

**Partnerships in Conservation and Development:  
Institutional Linkages in the Equator Initiative  
Program Cases**

By

Tikaram Adhikari

A Thesis

Submitted to the Faculty of Graduate Studies  
in Partial Fulfillment of the Requirement  
For the Degree

**Master of Natural Resources Management (M.N.R.M)**

**Natural Resources Institute**  
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**Master of Natural Resources Management**

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## Abstract

The thesis examines that in the Equator Initiative Program cases communities are involved in reducing poverty and increasing conservation of biodiversity resources simultaneously through practice of partnerships and institutional linkages. The partnerships and cross-level institutional interactions synergistically create horizontal and vertical linkages promoting community-based conservation and development. It provides case examples of community-based management illustrating the importance of involving people in conservation while engaging in varieties of sustainable livelihood practices.

The objectives of the study are:

- 1) to research the types of partners and cross-scale institutional linkages (vertical and horizontal) in the Equator Initiative cases related to forestry/agro-forestry, medicinal plants, and non-timber forest products.
- ii) to identify the kinds of partnerships such as business networking, fundraising, training/research, institutional building and others in these three categories of cases and their impact on community empowerment; and
- iii) to derive possible lessons applicable to other contexts from these partnerships and cross-level institutional linkages that integrate conservation and development facilitating community-based entrepreneurial initiatives and community development.

These objectives were addressed by generating tables from the Equator Initiative database, use of the qualitative data analysis software Nvivo, for coding data and review of case descriptions following grounded theory framework.

This study analyzed the types of partners and kinds of partnership and confirmed that the communities in the Equator Initiative Program cases practice partnerships and cross-level institutional linkages. The types of partners played a facilitative and supportive role linking horizontally with other communities and vertically with political organizations at higher levels such as state/provincial, regional, national and international levels. Interactions among community organizations such as farmers associations, labour unions, Non-Government Organizations, village elders, local government and others created horizontal linkages, further supported by vertical linkages. These institutional linkages synergistically complemented each others efforts and enhanced community development.

The kinds of partnerships such as business networking; provision of funding; providing legal, institutional and technical support; and many others facilitated holistic development of the communities including biodiversity conservation, poverty reduction, community empowerment and sustainable livelihood. Communities in the Equator Initiative Program cases tended to rely on multiple products and activities very often started with social or community orientation. The partnerships symbolized enhancement of community assets representing continuous growth of social, ecological, financial, and human capital.

This research concludes that the Equator Initiative Program cases provide good examples of community partnerships that have facilitated a varieties of ways in which communities in Africa, Asia and Latin America and the Caribbean have reduced poverty, promoted biodiversity conservation, community empowerment and sustainable livelihood.

## Acknowledgements

I am grateful to many individuals and institutions who supported my study, some directly and others indirectly. I take this opportunity to acknowledge that support and cooperation.

My advisory committee is comprised of Dr. Fikret Berkes, Dr. Emdad Haque, and Dr. Ian Davidson-Hunt from the Natural Resources Institute, and Dr. Wanda Wuttunee from the Department of Native Studies, all from the University of Manitoba. It was a great opportunity for me to be guided by the committee and this guidance allowed me to mature academically. I would like to thank them sincerely for their advice, feedback, and guidance throughout my research period.

Dr. Berkes served as advisor and academic mentor. Beginning with the conceptualization of the research proposal to the completion of this thesis, he has been a continuous source of inspiration, guidance, and support. It has been an academically very enriching experience for me. I would like to thank Dr. Berkes for continuous feedback to my work, guiding me through out and helping to complete this study. It is an honour to have co-authored a peer-reviewed article with Dr. Berkes that laid the foundation for this thesis and I am highly grateful for being allowed to use the Equator Initiative Database for this work. I gratefully acknowledge the financial support provided by the International Development Research Center (IDRC) and Canada Research Chair in Community-Based Resource Management (<http://www.chairs.gc.ca>) held by Dr. Fikret Berkes. This research would not have been possible without this support.

I would like to thank Sean Southey, Michael Hooper, Elspeth Halverson, and the UNDP for access to the Equator Initiative database, Brian Davy of the International Development Research Centre (IDRC) and Cristiana Seixas for inspiration and assistance. I thank Cristiana Seixas for allowing me to refer to the interview notes of the 2004 Equator Initiative Prize finalists.

The Faculty of Education, where I work, had been very supportive and understanding of my research. I would like to particularly thank the Dean, John Wiens, Faculty of Education for his inspiration; Rita Courchaine, Manager, Finance and Administration for understanding, moral support and allowing me some time adjustments from work; and Julianna Enns for helping me with language editing.

I would like to thank Ms. Nancy Powell Quinn who introduced me to Nvivo and partnership literature, Mr. Rajendra Timsina and Mr. Carlos Julian Idrobo who helped me to construct a diagram and set up table of contents.

Finally, I am profoundly appreciative and grateful to my wife, Uttara and children – Ashika, Anamika, and Aviskar for being so patient with me during the long study periods in the library, running the family and making time available for me to complete this thesis. Completion of this research would not have been possible without their cooperation and sacrifice.

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# Chapter One

## Introduction

### 1.1 Conservation and development interface

Conservation and development have been organized and conducted in different forms. In broader terms, conservation-oriented practices historically viewed local community welfare and development as directly conflicting with the objective and practice of biodiversity conservation (Brown, 2002; Agrawal and Gibson, 1999). Conservation was practiced by creating protected areas. Conservation objectives were not met effectively by these traditional, exclusionary approaches to protected areas using ‘fortress conservation’ or ‘fences and fines’ (Brown, 2002). These approaches are top-down; controlled by the government and exclude local resource users and communities living close to the resources. In this approach it is viewed that communities are a threat to biodiversity conservation since they extract these resources and their livelihood is dependent on them. Often with the practice of ‘fences and fines’, those who have long exercised stewardship over a resource are excluded (Ostrom et al., 1999).

However, in the last few decades, there has been a paradigm shift in conservation thinking under the rubric of ‘new conservation’ in which there had been trends to shift the societal locus of conservation from the state to the local level and community-based approach, with a focus on participation of local communities in conservation (Hulme and Murphree, 1999). The ‘new conservation’ is also a belief in the contribution that markets can make to the achievement of conservation goals (Hulme and Murphree, 1999). There

is a growing recognition for community approaches, accepting people as potential partners in sustainable development strategies rather than as threats (Brown, 2002). What incentives and drivers are promoting communities' interest in active involvement with natural resources management in recent years?

The attempts to integrate development with conservation in the community-based approach, putting people at the forefront, have achieved some success through the integrated conservation and development projects of the 1980s, community-based conservation of the 1990s and emerging trends in resource management. Evidence from these experiences suggests that programs must be based on the active support of local resource users by providing appropriate incentives and institutional support (Mahanty, 2002). Hulme & Murphree (2001), accounting for the failure of state centric conservation practice in Africa, argue that conservation should involve the community rather than being purely state-centric; and that rural Africans should not be seen as degraders of the environment but as local heroes. Conversely, critics have pointed out that even these people-oriented approaches to conservation have largely failed to achieve their main goal - the protection of biological diversity - because key aspects of social and political processes that shape how conservation interventions happen in specific contexts are ignored (Wilshusen et al., 2002). It is believed that integrating biodiversity conservation and social and economic development have floundered due to impracticality of the approaches used, and the misconceptions about community, participation, empowerment and sustainability (Brown, 2002).

Using two case studies of innovative initiatives in integrated conservation and development (ICD), a marine protected area in the Caribbean, and extractive reserves in Brazilian Amazonia, Brown (2002) concludes that fundamental changes to institutions, management and decision-making strategies are necessary to address these issues and to effectively meet the goals of conservation and development. One aspect of this growing recognition for institutional changes and management practice is involvement of various actors in resource management. With regard to common pool resources "it is obvious that for thousands of years, people have self-organized to manage common-pool resources, and users often do devise long-term, sustainable institutions for governing the resources" (Ostrom et al., 1999). In the literature, complexities of institutional interplay in the management of commons requiring cooperation of different actors at various levels are recognized (Berkes, 2006; Young, 2006 and 2002; Agrawal, 2002). There is an emphasis that community-based resource management needs to deal with multiple levels of governance and external drivers of change (Berkes, 2006). Some underscore the role of relationships and networks between actors in conservation and development intervention, finding that practitioners need to focus on negotiation and network building as a central rather than subsidiary part of the intervention process (Mahanty, 2002).

Others argue that, in previous analysis, the state was the central governing actor; in newer ones, state-society relations are the focus (Kooiman, 2003; Graham et al., 2003). Day-to-day governing occurrences appear to be complex, layered interaction processes enacted between a variety of unpredictable actors within discrepant interests and ambitions (Kooiman, 2003). Even for corporations (Waddock, 1988) and governments (Wildridge

et al., 2004), especially with the modernization agenda and with the forces of globalization, it is no longer effective for organizations to work independently. Within the public, private and voluntary sectors, the need for partnerships, often cross-sectoral or beyond the boundaries (both institutional and geographical), is recognized as a vital component of success (Wildridge et al., 2004).

As in managing natural resources, collaboration and cooperation among various actors, including civil society groups (comprising of voluntary civic, social and commercial organizations) have been a trend in development, and it is becoming more common now. There is an emerging trend of institutional interplay, both in development and conservation. Partnership is one important institutional mechanism in that process. Recognizing partnerships as a significant vehicle for implementing rural development policy in Britain's scalar hierarchy of the state, for example has been influential in structuring the levels and territories of partnerships (Edwards et al., 2001). Despite an apparent devolution of the public face of governance, the state remains crucial in governing the process of governance through partnerships (Edwards et al., 2001).

Sen (1999) proposes a development-as-freedom of actions and decisions perspective, requiring efforts in expansion of the capabilities of persons. He perceives development as promoting the well-being of those at the bottom of society. Development requires the removal of major sources of un-freedom such as poverty, tyranny, poor economic opportunities, social deprivation, neglect of public facilities, intolerance and over-activity of repressive states (Sen, 1999). Similarly, Chambers (1995) believes that realities of the

poor are local, diverse, often complex and dynamic, and notes the neglected dimensions of deprivation. Development should enable poor people to analyze and to articulate their own needs (Chambers, 1995), in contrast to external institutions or individuals making decisions for the people at the grassroots level. This view resembles Sen's capability framework.

Hence, organization of both development and conservation initiatives must put local people to the forefront and give emphasis to the community approaches. Experiences in development and conservation call for exploring and application of partnerships and cross-level institutional linkages for better outcomes. Cross-level interactions refer to situations where events or phenomena (biophysical and socio-economic) at one level influence phenomena at another level (MEA, 2005). The Equator Initiative cases have developed innovative partnerships in conservation and poverty reduction providing examples of community initiatives. Researching these cases could provide insight into such innovative practices and could help to understand further the complex relationships between conservation and poverty reduction.

## **1.2 Statement of the problem**

Partnerships, collaboration and cross-level interaction at various institutional and geographical scales are fundamentally essential for solving resource and environmental problems. Instances of community-based resource management which illustrate cross-level interaction and external drivers of change include marine commons (Berkes, 2006), CAMPFIRE international alliances in wildlife management (Murphree, 2001), shifting

societal locus of control in resource conservation from state to local community (Brown, 2002; Graham et al., 2003), system of land and sea tenure, and interplay between international and national environmental regimes (Young, 2006; Young, 2002). The need for cross-level interaction is further necessitated due to challenges of matching biophysical systems with levels of management systems (Cash and Moser, 2000).

Cross-level interaction is applied when many partnership arrangements at global, national, organizational, and community space are being experimented (Graham et al., 2003) with a varying degree of power sharing. Recognition and strengthening of the local institutions and state institutions in the management of commons (Berkes, 2002) is another example of partnerships. At a fundamental level, the nature of the societal institutions that shape the use of environmental resources has only recently begun to be studied, and it is believed that protecting institutional diversity, especially that which show how diverse peoples use common property resources, may be as important as biological diversity for our long term survival (Ostrom et al., 1999).

Partnership formation is an essential component of Equator Initiative Program and has built different forms of association, linking horizontally across geographical space and linkages vertically through various levels of organizations (Berkes, 2006; Berkes, 2002; Young, 2006; Ostrom et al., 2002). Working on indigenous entrepreneurship (Berkes and Adhikari, 2006), within the Equator Initiative database, varying degrees of complexity at different levels of the organizations were found. Research on the Equator Initiative cases by other scholars (Maurice, 2006; Orozco Quintero, 2006; Senyk, 2006) from Asia,

Africa, and South America demonstrates the existence of partnership and cross-level institutional linkages. At the same time, communities themselves are complex systems embedded into even more complex systems (Berkes, 2006). Cross-level arrangements, such as co-management, provide ways to deal with linkages in complex adaptive systems (Berkes, 2006) also illustrated by the Equator Initiative.

