant
Resistance in the Himalaya (New Expanded Edition). In *The Ramachandra
Guha Omnibus.* Oxford: University Press.

Handa, O.C. 2002. *History of Uttaranchal.* Indus Publishing Company, New
Delhi.

Hanna, S. and S. Jentoft. 1996. Human Use of the Natural Environment: An
Overview of Social and Economic Dimensions. In S.S. Hanna *et al.,* eds,
*Rights to Nature: Ecological, Economic, Cultural and Political Principles of
Institutions for the Environment.* Washington: Island Press.

Hannam, K. 1999. Environmental Management in India: Recent Challenges to
the Indian Forest Service. *Journal of Environmental Planning & Management.*
42(2):221-234.

Halvorsen, K. 2001. Assessing Public Participation Techniques for Comfort,
Convenience, Satisfaction and Deliberation. *Environmental Management.* 28
(2):179-186.

Hardin, G. 1968. The Tragedy of the Commons. *Science.* 162: 1243-1248.

Hermann, H. *et al.* 2003. The Growing Role of the Commission for
Environmental Cooperation in Biodiversity and Protected Area Planning in
North America. In J.G. Nelson *et al.,* eds, *Protected Areas and the Regional
Planning Imperative in North America.* Calgary: University of Calgary Press.

Hobley, M.1996. *Participatory Forestry: The Process of Change in India and
Nepal.* London: Overseas Development Institute.

Holland, J. and J. Blackburn (eds). 1998. *Whose Voice? Participatory research and policy change.* London: Intermediate Technology Publications.

Human, J. and M. Pattanaik. 2000. *Community Forest Management: A Casebook from India.* London: Oxfam GB.

Hunt, L. and W. Haider. 2001. Fair and Effective Decision Making in Forest Management Planning. *Society and Natural Resources.* 14:873-887

IBWL (Indian Board for Wildlife), 1970. *Wildlife Conservation in India. Report on the Expert Committee.* New Delhi: Government of India, 149pp. In J. B. Michael, ed., *Nature Reserves of the Himalaya and the Mountains of central Asia.* Oxford: Oxford University Press

IUCN (The World Conservation Union) and J.B. Michael, ed., 1993. *Nature Reserves of the Himalaya and the Mountains of central Asia.* Oxford: Oxford University Press

IUCN (The World Conservation Union). 1997. *Indigenous peoples and sustainability. Cases and actions.* Utrecht: International Books. In S. K. Nepal, 2002. Involving Indigenous People in Protected Area Management: Comparative Perspectives from Nepal, Thailand and China. *Environmental Management.* 30 (6): 748-763.

IUCN/WWF. 2000. Indigenous and Traditional Peoples and Protected Areas: Principles, guidelines and case studies. (Ed) Javier Beltrán. Best Practice Protected Area Guidelines Series No. 4

IUCN. 2003. A Guide to Securing Protected Areas in the Face of Global Change. Accessed March 2004 online at: www.wri.org

Institute of Development Studies. Accessed March 2004 online at: http://www.ids.ac.uk/ids/particip/index.html

Jeanrenaud, S. 1999. People-Orientated Conservation. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas.* London: Earthscan Publications.

Jeffrey, R. and N. Sundar. 1999. *A New Moral Economy for India's Forests?* New Delhi: Sage Publications.

Kala, C.P. 2002. Paradise Under Fire. *Down To Earth*, 11(2): 46-48. Accessed online April 2004 at: http://www.geocities.com/cpkala/

Kandari, O.P. and O.P. Gusain., 2001. *Garhwal Himalaya: Nature, Culture & Society.* Srinagar: Suresh Bhatt for Transmedia, Media House.

Kemf, E.1993. In Search of a Home: People Living in or Near Protected Areas. In E. Kemf, ed., *The Law of the Mother: Protecting Indigenous Peoples in Protected Areas.* Sierra Club Books, San Francisco. 3-11.

Kishore, R. 1998. India's Protected Areas Eco-development Strategy: Working With Local Communities. *Environments.* 26(1): 29-37.