### **1.3 The objectives of the research**

Community-based and collaborative forms of management between government institutions and local communities are becoming more common as forms of natural resources management and conservation throughout the world (Berkes et al., 2003). Results from community-based management and conservation programs have thus far been mixed at best, with both positive outcomes and failures documented (Barrett et al., 2001). Further research on Equator Initiative cases would add insights to a better understanding and achieving the dual objectives of generating sustainable livelihoods while conserving biodiversity. Thus, an important area of research is the study of partnerships and institutional linkages that facilitates conservation and development, and at the same time, promotes community-based resource management.

In this context the goal of this study is to analyze the types of partners and kinds of partnerships and institutional linkages within the Equator Initiative cases related to forestry/agro-forestry, non-timber forest products and medicinal plants; and then to analyze the importance of these linkages for conservation and development. The research provides examples of how these linkages facilitate conservation and development

initiatives through community participation in various forms of small-scale business and other economic activities. More specifically, the objectives of this study are:

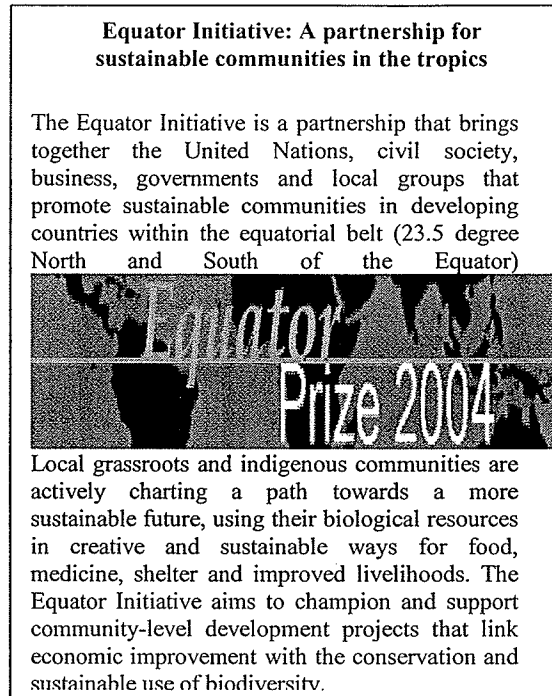
- i) to research the types of partners such as local and national Non-Governmental Organizations (NGOs); local, state/provincial, and national governments; international organizations, and other partners; and cross-level institutional linkages (vertical and horizontal) in the Equator Initiative Program cases related to forestry/agro-forestry, medicinal plants, and non-timber forest products;
- ii) to identify the kinds of partnerships such as business networking; fundraising; training, education and research; institutional building and others in the Equator Initiative Program cases related to agro-forestry, non-timber forest products and medicinal plants; and
- iii) to derive possible lessons applicable from these partnerships and cross-level institutional linkages in integrating conservation and development facilitating community-based entrepreneurial initiatives and community development.

#### 1.4 The Equator Initiative Program

The Equator Initiative is designed to reduce poverty through conservation and sustainable use of biodiversity in the equatorial belt by fostering, supporting and strengthening community partnerships (UNDP, 2004). It is a partnership that brings together the United Nations Development Programme (UNDP) and a number of international and national agencies concerned with conservation and development<sup>1</sup>. It involves a diversity of

civil society, business, and local groups to help build capacity and raise the profile of grassroots efforts that promote sustainable communities in developing countries. At the heart of the Equator Initiative Program is the observation that the world's greatest concentration of biodiversity is found in the tropics, mainly in countries with rural areas of acute poverty. Livelihood needs of these people create a threat for biodiversity conservation; however, investigations into Equator Initiative's locally driven work reveal many surprising innovative experiments, using local land and resources to create economic and business opportunities that effectively address poverty while conserving biodiversity (Timmer and Juma, 2005; Berkes and Adhikari, 2006).

Figure 1.1 The Equator Initiative Program



Source: <http://www.undp.org/equatorinitiative>

<sup>1</sup> United Nations Development Program (UNDP) and partners including BrasilConnects, the Government of Canada, Conservation International, The German Federal Ministry for Economic Cooperation and Development (BMZ), International Development Research Centre (IDRC), IUCN - The World Conservation Union, The Nature Conservancy, Television Trust for the Environment (TVE), and the United Nations Foundation.

There are two parts in the Equator Initiative; it recognizes local innovations through the Equator Prizes and supports the dissemination of lessons learned within these local partnerships and creates enabling environments for the scaling up of these local efforts (Timmer and Juma, 2005). The first one, the Equator Prize is the initiative's mechanism for identifying exemplary local community partnerships that work simultaneously towards sustainable income generation and environmental conservation. The Equator Initiative Program strives to identify these experiments and reward them. The Equator Prize is the main mechanism by which the successful integration of conservation and development is rewarded. Award processes were organized in 2002, 2004, and 2006 with hundreds of nominations received from homegrown local partnerships engaged in efforts to conserve biodiversity while ensuring a sustainable income for their communities (Timmer and Juma, 2005; Berkes and Adhikari, 2006).

The nominations were received from Asia, Africa, Latin America, and the Caribbean and covered a variety of approaches, including but not limited to innovations in restoring traditional natural resource management practices; establishing eco-tourism ventures and eco-lodges; adopting sustainable forestry and fisheries practices; engaging in organic agricultural approaches; and harvesting and marketing organic coffee, medicines, fabrics, crafts, cosmetics, and other natural sustainable products (Timmer and Juma, 2005). The sustainable use of biodiversity forms a central part of these local enterprises; therefore, conservation practices are intertwined in these small business ventures and community projects. These efforts are illustrative of ethno-economics incorporating cultural and

ecological diversity in economic thinking (Cavalcanti, 2002), illustrating different pathways to new knowledge area.

In many of the Equator Initiative 2004 prize winning Program cases, institutional partnerships between organizations at the same political level across geographical regions (horizontal linkages) or organizations across political levels (vertical linkages as discussed by Berkes, 2002) could be identified (Seixas et al., submitted). Similarly, Berkes and Adhikari (2006), analyzing 42 indigenous entrepreneurship type cases also document evidence of a range of partners and kinds of partnerships.

This research examines the Equator Initiative database to document lessons on types of partners and kinds of partnership and cross-level institutional linkages. First, the various types of land and resource-based community economic and business initiatives with particular focus on forestry/agro-forestry, non-timber forest products, and medicinal plants cases are explored. Second, the types of partners and kinds of partnerships practiced in these cases and the importance of cross-level institutional linkages are discussed. Third, various categories of benefits produced by these initiatives for the communities with particular emphasis on poverty reduction, empowerment of women, children/youth, the marginalized groups, and sustainable use of biodiversity are examined. Here, the community-based development and the importance of traditional ecological knowledge had been instrumental in promoting community development.

## **1.5 Significance of the study**

This research is significant in many different aspects. First, it will contribute to a greater understanding of the role of partnership and cross-level institutional linkages in the community-based resource management. Many scholars have noted differing conditions facilitating cross-level institutional linkages as an area requiring more research (Berkes, 2002, 2004 and 2006; Agrawal, 2002). It is recognized that community-based conservation and development requires communities to be connected vertically within an organizational hierarchy, and horizontally with other communities of resource users (Feeny et al., 1990; Young, 2002) for their success and better results. Therefore an analysis of the cross-level linkages present in the Equator Initiative cases is important, as it will allow better understanding of the role of NGOs, the various levels of governments, donor agencies and the communities; interacting and creating governing institutions that promote conservation and development goals simultaneously.

Second, it will provide example cases for policy and programs that governments can adopt in order to facilitate the success of community-based conservation and economic development through small-scale business entrepreneurship ventures such as the one found in these Equator Initiative cases. Third, local communities incorporating their knowledge into the design and functioning of the program, develop the Equator Initiative cases. Thus, by undertaking this study, the researcher attempted to uncover the importance of established social, ecological and economic knowledge of the local communities fostering partnerships and institutional linkages.

Finally, this research will facilitate conceptualization of new questions and issues for further research regarding the role of partnership and cross-level institutional linkages in resource management. Hence, lessons from these cases could be valuable in designing and implementing new initiatives by creating institutional and policy environments. This would enrich further programming for the UNDP and partner organizations and lessons learnt can be generalized to other contexts and situations.

### **1.6 Limitations of the research**

As discussed earlier, the primary focus of this study through the Equator Initiative cases was to determine how partnerships and their institutional linkages have been facilitating conservation and development goals simultaneously. The research was not intended to evaluate or assess the success of the cases. Therefore, there was no attempt made to quantify any of the biophysical, social or economic impacts of this program on the community or surrounding region. General trends and patterns were noted in the types of partners, kinds of partnerships and their cross-level interaction. These were then used to obtain certain conclusions from the lessons learned and to make policy recommendations. The thesis is based on secondary data source from the Equator Initiative Program, instead of specific field research. As a result, there are several limitations of this study.

Firstly, since the data are primarily dependent on the communities' own description and conceptualization of each case, mainly designed to attract donor funding, it does not have full reliability and validity. The researcher did not have direct contact with the communities to validate the data and hence, is personally not familiar with all the case

details. This would be possible only from primary data collected from the field. The research lacks personal impression or feedback of the community members in which these cases are based. In this regard, conclusions from this study do not provide definitive generalizations and applicability; however it does form a starting foundation for other researchers for the study of partnership and cross-level institutional linkages from individual Equator Initiative cases described through field based research.

Secondly, the research used information from all Equator Initiative prize nominations, not just the prize winning cases within forestry/agro-forestry, non-timber forest products and medicinal plant cases. Due to this, all small and large cases from different geographical regions were lumped together, although, individually, they would contextually have their own individual characteristics. Thirdly, with the limited information in the database, it was difficult to assess the extent of impact attributable to types of partners and kinds of partnerships. It was assumed that all types of partners and kinds of partnerships are equally effective in their contribution to development and conservation goals.

## **1.7 Organization of the thesis**

This thesis is organized through seven chapters including **Chapter One**, which gives a broad overview and introductory framework to the research problem, purpose, objectives, significance and limitations. **Chapter Two** discusses the Equator Initiative database and methodology used in this research. This discussion is primarily the Equator Initiative Program information as the main source of data with the analysis based on the Qualitative

Analysis software: Nvivo. The methodology in this research is based on the principles of grounded theory.

**Chapter Three** contains the review of literature and the theory that provides foundation to this research, which covers areas such as conservation and development, common property theory, sustainable development and livelihoods, partnership and cross-level institutional linkages, governance and learning literature. The broad literature review here provides a basis for discussion of the importance of partnership and cross-level institutional linkages in promoting the dual goal of conservation and development within the Equator Initiative Program cases. The review of the literature also identifies the knowledge gap in the literature and outlines the contribution of this research as examples of community-based approaches to conservation and development initiatives.

**Chapter Four** discusses the general findings from the data analysis focusing on the nature of the cases reviewed for this analysis and the types of community benefits illustrated by the cases. It is called general findings as it does not relate directly to the research objectives but provides a description and overview of the Equator Initiative Program cases. The findings in this Chapter do not include the type of partners and kinds of partnerships.

**Chapters Five and Six** outline the main findings of the research based on objective one and two that analyze types of partners and kinds of partnerships respectively. **Chapter Five** presents the types of partners communities are working with to produce cross-level

linkages in the forestry/agro-forestry, medicinal plant and non-timber product cases.

**Chapter Six** discusses the kinds of partnerships people in the communities are involved underscoring the importance of income generation, poverty reduction, business initiative, community development, biodiversity conservation and other benefits these partnerships are providing to the people.

**Chapter Seven** summarizes the main findings, lessons learned from the kinds of partnerships, types of partners and cross-level interaction and their resultant community benefits. This chapter concludes with recommendations based on the lessons learned regarding the roles of partnerships and cross-level interactions in promoting the dual goal of conservation and development.