Kuniyal, J.C., A.P. Jain and A.S. Shannigrahi. 1998. Public Involvement in Solid Waste Management in Himalayan Trails in and Around the Valley of Flowers, India. *Resources, Conservation and Recycling*, 24(3&4):299-322.

Kunwar, M.S. n.d. "Building a Model Plan for Biodiversity Conservation and Socioeconomic Development of the People in the Buffer Zone of the Valley of the Flowers National Park Based on Sustainable Eco-tourism". Himalayan Action Resource Centre. Abstract accessed March 2004 online at: http://gbpihed.nic.in/envis/HTML/vol10_2/chp10.PDF

Labaree, J.M. 1992. *How Greenways Work: A Handbook on Ecology*. National Park Service's Rivers and Trails Conservation Assistance Program. Accessed April 2004 online at: http://www.americantrails.org/resources/greenways/NPSintroGrnwy.html

Lauber, B.T. and B.A. Knuth. 1999. Measuring Fairness in Citizen Participation: A Case Study of Moose Management. *Society and Natural Resources.* 11:19-37.

Leitmann, J. 1998. Options for Managing Protected Areas: Lessons Learned from International Experience. *Journal of Planning and Management.* 41:129-143.

Little, P.D. 1994. The Link Between Local Participation and Improved Conservation: A Review of Issues and Experiences. In D. Western *et al.* eds., *Natural Connections: Perspectives in Community-based Consveration*. Washington: Island Press.

Lothian, W.F. 1976. *History of Canada's National Parks*, vols.1 and 2. Ottawa: Parks Canada, Minister of Northern Affairs. In P. Dearden and R. Rollins, eds., *Parks and Protected Areas in Canada.* Oxford: Oxford University Press.

Lynch, O.J. and J.B. Alcorn. 1994. Tenurial Rights and Community-based Conservation. In D. Western *et al.* eds., *Natural Connections: Perspectives in Community-based Consveration*. Washington: Island Press.

Maikhuri, R.K. *et al.* 1999. Management Planning for the Nanda Devi Biosphere Reserve. *Himalayan Biosphere Reserves.* 1:1&2. 73-83.

Maikhuri, R.K. *et al.* 2000. Analysis and Resolution of Protected Area-People Conflicts in Nanda Devi Biosphere Reserve, India. *Environmental Conservation.* 27(1): 43-53.

Mawdsley, E. 1999. A New Himalayan State in India: Popular Perceptions of Regionalism, Politics and Development. *Mountain Research and Development.* 19(2):101-112.

Maps of India. n.d. Online: www.mapsofindia.com.

McCool, S. and K. Guthrie. 2001. Mapping the Dimensions of Successful Public Participation in Messy Natural Resource Management Situations. *Society and Natural Resources.* 14:309-323.

McKay, L. 2001. *Cross-scale Issues in the Management of Protected Areas in India.* Unpublished Masters Thesis. The University of Manitoba

McMullin, S.L. and L.A. Nielsen. 1991. Resolution of Natural Resource Allocation Conflicts Through Effective Public Involvement. *Policy Studies Journal.* 19 (3-4): 553-559.

McNamee, K. 2002. From Wild Places to Endangered Spaces: A History of Canada's National Parks. In P. Dearden and R. Rollins, eds., *Parks and Protected Areas in Canada.* Oxford: Oxford University Press.

McNeely, J. 1999. Protected Area Institutions. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas.* London: Earthscan Publications.

Merriam, S.B. 1988. *Case study research in education: A qualitative approach.* San Francisco: Jossey-Bass.

Messerli, B. 2002. Remarks Delivered by Professor Bruno Messerli at the Official IYM2002 Launch. *Mountain Research and Development.* 22 (1): 80-81.

Miller, K., 1999. Bioregional Planning and Biodiversity Conservation. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas.* London: Earthscan Publications.

MoEF 2004. Annual Report 2003-2004. Ministry of Environment and Forests, Government of India. Accessed June 2005 online at: http://envfor.nic.in/

Mitchell, B. 2002. *Resource and Environmental Management*. Harlow: Pearson Education.

Mitra, D.K. 1989. A note on the ancient history of nature and wildlife conservation in India. *Zoo's Print* 4(12):13. In J.B. Michael, ed., *Nature Reserves of the Himalaya and the Mountains of central Asia*. Oxford: Oxford University Press.

Moote, M.A. *et al.* 1997. Theory in Practice: Applying Participatory Democracy Theory to Public Land Planning. *Environmental Management*. 21(6): 877-889.

Nautiyal, S. *et al.* 2003. Transhumant pastoralism in the Nanda Devi Biosphere Reserve, India. *Mountain Research and Development*. 23:3. 255-262.

Nepal, S. K. 2002. Involving Indigenous People in Protected Area Management: Comparative Perspectives from Nepal, Thailand and China. *Environmental Management*. 30 (6): 748-763.

Overdest, C. Participatory Democracy, Representative Democracy, and the Nature of Diffuse and Concentrated Interests: A Case Study of Public Involvement on a National Forest District. *Society & Natural Resources*, 13:685-696.

Oviedo, G. and Brown, J. 1999. Building Alliances with Indigenous Peoples to Establish and Manage Protected Areas. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas*. London: Earthscan Publications.

Pachauri, R.K. and P.V. Sridharan. 1998. *Looking Back to Think Ahead: Green India 2047*. Delhi: Replika Press Pvt. Ltd.

Palerm, J.R. 2000. An Empirical-Theoretical Analysis Framework for Public Participation in Environmental Impact Assessment. *Journal of Environmental Planning and Management*. 43(5): 581-601.

Parenteau, R. 1988. *Public Participation in Environmental Decision making*. Ottawa: Minister of Supply and Services.

Pimbert, M.P. and Pretty, J.N. 1994. Participation, people and the management of national parks and protected areas: Past failures and future promise. United Nations Research Institute for Social Development, IIED, WWF, mimeo. In IIED, *Whose Eden? An overview of community approaches to wildlife management.* A report to the Overseas Development Administration of the British Government.

Poiser, J. 1996. A civic republican perspective on the National Environmental Policy Act's process for citizen participation. *Environmental Law*. 26:53-94. In K. Halvorsen, Assessing Public Participation Techniques for Comfort, Convenience , Satisfaction and Deliberation. *Environmental Management*. 28 (2):179-186.

Price, M. 2000. Finding Shared Concerns in and for the Mountains? In *Mountains Regions: A Research Subject. Proceedings from the International Mountain Research Workshop in Autrans.*

Ozbekhan, H. 1969. Towards a general theory of planning. In L.G. Smith, Mechanisms for Public Participation at a Normative Planning Level in Canada. *Canadian Public Policy*. 8(4): 561-72.

Phillips, A. and J. Harrison. 1999. The Framework for International Standards in Establishing National Parks and Other Protected Areas. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas*. London: Earthscan Publications.

Ramakrishnan, P.S. *et al.* 2000. *Mountain Biodivesity, Land Use Dynamics and Traditional Ecological Knowledge*. New Delhi: Oxford & IBH Publishing Co. Pvt. Ltd.

Ramirez-Sanz, L. *et. al.* 2000. A Methodology for Environmental Planning in Protected Natural Areas. *Journal of Environmental Planning & Management*. 43(6): 785-799.

Rawat, R. 2004. The Nanda Devi Campaign: Cultural Survival & Sustainable Livelihoods in the High Himalayas. Information booklet.

Rangan, H. 1996. From Chipko to Uttaranchal: development, environment and social protest in the Garhwal Himalayas, India. In R. Peet and M. Watts (Eds.), *Liberation Ecologies*, London, Routledge, 205-226.

Rodgers, W.A. 1990. The Conservation of the Wildlife Resources of the Himalayas. In N.K. Sah *et al.* eds., Himalaya*: Environment Resources and Development.* Almora: Shree Almora Book Depot.

Roseland, M. 1992. *Toward Sustainable Communities: A resource book for municipal and local governments*. Canada: The Alger Press.