## **Chapter Two**

### **The Equator Initiative Database and Method of Study**

#### **2.1 Introduction**

This research started with the review of the Equator Initiative Program of the United Nations Development Program and its partner organizations as described in Chapter One; hence, the primary source of data is the Equator Initiative database. Statistics generated from this database were classified into the various types of partners and kinds of partnerships. The analysis identifies the differences in the type of partners from Asia/Pacific, Africa and Latin American and Caribbean regions and among local, state, regional, and national level of partners. More specifically, the research:

- i) reviewed all available 2004 prize nomination Equator Initiative Program cases (N=315) and narrowed down the search to agro-forestry, non-timber-forest products and medicinal plants-related cases;
- ii) identified the various types of partners existing in these cases and programs;
- iii) identified the types of partners as local, district, state or provincial, national and international and sorted them as vertical and horizontal, using tables and listing the number of cases that mentioned horizontal and vertical cases. This helped identify the dominant types of linkages; and
- iv) sorted the partnerships under various kinds such as business networking, institutional building, fund raising, innovation and knowledge transfer, access and benefit sharing, and others.

Partnerships and institutional linkages are at the heart of the Equator Initiative Program and have served to highlight examples of case studies which illustrate how communities successfully pursue conservation and development simultaneously. The Equator Initiative Program has a searchable database (partially developed at the time of writing this thesis) involving several hundred integrated conservation and development (ICDP) initiatives (e.g., Brown 2002) nominated for the Equator Prize (described in Chapter One). This thesis examines the Equator Initiative database to identify partnerships and institutional linkages existing in the agro-forestry, non-timber forest products and medicinal plants related cases.

As a starting point, all cases in these three categories (agro-forestry, non-timber forest products and medicinal plants) were reviewed and categorized by geographical distributional pattern. Secondly, the kinds and diversity of land and resource-based community economic and business development, and biodiversity conservation activities initiated by these cases were explored with attention to forestry/agro-forestry, non-timber forest products and medicinal plants. The range of benefits provided by these activities for the communities, with particular emphasis on poverty reduction, gender and community empowerment and sustainable use of biodiversity are discussed. Thirdly, the partnerships in these three categories of selected 2004 prize nomination cases were examined, with particular attention focused on the kinds of partnerships and types of partners and institutional linkages illustrated by these cases. Fourthly, community-based development, community economic development, entrepreneurial initiatives, and the use of traditional environmental knowledge were explored and trends noted.

## 2.2 The Equator Initiative database and the data analysis

There are 817 Equator Initiative cases from the Equator Prize competitions of 2002 and 2004. There are 400 nominations from 2004, out of which only 315 cases were actually available in the UNDP Equator Initiative database at the launch of the data analysis for this thesis. In this thesis, all available Equator Initiative programs for 2004 database were analyzed. These cases have been categorized as national, state/provincial, regional and local in terms of the geographical distribution (Table 2.2.1).

**Table 2.2.1 All Equator Initiative Cases according to Scale and Region\***

| Scale                | Asia & Pacific | Africa     | Latin America & Caribbean | Total Cases |
|----------------------|----------------|------------|---------------------------|-------------|
| Local focus          | 37             | 80         | 107                       | 224         |
| Regional focus       | 2              | 5          | 28                        | 35          |
| State/Province focus | 13             | 13         | 4                         | 30          |
| National focus       | 4              | 15         | 7                         | 26          |
| <b>Total Cases</b>   | <b>56</b>      | <b>113</b> | <b>146</b>                | <b>315</b>  |

*\*Table generated from the Equator Initiative Database*

For the purposes of this research and the thesis, I narrowed down the search to agro-forestry (N=95 cases), non-timber-forest products (N=41) and medicinal plants (N=37) in the three regions of Asia & Pacific, Africa and Latin America and Caribbean (Table 2.2.2). Program descriptions in these three categories of cases, with different geographical distribution, are reviewed along with various types of partners. This was then followed by the analysis of kinds of partnerships that illustrate the cross-level institutional linkages at various levels.

**Table 2.2.2 Forestry/Agro-Forestry, Non-Timber Forest Products & Medicinal Plants Cases by Region\***

| Region                    | Forestry/Agro-forestry (FAF) | Non-Timber Forest Products (NTFP) | Medicinal Plant (MP) | Total (FAF, NTFP, MP) | Total Number of Equator Initiative Cases |
|---------------------------|------------------------------|-----------------------------------|----------------------|-----------------------|--|
| Asia & Pacific            | 16                           | 7                                 | 8                    | 31                    | 56                                       |
| Africa                    | 42                           | 11                                | 12                   | 65                    | 113                                      |
| Latin America & Caribbean | 37                           | 23                                | 17                   | 77                    | 146                                      |
| <b>Total</b>              | <b>95</b>                    | <b>41</b>                         | <b>37</b>            | <b>173</b>            | <b>315</b>                               |

*\*Table generated from the Equator Initiative Database*

Table 2.2.3 lists the distribution of the three categories of cases by scale and region. In all three categories of cases, there is greater concentration of local focus: forestry/agro-forestry (N=54 cases), non-timber forest products (N=26) and medicinal plants (N=24). The local level focus is followed by state/provincial, regional and the national focus and there are fewer cases in these latter categories. The Equator Initiative database is organized by category. This thesis used six categories from the database, each of which included information related to business organization and income generation activities. These six categories are: Nominee Type, Productive Sector, Poverty Reduction, Community-Based Organization, Biodiversity Conservation, and Millennium Development Goals. The database also includes two other categories (Ecosystem Type, Ecosystem Services) that are not included in this analysis.

**Table 2.2.3 Forestry/Agro-Forestry, Non-Timber Forest Products & Medicinal Plants Cases by Scale and Region\***

| Scale                  | Asia & Pacific |          |          | Africa    |           |           | Latin America & Caribbean |           |           | Total Cases |                      |            |
|------------------------|----------------|----------|----------|-----------|-----------|-----------|---------------------------|-----------|-----------|-------------|----------------------|------------|
|                        | FAF            | NT<br>FP | M<br>P   | FAF       | NT<br>FP  | M<br>P    | FA<br>F                   | NT<br>FP  | MP        | FAF<br>N=95 | NTF<br>P<br>N=4<br>1 | MP<br>N=37 |
| Local focus            | 5              | 3        | 2        | 27        | 9         | 11        | 22                        | 14        | 11        | 54          | 26                   | 24         |
| National focus         | 3              | 1        | 2        | 5         | 0         | 1         | 2                         | 2         | 0         | 10          | 2                    | 3          |
| Regional focus         | 1              | 1        | 0        | 2         | 1         | 1         | 12                        | 7         | 3         | 15          | 8                    | 4          |
| State/provincial focus | 8              | 2        | 4        | 6         | 1         | 0         | 2                         | 0         | 2         | 16          | 3                    | 6          |
| <b>Total cases</b>     | <b>17</b>      | <b>7</b> | <b>8</b> | <b>40</b> | <b>11</b> | <b>13</b> | <b>38</b>                 | <b>23</b> | <b>16</b> | <b>95</b>   | <b>41</b>            | <b>37</b>  |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*

*\*Table generated from the Equator Initiative Database*

Table 2.2.4 lists the productive sector cases by sub-category and region. There are fourteen productive sector sub-categories listed in the database. My focus in this thesis is synthesis of information from only three of the cases: agro-forestry (N=94), non-timber forest products (N=37) and medicinal plants (N=41). The other productive sector categories include; agriculture (N=94), apiculture (N=31), art & craft (N=24) aquaculture (N=19), ecosystem restoration (N=51), eco-tourism (N=50), fisheries (N=16), livestock (N=41), payment for eco-system services (N=51), protected area management (N=33), wildlife management (N=13) (Table 2.2.4). In all the three category of cases there is greater number of productive sector categories from Latin America & Caribbean region followed by Africa and Asia respectively.

**Table 2.2.4 Productive Sector: Cases by Sub-Category and Region\***

| Sub-Categories             | Asia & Pacific | Africa | Latin America & Caribbean | Total Cases |
|----------------------------|----------------|--------|---------------------------|-------------|
| Forestry/Agro-forestry     | 17             | 40     | 38                        | <b>95</b>   |
| Non-timber Forest Products | 7              | 11     | 23                        | <b>41</b>   |
| Medicinal Plants           | 8              | 13     | 16                        | <b>37</b>   |
| Agriculture                | 21             | 36     | 37                        | <b>94</b>   |
| Ecotourism                 | 5              | 12     | 33                        | <b>50</b>   |
| Protected Area Management  | 5              | 14     | 14                        | <b>33</b>   |
| Ecosystem Restoration      | 16             | 25     | 10                        | <b>51</b>   |
| Artisanry (Arts & Craft)   | 7              | 5      | 12                        | <b>24</b>   |
| Livestock                  | 10             | 21     | 10                        | <b>41</b>   |
| Apiculture                 | 2              | 24     | 5                         | <b>31</b>   |
| Aquaculture                | 8              | 5      | 6                         | <b>19</b>   |
| Ecosystem Services         | 16             | 25     | 10                        | <b>51</b>   |
| Wildlife Management        | 1              | 7      | 5                         | <b>13</b>   |
| Fisheries                  | 4              | 3      | 9                         | <b>16</b>   |

*\*Table generated from the Equator Initiative Database*

Tables 2.2.5 to 2.2.8 discuss some nominee type sub categories by scale (local, regional, provincial, national, and international) and region such as: community-based organization, indigenous, and non-governmental organization. In all the three tables, there is greater concentration of the program cases at the community level as compared to the state/provincial, regional and national level. This illustrates the importance of community level initiatives for livelihood efforts and the importance communities are attaching to the conservation of biodiversity. Table 2.2.5 presents community based organization sub-category and there are more than 50% of the total cases in these three productive sectors: forestry/agro-forestry (N=56 cases), non-timber forest products (N=22) and medicinal plants (N=25).

**Table 2.2.5 Nominee Type: Community-Based Organization Sub-Category by Scale and Region\***

| Scale                  | Asia & Pacific |          |          | Africa    |          |           | Latin America & Caribbean |           |          | Total Cases       |                   |                   |
|------------------------|----------------|----------|----------|-----------|----------|-----------|---------------------------|-----------|----------|-------------------|-------------------|-------------------|
|                        | FAF            | NT FP    | MP       | F A F     | NT FP    | MP        | FAF                       | NTF P     | MP       | FAF N=9<br>5      | NTF P N=4<br>1    | MP N=37           |
| Local focus            | 4              | 1        | 1        | 24        | 6        | 10        | 11                        | 8         | 6        | 39                | 15                | 17                |
| National focus         | 6              | 2        | 1        | 3         | 1        | 0         | 1                         | 0         | 0        | 10                | 3                 | 1                 |
| Regional focus         | 1              | 1        | 0        | 1         | 0        | 1         | 0                         | 0         | 0        | 2                 | 1                 | 1                 |
| State/provincial focus | 0              | 0        | 4        | 2         | 1        | 0         | 3                         | 2         | 2        | 5                 | 3                 | 6                 |
| <b>Total cases</b>     | <b>11</b>      | <b>4</b> | <b>6</b> | <b>30</b> | <b>8</b> | <b>11</b> | <b>15</b>                 | <b>10</b> | <b>8</b> | <b>56/9<br/>5</b> | <b>22/4<br/>1</b> | <b>25/<br/>37</b> |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*

*\* Table generated from the Equator Initiative Database*

Table 2.2.6 illustrates that there are few cases categorized as indigenous from the three productive sector categories: forestry-agro-forestry (N=17 cases), non-timber forest products (N=14) and medicinal plants (N=6). There would be definitely more cases as indigenous when we read the cases descriptions but the database have identified only these limited numbers as indigenous. The data was not adjusted with this realization but assumed in the discussions that there are more indigenous cases than categorized in the database with inference to practice of traditional knowledge.

**Table 2.2.6 Nominee Type: Indigenous Sub-Category by Scale and Region\***

| Scale                  | Asia & Pacific |          |          | Africa   |          |          | Latin America & Caribbean |          |          | Total Cases  |              |             |
|------------------------|----------------|----------|----------|----------|----------|----------|---------------------------|----------|----------|--------------|--------------|-------------|
|                        | FAF            | NT FP    | M P      | FA F     | NT FP    | MP       | FA F                      | NT FP    | M P      | FAF N=95     | NTFP N=41    | MP N=37     |
| Local focus            | 1              | 3        | 1        | 3        | 3        | 0        | 7                         | 5        | 3        | 11           | 11           | 4           |
| National focus         | 2              | 1        | 0        | 0        | 0        | 0        | 1                         | 0        | 0        | 3            | 1            | 0           |
| Regional focus         | 0              | 0        | 0        | 0        | 0        | 0        | 0                         | 0        | 0        | 0            | 0            | 0           |
| State/provincial focus | 0              | 0        | 1        | 0        | 0        | 0        | 3                         | 2        | 1        | 3            | 2            | 2           |
| <b>Total cases</b>     | <b>3</b>       | <b>4</b> | <b>2</b> | <b>3</b> | <b>3</b> | <b>0</b> | <b>11</b>                 | <b>7</b> | <b>4</b> | <b>17/95</b> | <b>14/41</b> | <b>6/37</b> |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*

*\*Table generated from the Equator Initiative Database*

Table 2.2.7 presents the number of cases in the non-government sector and there are about 50% for forestry/agro-forestry and non-timber forest products and about one third for the medicinal plants cases.