Russell, D. and C. Harshbarger. 2003. *Groundwork for Community-Based Conservation: Strategies for Social Research*. California: Altamira Press.

Sayer, J. 1999. Globalization, Localization and Protected Areas. In S. Stolton and N. Dudley, eds., *Partnerships for Protection: New Strategies for Planning and Management for Protected Areas*. London: Earthscan Publications.

Sharma, R. 1994. Learning from experiences of joint forest management in India, *Forest, Trees and People Newsletter* 24: 36-41. In M. Hobley, *Participatory Forestry: The Process of Change in India and Nepal.* London: Overseas Development Institute.

Shepard, A. and C. Bowler. 1997. Beyond the Requirements: Improving Public Participation in EIA. *Journal of Environmental Planning and Management.* 40(6): 725-738.

Silori, C.S. and R. Badola. 2000. Medicinal plant cultivation and sustainable development. *Mountain Research and Development.* 20:3. 272-279.

Sinclair, A.J. and A.P. Diduck, 1995. Public Education: An Undervalued Component of the Environmental Assessment Public Involvement Process. *Environmental Impact Assessment Review.* 15(3): 219-240.

Ibid. 2001. Public Involvement in EA in Canada: A Transformative Learning Perspective. *Environmental Impact Assessment Review.* 21(2): 113-136.

Ibid. 2005. Public participation in Canadian environmental assessment: enduring challenges and future directions. In *Environmental Impact Assessment Process and Practices in Canada*, K.S. Hanna (ed.). Oxford University Press, Don Mills, pp. 53-74.

Singh, R.L. 2000. *Development and Introduction of the Eco-development Microplan for the Corbett Tiger Reserve*. Guidelines prepared fro the Uttaranchal Forest Department.

Singh, S. 1994. Tiger conservation through eco-development – A conceptual framework. Paper presented at the first meeting of Tiger Range States to set up a Global Tiger Forum, March, New Delhi. In S. Singh and A. Sharma, 2004. Eco-development in India. In T.O. McShane and M.P. Wells eds., *Getting Biodiversity Projects to Work*. New York: Columbia University Press.

Slocombe, S. and P. Dearden. 2002. Protected Areas and Ecosystem-Based Management. In P. Dearden and R. Rollins, eds., *Parks and Protected Areas in Canada*. Oxford: Oxford University Press.

Smith, L.G. 1982. Mechanisms for Public Participation at a Normative Planning Level in Canada. *Canadian Public Policy.* 8 no. 4: 561-72.

Ibid. 1983. The Evaluation of Public Participation in Water Resources Management: A Canadian Perspective. In A.P. Diduck, 2004. Incorporating participatory approaches and social learning. In B. Mitchell *Resource and Environmental Management in Canada*. Harlow, England: Pearson Education.

Smith, P.D. and M.H. McDonough. 2001. Beyond Public Participation: Fairness in Natural Resource Decision Making. *Society & Natural Resources*. 14(3): 239-49.

Smythe, F. 1947. *The Valley of the Flowers*. Hodder & Stoughton Ltd., London.

Srivastava, S.C.N. n.d. *Management Plan for Valley of Flowers National Park*. Wildlife Preservation Organization, Forest Department Uttar Pradesh.

Stevens, S. 1997. The Yellowstone legacy. In S. Stevens, ed., *Conservation through cultural survival: Indigenous peoples and protected areas.* Washington, DC: Island Press.

Tata Consultancy Services, 2003. *Masterplan for Eco-Tourism in the Valley of Flowers-Hemkund Belt.* Draft Report prepared for the Department of Tourism, Government of India.

Theberge, J.C. and J.B. Theberge. 2002. Application of Ecological Concepts to the Management of Protected Areas. In P. Dearden and R. Rollins, eds., *Parks and Protected Areas in Canada*. Oxford: Oxford University Press.

Thomas, J.C. 1995. *Public Participation in Public Decisions: New Skills and Strategies for Public Managers*. San Francisco: Jossey-Bass Inc.

Tuler, S. and T. Webler. 1999. Voices from the Forest: What Participants Expect of a Public Participation Process. *Society and Natural Resources*. 12:437-453.

Tyler, T.R. 1987. Conditions leading to value expressive effects in judgements of procedural justice: A test of four models. *Journal of Personality and Social Psychology* Vol.52 (2):333-344.

UNDP. 1997. *Empowering People: A Guide to Participation*. Accessed February 2006 online at:
http://www.undp.org/cso/resource/toolkits/empowering/intro.html

UNEP-WCMC and the IUCN. No date. World Database on Protected Areas. Accessed January 2004 online at: http://sea.unep-wcmc.org/wdbpa/

UNESCO 2000. *Solving the Puzzle: The Ecosystem Approach and Biosphere Reserves.* UNESCO, Paris. Accessed June 2005 online at: http://www.unesco.org/mab/index/shtml

Uttaranchal community website. No date. Accessed January 2004 online at: http://www.uttaranchal.ws/nwst.htm

Uttaranchal Forest and Wildlife Department, 2002. *The Landscape Management Plan of the Nanda Devi Biosphere Reserve 2003-2004 to 2012-2013.* Unpublished document.

Wallsten, P. 2003. The "Inside-Out" Process. *Mountain Research and Development* 23(3):227-229.

Webler, T. H. Kastenholz and O. Renn. 1995. Public Participation in Impact Assessment: A Social Learning Perspective. *Environmental Impact Assessment Review.* 15(5): 443-63.

Webler, T. *et al.* 2001. What is a Good Public Participation Process? Five Perspectives from the Public. *Environmental Management.* 27(3): 435-450.

Weddell, B.J. 2002. *Conserving Living Natural Resources in the Context of a Changing World.* Cambridge: Cambridge University Press.

WCED (World Commission on Environment and Development) 1987. *Our Common Future.* Oxford: Oxford University Press.

World Resources Institute, 2003. Accessed February 2004 online: www.wri.org

Yadav, R. 1998. Environmental Impacts of Vishnuprayag Project, Garhwal Himalaya. In B.D. Sharma, ed., *Himalayan Natural Resources: Eco-Threats and Restoration Study.* New Delhi: Indus Publishing.

Yin, R. K. 1989. *Case Study Research: Design and Methods.* Newbury Park: Sage Publications.

Appendix A - Evaluation Framework

Context Attributes

Type of Issue
- Policy level vs. site specific
- Site characteristics
- Planning process vs. management process
- Scope
- Problem complexity

Institutional setting
- Legislative framework
- Level of governments involved
- Identity of lead agency
  – Relationship to problem (manager of problem or cause of problem)
- Leads agency's level of involvement
- Complexity of jurisdictions over problem
- Whether participation was discretionary

Preexisting Relationships
- Conflict among public
  Among participants
  In the wider public
- Mistrust of government
  Between participants and agency
  Between public and agency

Other issues
- Roles of private and civic sectors
- Location
- Dates

Process Attributes

Types of Mechanisms and Characteristics
- Types of mechanisms used
- Use of consensus
- Use of a facilitator
- Type of outputs (information, recommendations or agreement)
- Duration and frequency
- Scope of tasks (what the process was meant to accomplish)
- Clarity of purpose
- Atmosphere (respectful)

Breadth of Involvement
- Ongoing participation versus a finite event
- Access to information (physical and cognitive)
- Types of participants
    - Participants access to process (open vs. selection process)
    - Average vs. elite
    - Active vs. inactive
    - Representativeness
- Capacity of Participants
    - Public
    - Private
    - Civic

Degree of Control (public, private, civic)
- Bottom up versus top down
- Timing of participation
- Over process execution
- Over determination of scope
- Over decisions

Other features
- Participants understanding of their role and the process goals
- Perceived fairness of process

Outcomes and Implementation Attributes

Improved Planning
- Use of local knowledge (environmental, social, economic)