**Table 2.2.7 Nominee Type: Non-Governmental Organization Sub-Category by Scale and Region\***

| Scale                  | Asia & Pacific |          |          | Africa      |              |          | Latin America & Caribbean |           |          | Total Cases     |                  |              |
|------------------------|----------------|----------|----------|-------------|--------------|----------|---------------------------|-----------|----------|-----------------|------------------|--------------|
|                        | FA<br>F        | NTF<br>P | M<br>P   | F<br>A<br>F | N<br>TF<br>P | M<br>P   | FAF                       | NT<br>FP  | MP       | FA<br>F<br>N=95 | NTF<br>P<br>N=41 | MP<br>N=37   |
| Local focus            | 1              | 2        | 1        | 8           | 3            | 1        | 11                        | 7         | 4        | 20              | 12               | 6            |
| National focus         | 3              | 0        | 2        | 4           | 0            | 0        | 1                         | 0         | 0        | 8               | 0                | 2            |
| Regional focus         | 2              | 1        | 0        | 3           | 0            | 0        | 3                         | 1         | 3        | 8               | 2                | 3            |
| State/provincial focus | 1              | 0        | 0        | 0           | 0            | 0        | 10                        | 6         | 1        | 11              | 6                | 1            |
| <b>Total cases</b>     | <b>7</b>       | <b>3</b> | <b>3</b> | <b>15</b>   | <b>3</b>     | <b>1</b> | <b>25</b>                 | <b>14</b> | <b>5</b> | <b>47/95</b>    | <b>20/41</b>     | <b>12/37</b> |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant  
\*Table generated from the Equator Initiative Database*

Table 2.2.8 lists case distribution of community focus subcategory by region and types such as children, indigenous, socio-economically marginalized sector, women, and youth. There are fewer programs addressing children's needs, more programs that are initiated by indigenous groups, and a large number of programs catering to the socio-economically marginalized sector of the population such as women and youth needs.

**Table 2.2.8 Cases According to Community Focus Sub-Category and Region\***

| Sub-Categories                                    | Asia & Pacific |          |    | Africa  |      |        | Latin America & Caribbean |                  |    | Total Cases |                      |            |
|---|----------------|----------|----|---------|------|--------|---------------------------|------------------|----|-------------|----------------------|------------|
|   | FAF            | NT<br>FP | MP | FA<br>F | NTFP | MP     | FAF                       | N<br>T<br>F<br>P | MP | FAF<br>N=95 | NT<br>FP<br>N=4<br>1 | MP<br>N=37 |
| Children  | 0              | 0        | 1  | 7       | 0    | 2      | 0                         | 0                | 1  | 7           | 0                    | 4          |
| Indigenous  | 2              | 3        | 1  | 5       | 3    | 2      | 10                        | 6                | 5  | 17          | 12                   | 8          |
| Socio-<br>economically<br>marginalized<br>sectors | 16             | 5        | 6  | 34      | 9    | 1<br>1 | 25                        | 1<br>9           | 13 | 75          | 33                   | 30         |
| Women   | 4              | 2        | 5  | 10      | 1    | 4      | 2                         | 5                | 5  | 16          | 8                    | 14         |
| Youth   | 0              | 0        | 2  | 5       | 0    | 2      | 2                         | 1                | 0  | 7           | 1                    | 4          |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*

*\* Table generated from the Equator Initiative Database*

Table 2.2.9 shows poverty reduction as a sub-category which includes food security, access to water, health improvement, income generation, reduced vulnerability to disaster, socio-political security and by different regions. In this sub-category a large number of cases were found that targeted income generation in all the three productive sectors: forestry/agro-forestry (N=77 cases), non-timber forest products (N=34) and medicinal plants (N=31). Food security was also found to be strong in most cases: forestry/agro-forestry (N=52 cases), non-timber forest products (N=23) and medicinal plants (N=20). Some programs are geared towards social political security and quite a good number of cases for health improvement: forestry/agro-forestry (N=29 cases), non-timber forest products (N=10) and medicinal plants (N=22).

**Table 2.2.9 Cases According to Poverty Reduction Sub-Category and Region**

| Sub-Categories                             | Asia & Pacific |       |     | Africa |       |    | Latin America & Caribbean |       |     | Total Cases |            |         |
|--|----------------|-------|-----|--------|-------|----|---------------------------|-------|-----|-------------|------------|---------|
|  | FAF            | NT FP | M P | FA F   | NT FP | MP | FAF                       | NT FP | M P | FAF N=95    | NT FP N=41 | MP N=37 |
| Income Generation                          | 12             | 3     | 6   | 35     | 11    | 11 | 30                        | 20    | 14  | 77          | 34         | 31      |
| Food Security                              | 10             | 3     | 7   | 29     | 9     | 8  | 13                        | 11    | 5   | 52          | 23         | 20      |
| Social Political Security                  | 6              | 4     | 3   | 4      | 2     | 0  | 5                         | 6     | 3   | 15          | 12         | 6       |
| Health Improvement                         | 6              | 3     | 6   | 18     | 3     | 9  | 5                         | 4     | 7   | 29          | 10         | 22      |
| Reducing Vulnerability to Natural Disaster | 3              | 0     | 1   | 6      | 2     | 1  | 2                         | 1     | 1   | 11          | 3          | 3       |
| Access to Water                            | 2              | 0     | 1   | 6      | 1     | 3  | 3                         | 2     | 1   | 11          | 3          | 5       |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*  
*\* Table generated from the Equator Initiative Database*

Table 2.2.10 lists cases according to the biodiversity sub-category, including sustainable use, conservation/protection and rehabilitation/regeneration types and regional distribution. All the three categories of cases showed strong emphasis on the three-biodiversity conservation roles.

**Table 2.2.10 Cases According to Biodiversity Sub-Category and Region\***

| Sub-Categories              | Asia & Pacific |       |    | Africa |       |     | Latin America & Caribbean |        |     | Total Cases |            |         |
|-----------------------------|----------------|-------|----|--------|-------|-----|---------------------------|--------|-----|-------------|------------|---------|
|                             | FAF            | NT FP | MP | FA F   | NT FP | M P | FAF                       | NTFP P | M P | FAF N=95    | NT FP N=41 | MP N=37 |
| Sustainable use             | 4              | 4     | 4  | 10     | 9     | 5   | 22                        | 18     | 10  | 36          | 31         | 19      |
| Conservation/Protection     | 9              | 3     | 4  | 25     | 8     | 8   | 10                        | 6      | 3   | 44          | 17         | 15      |
| Rehabilitation/Regeneration | 10             | 1     | 4  | 29     | 6     | 10  | 9                         | 5      | 6   | 48          | 12         | 20      |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*  
*\* Table generated from the Equator Initiative Database*

Table 2.2.11 summarizes millennium development goals sub-categories such as eradicating extreme poverty and hunger; achieving universal primary education;

promoting gender equity and empowering women; reducing child mortality; improving maternal health; combating HIV/AIDS, malaria and other diseases; ensuring environmental sustainability; and developing a global partnership for development. All three categories of cases appeared to have a strong focus on ensuring environmental sustainability: forestry/agro-forestry (N=84), non-timber forest products (N=36) and medicinal plants (N=33). They also showed firm emphasis on eradication of extreme poverty and hunger: forestry/agro-forestry (N=81 cases), non-timber forest products (N=35) and medicinal plants (N=32). With regard to promoting gender equality and empowering women, the numbers generated from the database indicated less emphasis which in this particular sub-category: forestry/agro-forestry (N=11 cases), non-timber forest products (N=8) and medicinal plants (N=7); however the case descriptions illustrate emphasis in all the three categories of cases.

**Table 2.2.11 According to Millennium Development Goals Sub-Category and Region\***

| Sub-Category                                 | Asia & Pacific |          |        | Africa  |          |    | Latin America & Caribbean |          |    | Total Cases         |                      |                |
|--|----------------|----------|--------|---------|----------|----|---------------------------|----------|----|---------------------|----------------------|----------------|
|  | FAF            | NT<br>FP | M<br>P | FA<br>F | NT<br>FP | MP | FA<br>F                   | NT<br>FP | MP | FA<br>F<br>N=<br>95 | NT<br>FP<br>N=<br>41 | MP<br>N=<br>37 |
| Ensure Environmental Sustainability          | 15             | 5        | 7      | 38      | 10       | 11 | 31                        | 21       | 15 | 84                  | 36                   | 33             |
| Eradicate Extreme Poverty and Hunger         | 16             | 6        | 8      | 38      | 10       | 11 | 27                        | 19       | 13 | 81                  | 35                   | 32             |
| Promote Gender Equality & Empower Women      | 3              | 2        | 3      | 6       | 2        | 1  | 2                         | 4        | 3  | 11                  | 8                    | 7              |
| Develop a global partnership for development | 0              | 0        | 0      | 0       | 0        | 0  | 0                         | 0        | 0  | 0                   |                      | 0              |

*Legend: FAF = forestry/agro-forestry; NTFP = Non-Timber Forest Products; and MP = Medicinal Plant*

*\* Table generated from the Equator Initiative Database*

In addition to the eleven tables generated from the Equator Initiative database and discussed above, Table 5.1 (page 82) lists various types of partners and institutional linkages and Table 6.1 (page 100) lists kinds of partnerships generated out of case descriptions in the database using Nvivo and manual text analysis of the cases. Although these two tables are presented and discussed under Chapters Five and Six, the methods of data analysis are discussed here.

The primary focus of this thesis is an analysis of the types of partners and kinds of partnerships, as illustrated in Tables 5.1 and 6.1. The cases analyzed for this thesis are from Asia/Pacific, Africa, and the Latin America and the Caribbean regions. Some cases were randomly selected for detail description based on diverse range of economic activities, business enterprises, biodiversity conservation initiatives and other community development programs as illustration of the type of material covered. The analysis used case descriptions from these randomly selected cases as discussed in Chapters Four, Five and Six for making generalizations.

In this thesis, the various types of partners represented from the cases are discussed. These partnership categories represent diverse cross-level linkages and networks the communities are involved with in the course of managing their livelihood and conservation of biodiversity. The types of partners refer to the various political levels with which the communities are partnering (Table 5.1), such as local and national NGOs; community organizations; local, state, regional and national government; international organizations; private sector; universities/research centres; joint forest management

arrangements; financial institutions. The kinds of partnerships refer to the various kinds of activities with which the partners are supporting the communities (Table 6.1). Some of these activities are business networking; fund raising; training, education and research; legal support and conflict resolution; institutional capacity building; technical assistance; infrastructure building; cooperative business activities among many others. Community and partners involvement in these activities represents both vertical and horizontal linkages.

### **2.3 Data analysis using Nvivo**

Primarily two types of data analysis were used in this thesis. The first source of analysis was the tables generated from the Equator Initiative Database that form most of the tables presented, except Tables 5.1 and 6.1 (see pages 82 and 100 respectively). The other source of data analysis was done using the Qualitative Data Analysis software, Nvivo. Coding the data in the software primarily enabled to develop the data on types of partners and kinds presented in Tables 5.1 and 6.1. Tables were generated from the database for all the three category of cases: forestry/agro-forestry, medicinal plants and non-timber forest products. The tables refer to different sub-categories of the Equator Initiative Program cases and illustrate the patterns and trend in the data type. The majority of cases reviewed indicate that they are local, community-based initiatives with support from different levels of government, NGOs, international agencies and financial institutions (Table 2.2.1). There are fewer national level cases, some regional and state/provincial level cases (Table 2.2.1).

The Nvivo analysis was carried out using the following steps:

- i) the information about these three categories of program cases in the database was saved in Rich Text format from the prize nomination evaluation (Nvivo does not accept and read information saved in other forms),
- ii) naming and development of nodes was the starting point for categorization of the data. After reading the texts in the case descriptions carefully, the researcher identified the nodes based on the themes and category of information discussed and informed by grounded theory research (Charmaz, 2006; Leedy and Ormrod, 2005; Punch, 1998;). Most of these types and kinds of partnership described in the case descriptions are maintained as they appeared in the original text but some of them were derived and named by the researcher depending on the descriptions of the cases. These node types were then further evolved, as informed by previous research that was carried out by Berkes and Adhikari (2006) which identified other theoretical literature sources that relate to the partnerships and institutional categories. This was then elaborated and developed to expand the original idea of studying cross-level linkage that was discussed briefly in the previous study (Berkes and Adhikari, 2006).
- iii) Coding data in Nvivo was the starting point for data analysis; repeated returning to the data was necessary in order to code and recode them with the new nodes identified and with new ideas emerging throughout to obtain a meaningful and coherent picture of the data (Punch, 1998). This process was important as it made it possible to go back and check the numbers that had

been generated in the tables using the codes. The coding was carried out separately for all the three categories of cases, agro-forestry, non-timber forest products and medicinal plants; and the results were recorded in the types of partners and kinds of partnership tables (Tables 5.1 and 6.1).

- iv) in the course of coding the data, the material was read carefully to ensure that the information represented relevant categories, and appropriate conceptual linkages were identified using the concept-indicator model (Punch, 1998).
- v) after completing the tables a thorough review by reading the case descriptions once again was carried out before beginning the writing of the analysis. The summarized figures in these tables were referred and compared across the three different categories of the cases.
- vi) case descriptions were used to analyze and draw conclusions, along with the figures generated in the tables both from database and from data coded in the qualitative data analysis software: Nvivo.

## **Chapter Three**

### **Conservation and Development in Perspective**

#### **3.1 Introduction to literature review**

As discussed in the introduction of Chapter One, there has been a paradigm shift in thinking on the interface between conservation and development, particularly the consideration regarding involvement and role of local resource users as primary stakeholders in the process of development. Various institutions, processes and emerging trends are recognized as instrumental in facilitating the interface between conservation and development. This chapter discusses the theoretical literature and outlines some important considerations that have contributed in facilitating this interface and have promoted the dual goal of conservation and development in the community-based approach.

There are four parts to the literature review, all of which directly and indirectly provide foundation for discussion of the issues and trends in conservation and development. The first part builds on the discussion of conservation and development interface introduced in Chapter One and defines some key terms and concepts. The second part discusses partnership, cross-level institutional linkages, and other characteristics of common property resources and their importance in resource management. The third part explains development-related concepts and theories such as sustainable livelihood, bottom-up development approach, community development, development as participation, capacity framework and multi-stakeholder involvement. The fourth part discusses the role of

governance, integrating issues such as social learning, traditional and local knowledge, community learning and adaptive management. Concepts discussed in the literature sources refer to some form of institutional typologies and adapted management and governance patterns.

### **3.2 New conservation and development perspectives: Bottom up approach.**

Since the 1980s the community began to be considered a major actor in natural resource management as studies revealed the potential role of local collective action in irrigation, rural development, agriculture, forestry and other fields (Barrow and Murphree, 2001).

“Driving this revived emphasis on community were the manifest incapacities of state bureaucracies to micromanage environment, the dismal record of state and aid agency projects to protect biodiversity across the landscape, the dissonance between state and local incentives for conservation and new, systematic approaches to conservation biology which incorporated human activity” (Barrow and Murphree, 2001).

Although this renewed interest and focus on community-based conservation and development came under criticism in the late 1980s and early 1990s, the emphasis on conservation had been gradually moving towards involvement and participation of local communities. Brown (2002) discusses three characteristics of new conservation:

- i) shifting in societal locus of control from state to communities with participation of people in conservation;
- ii) adopting insights from ecology concerning the understanding of the dynamics and disequilibria of different ecosystems, and rejects simplistic notions of

wilderness and pristine environments in acknowledging the role of human intervention in shaping biodiversity; and

- iii) accepting new conservation as a manifestation of neo-liberal ideology, which moves away from preservation of biodiversity through protectionism to conservation through use with market as a salvation of biodiversity.

In the above views (Barrow and Murphree, 2001; Brown, 2002), communities are considered as part of biodiversity conservation through use of resources and, in many other instances and contexts, it refers to the dependency of livelihood needs of the communities. The community participation and needs-based approach refers to incentive functions of local resources for the communities, encouraging them to conserve resources. Recognizing direct linkages between biodiversity and livelihoods of the people by increasing their access to biodiversity resources and by making a larger contribution to livelihoods and well being is an incentive to conserve (Brown, 2002). The community conservation exhibit differences of intent, emphasis and substance. It covers a broad spectrum of management and benefit-sharing arrangements for the involvement in natural resource management of people who are not agents of the state, but by virtue of their location and activities, are critically placed to enhance or degrade the present and future status of natural resources (Barrow and Murphree, 2001). Most Equator Initiative cases fall in this later category where communities are deriving their livelihood needs from the resources surrounding them. This brings to the forefront the crucial incentive for the people to conserve their local resources.

While previous work on development considered communities a hindrance to progressive social change, current writings champion the role of community in bringing about decentralization, meaningful participation, and conservation (Agrawal and Gibson, 1999). It is believed that “community must be examined in the context of development and conservation by focusing on multiple interests and actors within communities, on how these actors influence decision-making, and on the internal and external institutions that shape the decision-making process” (Agrawal and Gibson, 1999). A focus on institutions rather than community is likely to be more fruitful for those interested in community-based natural resource management. Demographic growth has increased consumption pressure and penetration by market forces, which linked local systems of resource use to a larger network of demand, further increasing the pressure on natural resources (Agrawal and Gibson, 1999). This research focuses on the examination of multiple actors and interests, the role of internal and external institutions, and how these institutions are influencing the decision-making process. The approach used in this research is bottom-up whereby community practices through partnership and cross-level institutional linkages is the main vehicle instrumental in achieving the dual goal of conservation and development.

### **3.2.1 The definition of community**

One of the principle reasons for community-based conservation and development not being as successful and effective is the failure to define and understand the concept of community. The ICDP<sup>2</sup> approach conceptualizes local people as ‘communities’; and studies have criticized the simplistic understanding of communities where they are seen

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<sup>2</sup> ICDP is the integrated conservation and development projects

as small, homogeneous and without internal conflicts, and are assumed to be able to act as democratic and consensual units (Brown, 2002). Rather, a range of different actors who have influence over, and who are affected by, management of natural resources in a conservation area would be much broader and would be differentiated in number of ways (Brown, 2002). Communities can be grouped under spatial characteristics: groupings of people who physically live in the same place, socio-culturally; social groupings that derive a unity from common history and cultural heritage frequently based on kinship, economically; and groupings of people who share interests and control over particular resources (Barrow and Murphree, 2001).

Using an actor-oriented and functional approach, Barrow and Murphree (2001) note:

i) critical importance of the level of governance and civic organization; ii) nature of this action as being primarily inter-personal, guided by peer expectation and mutual reciprocities rather than bureaucratic prescription.; and iii) rural resource users to organize them for collective action for effective natural resource management.

Any organizational vehicle for such collaboration is likely to require four characteristics; i) *Cohesion*: a sense of common identity and interest which serves to bring people together for collective action, ii) *Demarcation*: sets boundaries of jurisdiction for the collective regime, iii) *Legitimacy*: requires legitimacy for its process and leadership and external authority can confer legitimacy but more important is internal legitimacy arising from socio-cultural and socio-economic criteria, iv) *Resilience*: Effective organization must accommodate change, evolving over time. Resilience refers to the organizational

capacity to adapt in content and structure, is a key tool for the management of risk in uncertain environments and livelihood systems. This characteristic provides durability to organizations and creates scope for them to improve through processes of adaptive management (Barrow and Murphree, 2001).

In this research, community is defined functionally as the principle manifest in social groupings with the actual or potential cohesion, incentive, demarcation, legitimacy and resilience to organize themselves for effective common pool natural resource management at levels below and beyond the reach of state bureaucratic management. Communities at the grassroots level (as described here) in the equatorial region of Africa, Asia and Latin America and Caribbean need the support of higher level organizations such as state/provincial, regional, national and international organizations including Non-Governmental Organizations to enhance their well-being and to conserve biodiversity resources.

### **3.3 Partnerships, cross-level institutional linkages and other characteristics of common property resource**

The term 'common property' or 'common pool resources' is used here to mean natural and human-constructed resource "in which (i) exclusion of beneficiaries through physical and institutional means is especially costly, and (ii) exploitation by one user reduces resource availability for others" (Ostrom et al., 1999). These two characteristics of exclusion and subtractability create potential common property resource dilemmas in which local people, following their own short-term interests, produce outcomes that are

not in anyone's long-term interest (Ostrom et al, 1999). The focus on institutions emerges from the commons literature that documents a rich diversity of ways in which rules can be made to avert the commons dilemma (Berkes, 2002).

Partnerships and cross-level institutional interactions linking horizontally across various levels of organizations and across a range of geographical scales is an important new strategy of governing the common pool resources and managing community development in the face of declining role of state in economic management. The community partnership identified through the Equator Prize raises questions about the role of local initiatives in advancing global biodiversity and development goals and about the challenges that emerge in the process of scaling up (Timmer and Juma, 2005). Global and local goals are not always aligned, and local best practices in one community may not be transferable to other local initiatives (Timmer and Juma, 2005).

In the Equator Initiative cases, there is evidence that local level implementation is neither possible nor sustainable without simultaneous solutions for poverty reduction and biodiversity conservation at the national, regional and international scales (Timmer and Juma, 2005). The diversity and widespread prevalence of local-level commons institutions indicate that they have been important for the survival of many societies and are still relevant for contemporary resource management (Berkes, 2006). Thus partnerships and cross-level institutional linkages for various levels of interest groups become essential in resource management.

### **3.3.1 Cross-level interaction in the governance of commons resources**

The commons theory illustrates the importance of interplay of cross-level institutional linkages, linking horizontally across space and vertically through different levels of organizations (Berkes, 2002; Berkes, 2006; Young, 2006; Young, 2002; Cash and Moser, 2000, Cash et al., 2006). Vertical linkages are those that have partnership with organizations at higher level or hierarchy (Berkes, 2006; Young, 2006), such as community and state government, national government, international organizations, research institutes and universities. Horizontal linkages refer to partnership across geographical space and communities at the similar level of organizations. Young (2002) looks at linkages from top-down through the social organization in which regional regimes gain strength or become weak from being nested into global regimes or when national laws and policies contradict with the local system. Ostrom (1990) and Berkes (2002; 2004; and 2006) look at linkages from the bottom up, underscoring the importance of cross-level linkages and partnerships in managing the common pool and community-based resources with scope for further research.

The management of common property resources involves solving the problem of excludability and subtractability by the communities, limiting the access of outsiders and self-regulating its own use through various forms of incentives (Berkes, 2006). If members of a group are assured that future harvests would be theirs by right, and not end up being harvested by others, they have the economic incentives to self-regulate (Berkes, 2006). Hence Brown (2002) and Berkes (2004) concur that integrated conservation-

development projects and community conservation, in general, create a stake and incentive for the local communities in conserving a particular resource.

Cross-level institutions such as co-management provide ways to deal with linkages in a variety of complex adaptive systems, such as self-organization, uncertainty, resilience and challenges of scale (Berkes, 2006). Recognition and strengthening of the local institutions and state institutions in the management of commons (Berkes, 2002) is another aspect in the discussion of cross-level linkages. Various authors mention the increasing nature of commons problem that are global in scale and that have a range of new issues, largely due to extreme size and complexity requiring a different sets of challenging solutions (Ostrom et al., 1999; Young, 2002 and 2006; Dietz et al., 2003). Studying institutions that regulate long-standing common-pool resources at various levels can provide important lessons for governing these new common-pool resources (Dolsak and Ostrom, 2003).

In discussing the role of institutions in the governance of the commons, Agrawal (2002) analyzed the facilitating conditions identified by Wade (1988), the design principles determined by Ostrom's (1990), and conclusions presented by Baland and Platteau (1996). In this analysis there are four frames Agrawal uses: resource systems characteristics, group characteristics, institutional arrangements, and external environment in the management of common property resources (Agrawal, 2002). Most of Ostrom's design principles governing the working of the institutions are locally-based, except two: legal recognition of the institutions by higher-level authorities and nested

institutions<sup>3</sup> (1990). Dietz et al (2003) discuss the importance of locally-evolved human institutions governed by stable communities and buffered from outside forces, having successfully sustained resources for centuries. Critical environmental problems, such as trans-boundary pollution, tropical deforestation, and climate change, are at a large scale and involve non-local influences requiring complex and layered institutional strategies for addressing these problems, including dialogue among interested parties, officials, and scientists (Diez et al., 2003).