Relationships
- Resolving conflict among competing interests
    - Issues avoided
    - Interests missing
- Building trust in institutions
- Internal trust formation (among participants)

Capacity building
- Educating and informing the public
    - Wider public education (outreach)
    - Social learning (horizontally, vertically)
- Creation of an organization to pursue future work
- Participants motivation to continue working on issue

Motivation of Participants
- Optimism
- Public's commitment to issue
- Public's perceived influence on process
- Public's perceived influence on policy outcomes

Other evaluation information
- Participants evaluation of case
- Evaluation by other institutions

Implementation
- Stage of implementation
- Likelihood of implementation
- Forces other than public participation influencing implementation

* Adapted from Beierle 1999, Beierle and Cayford 2002, Diduck, 2004, Shepherd and Bowler 1997

Appendix B - Interview Guides

Biosphere Reserve (General)

Public Sector
1. What federal or state legislation, policies, and/or planning documents exist that are applicable to biosphere reserves?
2. Is there a management plan?
3. What are the management activities? (Enforcement, maintenance, tourists, fire, monitoring, education?)
4. What is the role of the NDBR monitoring committee? How often do you meet?
5. Is there any mandate to involve citizens in planning or management processes?
6. Are there any official guidelines or policies for developing microplans in the state?
7. What is your role in planning and management of the biosphere reserve?

Eco-development in the Bhyundar Valley

Public Sector
1. How many EDCs were formed in 1999? How many exist now? How have they changed (responsibilities & status)?
2. How did the EDC Bhyundar form?
3. How did EDC Govindghat form?
4. What is the purpose of these EDCs?
5. How do people get their jobs/roles with the EDC?
6. Do the EDCs have to provide written reports to you on their income, expenditures, and activities?
7. Do the EDCs have a set of by-laws or guiding rules?
8. Does the FD have to approve all activities & expenditures? Is there a threshold?
9. What is the purpose of the EDC Bhyundar?
10. How were the various rates set? (ecofees, mule rates) Who was involved?
11. What have been the positive/negative effects of the establishment of the EDCs?
12. Has the community's relationship with your department changed? How?
13. How do you think the citizens perceive the EDC system? (Fair? Satisfied?)

Civic Sector
1. Were you involved in the cleanup of the trail? How? What led to the cleanup?
2. Are you an EDC member? Since when?
3. What is your role with the EDC?
4. Have you always done this activity? If not, what else have you done as a member of the EDC?

5. How do people get their jobs/roles with the EDC?
6. How often are EDC meetings held?
7. How do you find out about the date/time of the meeting?
8. Who else attends the EDC meetings? (Forest department, mule owners, porters, Gurudwara employees?)
9. Do you think forest department employees, mule owners, porters, or Gurudwara employees should attend the meetings/have an opportunity to join the EDC? Why/why not?
10. Who makes decisions within the EDC?
11. Are all decisions made at EDC meetings?
12. Did you attend the planning meeting in May?
13. What types of decisions were made at this meeting? By whom?
14. Did you have the opportunity to present your views/participate in the decision making?
15. What was the atmosphere like at the meeting?
16. In your opinion, are suggestions from all EDC members seriously considered by the EDC executive board?
17. What do you think of the decision-making process? Is it fair?
18. How is the FD involved in managing the trail?
19. How is the District Panchayat involved in managing the trail?
20. Now that the EDC is established, what should be the role of the FD/District Panchayat?
21. Is there anything else you think the community should be doing to manage the trail?
22. Does the FD have the final say in how the EDC spends its money?
23. Should the FD continue to have the EDC books audited?
24. What have been the positive/negative effects of the establishment of the EDC?
25. Would you say the community's relationship with the FD/District Panchayat has stayed the same, improved or decreased? Why?

For the women in Bhyundar Village:
1. Were you involved in the cleanup of the trail? How? What led to the cleanup?
2. Who paid?
3. How was the new teashop system determined for the trail?
4. Were you asked to be involved in any other way after the cleanup? Would you like to be? How?
5. Are you an EDC member?
6. What does that mean?
7. What is the role of the EDC?
8. Have you ever been invited to EDC meetings?
9. Who attended the meeting in May?
10. How are decisions made?
11. Does the EDC ever discuss finances with the village?
12. What is the role of the FD?