On the other hand, Cash and Moser (2000) identify challenges inherent in addressing multi-level environmental problems, and outline tentative guidelines for addressing such challenges and linking science and policy across levels. These challenges include matching scales of biophysical systems with levels of management systems, avoiding scale discordance (matching the scale of the assessment with level of management), and accounting for cross-level dynamics (Cash and Moser, 2000). They propose tentative guidelines for meeting such challenges for both assessors and decision-makers:

- 1) utilize boundary organizations which are institutions that serve to mediate between scientists and decision-makers, and between these actors at different levels;
- 2) utilize scale-dependent comparative advantages, coordinating the allocation of resources, technical expertise, and decision-making authority to best capitalize on scale-specific capabilities; and

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<sup>3</sup> Nested institutions or enterprises refer to the concept of federalism, with local knowledge and local institutions prevailing where appropriate, but still embedded within an institutional structure to accommodate larger and broader interests. The concept of nested systems focuses on the interrelationship among systems at different levels.

3) employ adaptive assessment and management strategies, which include constructing long-term, iterative, experiment-based processes of integrated assessment and management (Cash and Moser, 2000).

Similarly, Dolsak and Ostrom (2003) recognize that challenges to the commons in the new millennium are multifaceted and the ways in which the resource users adapt to these challenges are unique, as are the circumstances in which they occur and the importance of devising new institutions to adapt to these challenges. It is understood that the increased interconnectedness of the biophysical world across levels and of institutions across levels requires that adaptation to challenges occur at multiple levels through allocation of rights to resources (individuals or communities through a process of devolution) (Dolsak and Ostrom, 2003). The process of forest harvesting, for example, takes place at local scales but can, in turn influence regional weather and global climate (MEA, 2005). Cross-level interactions are features of both ecological and socio-economic systems; for example, regional trade agreements that change commodity prices have impacts on local level decisions regarding what crops a farmer will plant in a particular year (MEA, 2005). Hence this interdependency of the resource and the evolution of new rules governing the resources call for partnership and cross-level interaction among the stakeholders involved.

### **3.3.2 Role of partnerships in development**

Closely linked to cross-level interaction in the management of resources is the concept of partnership. Often partnership implies participation, open recognition of social divisions,

active negotiation, and representation and inclusion of hitherto excluded groups in development intervention (Johnson and Wilson, 2000). Participation and partnership embody positive norms and practices in current development literature with a potential to transcend social divides (Johnson & Wilson, 2000). Johnson and Wilson (2000) in quoting Harris (2000), mention that partnership is used very loosely to refer to almost any kind of relationships between individuals and groups including straightforward contract relationships and asymmetrical relationships between northern and southern NGOs, in which the language of partnership thinly veils direction based on power differences. In this research, the concept of partnership with a similar meaning has been used.

Mitchell (2002) discusses many reasons for involvement of the public in resource and environmental management. By consulting with people living in a region who will be affected by a policy, program or project, it is possible: 1) to define the problems more effectively, 2) to access information and understanding that fall outside the scientific realm, 3) to identify alternative solutions that will be socially acceptable, and 4) to create a sense of ownership for the plan or solution which facilitates implementation (Mitchell, 2002).

Partnerships are imperative in the emerging global society and will shift focus of the provision of public service away from the centralized government provision (Wildridge et al., 2004). Some view that underlying principles behind creating and maintaining a successful partnership are generic and, although created in one particular policy area, they can be applied in others (Wildridge et al., 2004); however the context in which these

principles are applied, vary. They apply to inter-organizational and intra-organizational partnerships. Partnerships are hard work rather than soft options; and they epitomize an emergent process. Successful partnerships achieve more goals and often provide more significant benefits, than do individual agencies working alone (Wildridge et al., 2004). Through partnership arrangements, governments can benefit greatly from wide input and involvement of various stakeholders, fostering a sense of ownership for solutions reached (Rodal and Mulder, 1993). Partnerships can complement different roles and functions performed by different agencies thereby strengthening the development and conservation interventions at the community level.

Some commonly cited success factors for partnership include shared vision among the partners involved, strong level of mutual trust, clear and consistent communication, and inclusion of service users' perspective (Wildridge et al., 2004). In general, Wildridge et al (2004) state that there are twenty success factors grouped under six categories; environment, membership, process and structure, communication, purpose, and resources. The Equator Initiative cases analyzed in this research make reference to some of these factors.

### **3.4 Development, sustainable livelihood and biodiversity conservation**

Historically, small-scale societies have long been engaged in the commodification of nature: extracting, producing, processing, and trading a diversity of products from a broad spectrum of natural environments (Zerner, 2000); and conserving the natural, biological resources in the course of using them. Even today we find local grassroots and

indigenous communities actively charting a path towards a more sustainable future, using their biological resources in creative and sustainable ways for food, medicine, shelter and improved livelihoods. Today, debates on biodiversity conservation are imbedded with critical questions about how biologically-endowed countries can achieve economic progress while balancing environmental and social concerns, and how equity can be built into the distribution of benefits derived from the commercialization of natural resources obtained from biologically diverse countries (Laird, 2002). It is widely recognized that conservation of biodiversity and biological resources depends upon the mobilization and support of local people and of the countries where this biodiversity is found (Blauert and Dietz, 2004; Graham et al., 2003).

Mexico developed and implemented an innovative program (PRODERS)<sup>4</sup> for regional sustainable development. This program is founded on the principles of participation, decentralization and integrated development in a new effort to challenge social and environmental deterioration (Blauert and Dietz, 2004). It is an attempt to institutionalize people-centered processes and participatory approaches for natural resource management. PRODERS uses participatory policy analysis to understand the successes and shortcomings of institutionalizing participatory approaches in government and civil society organizations working in natural resource management at the local, regional and national level (Blauert and Dietz, 2004). Here is an example that provides lessons about three levels of organizations co-operatively trying to tackle poverty and, at the same time, to achieve sustainable natural resource management (Blauert and Dietz, 2004).

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<sup>4</sup> Mexican Regional Sustainable Development Program (Programa de Desarrollo Regional Sustentable)

Bebbington and Batterbury (2001) outline the analytical value of grounding political ecologies of globalization in notions of livelihoods, scale, place and network; they acknowledge this requires an understanding of the linkages between rural people to global process. There is evidence that exploitation of these linkages can, under certain circumstances, result in new options and markets for rural people in marginal regions, even though many rural societies also confront serious political, environmental and economic challenges that are likewise derived from globalization (Bebbington and Batterbury, 2001). Dryzek (2006) elaborates this further when he mentions that

“Sustainable development’s purview is global; its justification rests in present stresses imposed on global ecosystem. But unlike survivalism, it does not stay at that global level. Sustainability is an issue at regional and local levels too, for that is where solutions will have to be found (as made clear in *Local Agenda 21*, whose principles have been adopted by local governments around the world). Thus the basic entities stressed in sustainable development are nested systems, ranging from the global to the local. The systems in questions are both social and biological” (Dryzek, 2006).

Paradoxically, the world’s greatest concentration of surviving biological diversity and wealth is found in the tropics, in areas populated by the worlds most impoverished and deprived populations of Africa, Asia, Latin America and the Caribbean (UNDP, 2004). These impoverished people inhabit communities excluded from national political systems that suffer the worst of the impacts-and receive the least of the benefits-from the global economy that extracts resources and promotes development projects in their regions. This

biological wealth is under threat as never before. More importantly poor people's livelihood is strongly dependent on the product of nature and their realities are local, diverse, often complex and dynamic and they are intricately linked to the management and use of resources (Chambers, 1995). Chambers emphasizes the importance of enabling poor people to analyze and articulate their own needs, putting their priorities first. Hence sustainable and unsustainable uses of biological resources are in competition, local people need economic incentives (Berkes, 2006) to select sustainable uses, and the legal and institutional protection of the right to maintain their sustainable uses, for example, through legal recognition of their traditional land or sea tenure.

Low-income levels, high unemployment rates, and economic marginalization characterize local indigenous and tribal communities in many parts of the world, in general. Indigenous and tribal groups often live in geographically remote areas and tend to be socially and politically marginalized, as well (Berkes and Adhikari, 2006). The various kinds of marginalization experienced by indigenous people are often rooted in conflicts over land tenure. Hence the economic rewards to local and national economies from sustainable use must be maximized in order to make it economically feasible for the custodians of biodiversity and biological resources to conserve them. Poor people's livelihood is drawn on multiple economic activities and resources; some of these activities and sources are cultivating field crops, keeping livestock, home gardening, mutual helps, child labour, family splitting, domestic services, casual labour, transporting goods on their backs and using animals, craftwork, common property resources and many

other similar activities (Chambers, 1997). The Equator Initiative program is based on this understanding of livelihood dependence on multiple economic activities.

Beck and Nesmith (2001), reviewing cases from India and West Africa and focusing on building poor people's capacities, find that development initiatives need to build on people's assets and strengths and identify common property resources as a crucial element of poor people's coping and adaptive strategies. They focus on poverty reduction, equity, gender, management issues; discuss how development organizations and government have refocused their attention on poverty; and mention that common property resources provide an entry point to understanding poor people's perceptions of poverty and for building on their capacities (Beck and Nesmith, 2001). Common property resources are of crucial importance to the people in poverty in the rural areas of developing countries in supplementing their livelihood needs and contributing to their benefits, since common property resources exist as informal sources of income to them (Beck and Nesmith, 2001).

Common property resources also play a redistributive role and, as such, they are of greater importance to the people living under poverty than to the rich. Hence it is important that the poor peoples' knowledge and abilities must be understood within the context and socio-economic structures 'which reduce poverty and incorporate development planning (Beck and Nesmith, 2001). In India common property resources constitute 15 to 23 percent of poor people's income and contribute substantially to village equity. Compared to this, communities and poorest households in West Africa obtain 20

percent of food from bush sources' (Beck and Nesmith, 2001). The Equator Initiative cases similarly are built around recognition of community assets and the strength of the local communities living in poverty; and thus aim to promote sustainable development using the commons resources.

Community-oriented business entrepreneurship is another crucial area that has helped the communities in enhancing their livelihood requirements. The nature of community benefits strongly suggests that indigenous entrepreneurship tend to focus on social enterprise and local cultural values (Cavalcanti 2002). Indigenous entrepreneurship is one such effort involving social as well as economic development, integrating the two through community-based development (Berkes and Adhikari, 2006). Finding leading examples of these types of alternative livelihood schemes and community-based conservation efforts is the focus of the recently established Equator Initiative (Timmer and Juma, 2005); and there is very little research conducted in mapping these alternative sources of livelihood approaches and grass-roots conservation efforts. In the Equator Initiative program cases; there are many examples that illustrate the various forms of community oriented business enterprises which have proven to empower communities and to give them a steady flow of income. There is evidence that sustainable livelihood plans and alternatives to exploitative use of natural resources were introduced; these plans include such activities as the extraction of non-timber forest products, agro-ecology, and eco-tourism (Timmer and Juma, 2005).

### **3.5 Learning and adaptive management in governing resources**

The governance literature is diverse and varied, but it tends to converge on the belief that the traditional process of governance by state through creation of diverse structures and functionaries is changing, along with the new reality that the state's roles in governance is diminishing with civil society groups, private sector, NGOs and other alternative forms of governance emerging, especially in the areas of resource management. Various countries are diversifying their role, at varying degrees, from controlling resource management in a top-down approach towards being a facilitator, managing partnerships with various stakeholder groups such as NGOs, other civil society groups, private sector, communities, international organizations and individuals.

Global governance is normatively about dispersing power away from hegemonic centers of power, especially states; about extending and overcoming resistance to liberal democratic values and procedures; and about ordering people and things through recourse to reason, knowledge and expertise (Duffy, 2005). Global governance implies a set of neo-liberal ideas and policies translated into programs and projects. These policies are aimed to govern people, resources and activities through complex networks of actors, rather than through a single source of power and authority, such as a state (Duffy, 2005). This notion underscores the importance of learning and utilizing knowledge possessed by various stakeholder groups participating in management of resources.

In an increasingly complex world, people are beginning to learn that our actions can deeply affect the intricately complex and interdependent biosphere our lives depend on.

In assessing the environmental impacts of human actions, we can rely neither on technological fixes nor on experts (Kerans and Kearney, 2006). Communities have to accept responsibility to find the probable impact of their actions on the environment, using both the common-sense knowledge that comes from their longstanding everyday experiences, and the findings of scientific experts (Kerans and Kearney, 2006). In order to accept this responsibility, communities must acquire not only an accurate account of the world discovered by modern science but also understood the full complexity of the social world where communities live and in which they have a hand in creating (Kerans and Kearney, 2006). Kooiman (2003) views societal quality made up of public and private governors, interacting and creating a governance structure as a mix of all kinds of governing efforts by all manner of socio-political actors, public as well as private; occurring between them at different levels, in different governance modes and orders.

The notion of governance is understood as a process of interaction between different societal and political actors and the growing interdependencies between them as modern societies become more complex, dynamic and diverse (Kooiman, 2003). It calls for communities and experts working together in partnership. Kooiman (2003) further reiterates that responses to diverse, dynamic and complex societal issues require approaches involving previously uninvolved partners, looking not only at the market (as seems to have been an almost universal response in recent years), but also looking at 'civil society' actors as serious governing partners. Because human actions are dominant in socio-ecological systems, adaptability of the system is mainly a function of the social

component: the individuals and groups acting to manage the system and their actions influencing resilience (Walker et al., 2004).

Brown (2002), discussing the importance of understanding communities better in the 'new conservation' approaches, mentions that people living adjacent to the protected areas and biological resources are key actors to be involved in conservation initiatives and that local or proximate populations are critical stakeholders. In many circumstances, however external stakeholders (as in a Brazilian Reserve) do not live in the immediate vicinity but they are very powerful actors and significantly influence the way in which resources are used through their patronage with local residents and users (Brown, 2002). Therefore, a more conceptually useful way of understanding the actors, who influence and are impacted by ICD interventions, demands a more rigorous stakeholder analysis that can identify which actors are actually key stakeholders (Brown, 2002).

Agrawal (2002) notes the understudied aspects of population pressure and market linkages, especially the influence of global markets on the local resources and the importance of local and state relations. As an increasing number of governments decentralize control over diverse natural resources to local user groups, questions about the reasons behind such loosening of control and the effects of differences in organization of authority across levels of governance become very important (Agrawal, 2002). Moreover, the utility of both local government and community-based organizations can be considerably enhanced when these agencies work in partnership with one another (Krishna, 2003). There is inadequacy of cases and examples for the systematic

examination of variations in these relationships, and for the determination of how these variations affect the nature and outcome of common-pool and community based resource management (Agrawal, 2002). The study of diverse Equator Initiative cases will help better understanding these relationships and their impact to resource management.

It is believed that day-to-day governing occurrences appear to be complex, layered interaction processes enacted between a variety of actors or entities with discrepant interests and ambitions (Kooiman, 2003). Reiterating the importance of new approaches of governance in resource management, Lebel et al (2006) present three propositions:

- 1) participation builds, and deliberation to the shared understanding needed to mobilize and self-organize; 2) polycentric and multi-layered institutions improve the fit between knowledge, action, and social-ecological contexts in ways that allow societies to respond more adaptively at appropriate levels; and 3) accountable authorities that also pursue just distributions of benefits and involuntary risks enhance the adaptive capacity of vulnerable groups and society as a whole.

These propositions are similar to the arguments presented by (Cash and Moser, 2000) discussed earlier that recognize the complex and multi-scale nature of environmental problems requiring interactive governance through continuous learning and adaptation.

A learning approach to natural resource management allows us to treat our interventions as educative processes that can contribute to continuous improvement and can expand our understanding of the interactions between people and their environments (Keen and

Mahanty, 2006). A learning approach requires a shift from our conventional reliance on narrow bodies of knowledge to more inclusive methods of generating knowledge that draw together a range of different types of knowledge (Keen and Mahanty, 2006). This has partly been achieved in natural resource management but learning processes could be improved with a clearer understanding of how learning and knowledge sharing across stakeholders groups occurs (Keen and Mahanty, 2006).

The capacity to combine effectively or to integrate understanding gained from different sources and forms of knowledge, including tacit and formal knowledge, increases the likelihood that the key thresholds and components of diversity will be acknowledged (Lebel et al., 2006). When learning occurs among multiple stakeholders, each stage becomes more complex, and thus dialogues with stakeholders are needed to address diverse knowledge, experiences, and values (Keen and Mahanty, 2006). Additionally, individuals and social groups need to reflect on the learning processes and their meaning for individuals and group behaviour, since knowledge is contextual-existing in relation to the place in which they occur, the experiences from which they arise, and the cultures with which they are associated (Keen and Mahanty, 2006).

### **3.6 Traditional knowledge in the management of biodiversity resources**

In this research, reference has been made to this traditional knowledge of the communities and how it had been instrumental in managing biodiversity resources. Biodiversity research and prospecting involve the use of traditional knowledge (Berkes, 1999; Berkes, 2004). Traditional knowledge usually refers to cultural continuity

transmitted in the form of social attitudes, beliefs, principles, and conventions of behaviour and practice derived from historical experiences (Berkes, 1999). Berkes (1999) further explores the various levels of traditional knowledge such as local knowledge of land and animals, land and resource management systems, social institutions and worldview.

Moreover, for thousands of years people have self-organized to manage common-pool resources, and users often do devise long-term, sustainable institutions for governing these resources (Ostrom, et al., 1999). In supporting this view, Berkes (2002, 2006) cites evidence from the management of small-scale fisheries and marine commons where the communities self-organized at the local level in responding to the demands of common property resources. Indigenous communities tend to have substantial knowledge and understanding of the local fauna, flora and ecological process, knowledge that has been accumulated by generations of observation, practice and learning transmitted culturally (Berkes and Adhikari, 2006). The ecological knowledge held by local indigenous groups is qualitatively and quantitatively different from that of colonists in Amazonia and in the Equator Initiative cases there is explicit mention of the local or traditional knowledge in 19 of the 42 cases investigated (Berkes and Adhikari, 2006). The importance of traditional knowledge in development has been recognized for sometime. This traditional knowledge gives local communities comparative advantage in certain areas.

Traditional knowledge possessed by indigenous communities in different parts of the world in the form of agricultural practices, traditional medicines, hand made arts and

craft items have given local communities a good source of income (Finger and Schuler, 2004). In some instances, such as Kani tribes in India, the production of the pharmaceutical drug, (Jeevani), is based on traditional knowledge of the communities through equitable benefit sharing arrangements with the producer of the drug (Finger and Schuler, 2004). Similarly, various kinds of indigenous environmental knowledge have come to be accepted and used by scientific experts in a number of areas (Berkes, 1999) providing innovative tools for analysis and management of resources.

### **3.7 Conclusion**

From this analysis of the literature, it is possible to discern that there is a strong role of relationship and networks between conservation agencies and development intervention with practitioners focusing on negotiation and network building as a primary, rather than a secondary, part in the intervention process (Mahanty, 2002). There is evidence that the recognition and strengthening of community institutions such as rules governing the access of common property resources, participation of the communities in the management and ownership of conservation (Chambers, 1995; Brown, 2002) are being practiced. Institutions that consist of formal and informal rules that monitor and enforce mechanisms can become systems of meaning which define the context within where individuals, corporations, labour unions, nation-states, and other organizations operate and interact. These are considered the foundations of social life (Campbell, 2004).

In the forty two Equator Initiative indigenous cases studied, varying degrees of complexity were found between the relationships existing at different levels of the

organizations (Berkes and Adhikari, 2006). Research carried out on the Equator Initiative cases by other scholars in Asia, Africa and South America also demonstrates the existence of strong partnership and cross-level institutional linkages (Berkes and Adhikari, 2006; Maurice, 2004; Orozco-Quintero, 2006; Senyk, 2006; Sexas et al., Submitted). Since the Equator Initiative cases originate from many countries and cultures, they reveal complexity and the global nature of the commons-thinking in which communities are experimenting with innovative and challenging solutions. At the same time, communities themselves are complex, embedded into even more complex systems (Berkes, 2006). Cross-level arrangements, such as co-management, provide ways to deal with linkages in complex adaptive systems (Berkes, 2006); and the Equator Initiative cases exhibit examples of various ways in which partners have dealt with environmental and resource management.

# Chapter Four

## Results and General Findings

### 4.1 Introduction

This chapter describes some of the land and resource based initiatives in the three productive sector categories of forestry/agro-forestry, non-timber forest products and medicinal plants, and their distribution in the three regions of Africa, Asia/Pacific and Latin America/Caribbean as outlined in Table 2.2.3. The discussion will focus on general findings and will complement the effects of type of partners and kinds of partnerships analyzed in Chapters Five and Chapter Six. These three categories are part of fourteen productive sector activities listed under the Equator Initiative as outlined in Table 2.2.4. The discussion in this thesis will focus on these three productive sector sub-categories from among those fourteen. The case descriptions illustrate the kinds of resources the communities in the Equator Initiative Programs dependent on for their livelihood and community development needs.

Some examples of resources and various activities the communities, which are dependent in the three productive sector sub-categories, are summarized in Tables 4.1.1, 4.1.2 and 4.1.3. The findings profiled in these three tables and in the case descriptions outline the type of activities the communities are involved, the various kinds of benefits derived from these activities; and show how these activities facilitate them in strengthening their different categories of assets ranging from community empowerment, poverty reduction and biodiversity conservation. First, the findings of the kinds of the resources used will

be presented followed by analysis. Second, discussion and analysis of the various types of community benefits will be presented.

**Table 4.1.1 Profiles of selected forestry/agro-forestry cases from 2004 Equator Prize nominations**

| <b>Case</b>   | <b>Region</b>  | <b>Brief description of the case and resources</b>  |
|---|--|---|
| San Juan  | Purepecha Indigenous people, Mexico  | Community ownership of 11000 hectares of Forest land in a biodiversity-rich region with a multifaceted social enterprise based on sustainable forestry and forest products (furniture and resins), ecotourism, agro-forestry and wildlife management  |
| Community Enterprise Forum – India (CEFI)           | Four talukas (counties), Tamil Nadu, India                                   | Consortium of 80 community based organizations, mostly women growing and selling organic and ethnic food and herbal medicines, using bio-energy, setting up revolving funds   |
| AIR project   | Rural communities of Chimaltenango, central Guatemala and Northern Nicaragua | Fostering the building and maintaining of tree nurseries for reforestation and community based sustainable farming in farmers fields to provide economic incentives to stem slash and burn practices and to stimulate forest re-growth  |
| The Kakamega Forest Integrated Conservation Project | Kakamega forest area, Kenya  | Conservation of rainforest through promotion of non-forest derived income generating activities for local communities (beekeeping and sericulture technologies, cultivation of medicinal plants, sale of energy conservation stoves) and promoting fuel-wood energy-saving methods                  |
| Local Empowerment Foundation                        | Mindanao, the Philippines  | Provides sustainable livelihoods to marginal, poor farmers by recycling of coco coir to produce soft spring beds, the planting of trees in an agro-forestry system, raising of small and large farm animals, and the marketing and sale of value-added products                                     |
| Kyantobi Agro-Forestry Community Association        | Small village 12 Km from the Bwindi Impene-trable National Park, Uganda      | A hilly region of high population density and degraded environment; villagers restore the watershed functions to control floods through community group nurseries for high value soil retaining tree species for environmental resilience and at two economic activities for each family for income |