13. What have been the effects (positive or negative) of the new EDC system?

Private Sector
1. How many years have you been working here?
2. Are you a local person?
3. Are you a member of the EDC?
4. Would you like to be an EDC member?
5. Have you been given the opportunity to be a member of the EDC? Do you think shopkeepers/mule owners/porters/sweepers/Gurudwara managers should be given the opportunity? What would be the role?
6. Have you ever attended any of the EDC meetings? Would you like to? Do you know when they are held?
7. What should be the role of the EDC? Forest Department?
8. What do you think of the new registration system? Fixed rate system? Mule rotation system?
9. Did you have an opportunity to participate in the decisions related to these systems? How so?
10. Do you understand why there is an eco-fee?

Microplanning

Public Sector
1. Who selects the villages for microplans?
2. How are villages selected for a microplan?
3. Is there a state policy or regulation requiring you to do microplans?
4. What was the purpose of the Lata microplan?
5. What have been the reactions of the Lata villagers to the microplanning process?
6. Do you believe that the locals have a higher degree of trust in the government after this process? Has the relationship changed at all?
7. How do you think the citizens perceive the EDC system? (Fair? Satisfied?) Microplanning process used in Lata?

For the Social Researchers:
1. How long were you working for the FD doing microplans? What villages did you prepare plans for?
2. What was the purpose of the Lata microplan?
3. What was the microplanning process in Lata?
4. What do you think of the process? Benefits? Shortcomings?
5. How long did it take?
6. What was the attendance like at the meetings? What was the atmosphere like?
7. Who determined meeting times and locations?
8. Did trust levels change through this process?

9. Did the FD cancel any of the villagers' ideas in the final plan?
10. Is the private sector involved in the microplanning process? Do you think they could or should play a role? What kind of role?

Civic Sector

1. Has your community produced a microplan? When? Is it the first time?
2. Were you involved in the development of the microplan? How?
3. How was it developed? (Who came, how many meetings, what was accomplished at each meeting?)
4. What do you think is the purpose of the microplan? (What were you hoping the plan would do?)
5. What was good/positive about the process? Why?
6. Can you recommend any improvements to the process?
7. Did you learn anything in the process? What?
8. What have been the results?
9. What is the structure of the microplanning committee?
10. How were people selected?
11. What was the role/responsibility of members on the committee?
12. How often does the committee meet?
13. Are people in the community allowed to see the meeting ledgers?
14. How are decisions made?
15. Does the community have a copy of the micro-plan?
16. Did you know that the FD produces a plan for the NDBR every year and that your micro-plan contributes to the annual plan?
17. What is the role/responsibility of the FD?
18. Is there any other way you think the community should be involved in planning or managing the NP or NDBR?
19. Did the NGO team (social researchers) indicate how much funding is available?
20. Did anyone discuss the type of projects that would be acceptable? Conservation goals?
21. Has the FD ever cancelled any of your plans? How do you know? If so, why?
22. Has the relationship between the FD and the community changed at all? If so, how?
23. Has the employment generated from the microplan helped?
24. Is the private sector involved in the microplanning process? Do you think they could or should play a role? What kind of role?
25. What was the purpose of the NGO visit (social researchers)?

Appendix C – Activity Template

Name of the Village…………………

Proposed work	Proposed place of work	Proposed beneficiary names	Proposed part donation
1. Distribution of wool			
2. Poultry farming			
3. Gas Connection			
4. Solar light			
5. Soil protection work (a) Check dam (b) Spur (c) Retaining wall			
6. Herbs – agriculture or plantation			
7. Fruit plantation			
8. Barn development			
9. Water connection			
10. Not sure			
11. Development of track route and maintenance			
12. Inspection program			

Any suggestions you may want to give –

Name-
Principal-
Stamp-

Note: You may write on the back of this page too, if needed. You may use additional paper if you need more space.