*Source: Equator Initiative Database*

**Table 4.1.2 Profiles of selected non-timber forest product cases from 2004 Equator Prize nominations**

| <b>Case</b>   | <b>Region</b>   | <b>Brief description of the case and resources</b>  |
|---|---|---|
| Ngata Toro Community                                | Ngata Toro Village, Indonesia (Indigenous people)                                   | Traditional lands within the National Park recognized by the Park Authority using indigenous knowledge to manage natural resources; Sustainable harvesting and production of Non-Timber Forest Product, low external impact agriculture, fish farming, eco-tourism and protection of forest by various methods  |
| Conservation Melanesia                              | Indigenous Maisin people, Oro Province, Papua New Guinea                            | Battle against a fraudulent land deal involving logging and oil palm plans, and return of the Maisin lands to them; Involved in the production and sale of tapa, a traditional cloth for earning a living as an alternative to logging and the income paid to local artists and to a local community fund   |
| Sexto Sol Center,                                   | Sierra Madre region of Mexico and refugee communities, Guatemala                    | Community-based projects located in three geographical regions; Furthers income generation, food security, gender equality, and attempts to reverse to the destruction of the forest and supporting alternative sustainable livelihood strategies; Operates a demonstration school for sustainable food production and ecological park  |
| Ekuri Initiative,                                   | The Ekuri, indigenous people, the buffer zone of a National Park, southeast Nigeria | Community forest project for sustainable timber harvest, wild vegetables, non-timber forest products such as rattan used communally; Involves two villages with a population of 6,000 people and jointly possess 33,600 hectares of tropical forest on their communal land; Stopped logging concessions on their land and managed the forest for low-impact traditional harvesting, sale of timber and NTFP |
| Wildlife and Environmental Society of Malawi (WESM) | Mwanza east, Malawi   | The Non-Government Organization formed in five villages to address problems of forest degradation due to charcoal burning and trade in forest products; It benefits more than 35 villages with a total population of 40,000 through promoting and helping to implement a number of conservation based enterprises based on indigenous knowledge systems   |
| Programa Mulher Cabocla,                            | 143 remote communities on the Amazon, Tapajos and Arapiuns rivers, Brazil.          | The communities work has centered on education and community capacity strengthening using popular theatre; Work with a women's organization involved in the production of palm baskets from sustainable managed palm, traditional handicrafts skills, diversification of products, quality control and organizational strengthening and 15% profit going to a community fund                                |
| Guassa-Menz Natural Resource Management Initiative, | Guassa-menz area, Afro-alpine ecosystem, Ethiopia                                   | Operates based on a centuries-old land tenure system, 'Qero' and a benefit-sharing and survival strategy for times of drought and involves the controlled harvesting of grasses for thatching, fuel-wood from the shrub lands, and grazing for cattle; Contributes to increased community well-being through reduced dependence on external food aid and income from the sale of thatch                     |

*Source: Equator Initiative Database*

**Table 4.1.3 Profiles of selected medicinal plant cases from 2004 Equator Prize nominations**

| Case  | Region  | Brief description of the case and resources   |
|---|---|---|
| Community Based Forest Managers of DuralHaitem ba Village | 8 village communities in Manyara Region, Tanzania             | Managing sustainable resources as a forest reserve with government support providing benefits to 45 villages; Improved food security as fuel wood, medicinal herbs, building materials, fodder for livestock, honey, mushrooms, fruits, and vegetables are plentiful  |
| Fundacion Chankuap  | 56 Archuar indigenous communities, Peru and Ecuadorian Amazon | Began with a primary objective of combating poverty (ensuring food security, health and cultural well-being) in the communities and income generation; Introduced a range of activities such as forest management plans; native species nurseries; reintroduction of traditional Archuar gardens; Promoting trade among the communities before trading outside  |
| Fundacion ESPAVE  | Biodiversity hotspot of global significance, Columbia         | A women's organization established to produce medicinal herbs where both biodiversity and local communities were threatened by resource exploitation by outside interests; The products are sold in a supermarket chains at good price; Regulations for medicinal herb extraction framed by members of the network; Traditional knowledge applied to local biodiversity leading to economic returns   |
| Rwoho Forest Community Conservation Project               | Local communities on the edge of Rwoho Forest Reserve, Uganda | Establishes collaborative forest management and equitable benefit sharing established between the forest edge community and the forest department; Through seed collection, tree nursery establishment and maintenance, reforestation with indigenous species, medicinal plants, beekeeping and honey production and marketing, renewable energy and fuel saving stoves, the communities is improving their well being and the forest   |
| Mama Watoto Women Group                                   | 20 women near Kakamega rain forest, Kenya                     | Initiative of women headed households with absentee husbands started self-help project in response to restrictions on collecting resources from the Kakamega rain forest; Started wood supply by planting trees, introduced income-generating activities: cultivating medicinal plants, beekeeping and Soya processing; Ensured the survival of indigenous species, improved biodiversity and ensured food security   |
| The Community Agro-biodiversity Center                    | Swaminathan Research Foundation, Kerela, India                | Pioneered in researching and recovering rice varieties, in training groups of mostly women in cultivating and processing medicinal plants, mushrooms for sustainable production of food and conservation of natural resources; Revitalizing traditional health care by training members of women's Self Help Groups in the conservation and sustainable use of medicinal plants; Involved in a network of partners including local communities and the formation of 15 NGOs addressing biodiversity |
| Bustaan Village   | Bustaan, Gambia   | Gained ownership of forest site and took over responsibility for sustained management with a joint forest park management agreement with the Department of Forestry; Uses the natural resources in a sustained way for their own domestic use; Commercializes timber products in controlled manner and proceeds invested in communal projects   |

*Source: Equator Initiative Database*

## **4.2 Communities' dependency on types of land and resource-based initiatives:**

### **Findings**

The findings from various cases are categorized based on the different kinds of activities the communities are involved with. Individual cases practice uniquely different kinds of activities based on the socio-cultural and geographical situation where the case is based. Many activities, however, are similar and so they can be grouped and categorized into some forms.

#### **4.2.1 Forestry/agro-forestry**

As described in Table 4.1.1 some communities own their own land and they practice various small scale business enterprises. The San Juan Project (Mexico) owns 11000 hectares of Forest land in a biodiversity-rich region with a multi-faceted social enterprise based on sustainable forestry and transformation of forest products (furniture and resins), eco-tourism, agro-forestry, and wildlife management. In the AIR project of central and northern Nicaragua, many Village Leadership Committees have started community micro-businesses such as selling tree seedlings and planting medicinal gardens to produce medicines, soaps, candles and other products. The Community Enterprise Forum of India (CEFI) generates income through the cooperative marketing of the produce from biodynamic farming and ethnic recipes, handicrafts such as palm baskets, terracotta pottery, and herbal medicines.

In some cases like AIR project (Nicaragua), foresters build and maintain tree nurseries for reforestation and community based sustainable farming in farmers fields to provide

economic incentives to stem slash and burn practices and to stimulate forest re-growth. AIR has brought its lessons to 48 villages and 166 schools, teaching over 30,000 rural residents. Sustainable farming in corn and vegetables has doubled, reducing poverty by both improving crop productivity and providing free organic fertilizers and pesticides. The Kakamega Forest Integrated Conservation Project (Kenya), focuses on conservation of the only rainforest in Kenya by promoting non-forest derived income generating activities (90% of it carried by women) for local communities including beekeeping and sericulture technologies, the cultivation of medicinal plants, the sale of energy conservation stoves, and provision of credit facilities. It initiated the establishment of community-owned and managed Financial Service Associations (FSAs) or 'Village banks' for credit provision for communities around Kakamega forest. By the end of 2002, the community members have saved a total of US \$34,320 in the village bank and they have taken loans amounting to US \$17,641.

Kyantobi Agro-Forestry Community Association (Uganda) is a hilly region of high population density and degraded environment prone to landslides. Villagers began a movement to restore the watershed functions to control floods and their future. The village established community group nurseries growing high value soil retaining tree species for environmental resilience and income. The hill slopes and abandoned land are being replanted with soil controlling tree species, and new income generating activities are helping overcome poverty.

#### **4.2.2 Non-timber forest products**

The summary of the cases discussed in this section are also presented in Table 4.1.2. Some cases are indigenous initiatives with land claims and ownership over the resources as the basis of operation. The Ekuri Initiative (Nigeria) involves a community forest project begun in 1992 to harvest timber, edible wild plants used as vegetables, rattan and other products from a community forest. The Ekuri are a small indigenous group occupying five villages and controlling nearly 10 percent of the reserve forest outside of the National Park. Two villages with a population of 6,000 people jointly control 33,600 hectares of tropical forest on their communal land, probably the largest communally controlled forest remaining in Nigeria. Logging concessions (for outsiders) have been stopped eliminating middlemen in the sale of their timber. They manage the forest for low-impact harvesting, sale of timber and Non-Timber Forest Products (NTFP). Eliminating timber extraction and replacing it with small-scale use of variety of non-timber forest products and services from the forest ecosystem is a common approach used in many other Equator Initiative cases, such as Mgori Village Forest Reserve (Tanzania) and San Juan (Mexico).

In the Ngata Toro Community (Indonesia) Project, indigenous peoples live in their traditional lands within the National Park. The Park Authority has formally acknowledged their traditional lands and use indigenous knowledge to manage natural resources. Communities are involved in sustainable harvesting and production of NTFP, low external impact agriculture, fish farming and eco-tourism that are helping to reduce poverty and build self-reliance. The forest is protected by variety of methods:

identification of special areas for resource extraction and for protection through participatory land use mapping and spatial planning; traditional fines and social sanctions to discourage illegal activities; a system of customary laws, collaboration with the Park Authority, and traditional forest rangers controlling sustainable extraction of natural resources.

The Conservation Melanesia Papua (New Guinea) project emerged out of a three year battle against a fraudulent land deal involving logging and oil palm plans, and the subsequent return of the Maisin lands to them. The NGO now supports the community of nearly 3,000 people living in nine villages and covering nearly a million acres of land. They are involved in the production and sale of tapa, a traditional cloth made from sustainably-harvested bark and painted with dye from berries, as an alternative to logging. Maisin people now earn their living by selling NTFP, and the income goes to local artists and to a local community fund. The project helps the artisans to promote and sell their cloth and provides office equipment for their enterprise.

Similarly, the Wildlife and Environmental Society of Malawi (WESM), which is a community-based natural resources management project, addresses problems of forest degradation due to charcoal burning and trade in forest products. Today it benefits more than 35 villages with a total population of 40,000 through promoting and helping implement a number of conservation based enterprises based on indigenous knowledge systems. These include production of juice from Baobab and Tamarind trees, growing tree fruits, rearing and selling guinea fowl, beekeeping and honey production.

The Guassa-Menz Natural Resource Management Initiative project (Ethiopia) operates successfully, based on a centuries-old land tenure system locally called 'Qero.' It is a benefit-sharing and survival strategy for times of drought, and involves the controlled harvesting of grasses for thatching, fuel-wood from the shrub lands, and grazing for cattle. Due to the user-laws set up by the community, thatching grass is now abundant and can be sold.

#### **4.2.3 Medicinal plant cases**

The cases described in this section are also summarized in Table 4.1.3. Some cases are established where the government has recognized the community knowledge and management practices. In Community Based Forest Managers of DuralHaitemba Village (Tanzania), responding to Tanzania's 1990 drive to gazette woodlands for conservation, these villages, which relied on the forests for their means of subsistence, convinced the government to support them in managing their resources as a forest reserve. The project generated tangible benefits within a short time and today has scaled up to a total of 45 villages actively engaged in poverty reduction activities through sustainable biodiversity conservation. The Bustaan Village (Gambia) gained ownership of a forest site and took over responsibility for its sustained management through a joint forest park management agreement with the Gambian Department of Forestry. The village is using the natural resources in a sustained way for their own domestic use. It also commercializes forest timber products in a controlled manner; it has benefited from the sale of wood in high

demand. Proceeds have been invested in communal projects, enabling each family to receive benefits out of it.

Some projects are established for equitable benefit-sharing mechanism. The Rwoho Forest Community Conservation Project (Uganda) establishes collaborative forest management and equitable benefit sharing between the forest-edge community and the forest department. Through seed collection, tree nursery establishment and maintenance, reforestation with indigenous species, medicinal plants, beekeeping and honey production and marketing, renewable energy and fuel saving stoves, the communities are improving their well-being and the forest health.

Some projects have been initiated by women-headed households, and resulting in the enforcement of women's role. The Mama Watoto Women Group (Kenya) is an initiative of women-headed households with absentee husbands. Women started this self-help project in response to restrictions on collecting resources from the Kakamega rain forest. They began their own wood supply by planting trees, and introduced a number of income-generating activities: cultivating medicinal plants, beekeeping and Soya processing. The women grow fast-maturing trees for firewood and timber in "women-made forests" and indigenous medicinal herbs for themselves and to sell to traditional healers. Because of the benefits to the extended community, encroachment in the forest and conflict with forest wardens is decreasing.

The Community Agro-biodiversity Center (India) has pioneered in researching and recovering rice varieties and in training groups of mostly women in the cultivation and processing of medicinal plants and mushrooms. The result has been sustainable production of food and conservation of natural resources. The Center is revitalizing traditional health care by training 500 members of women's self help groups in the conservation and sustainable use of at least 75 species of medicinal plants and by equipping them with skills and knowledge in the preparation and storage of 36 different healthcare products that are in large demand. The Center is also involved in a network of partners that includes local communities and has fostered the formation of a network of 15 NGOs in the district, each addressing different biodiversity aspects.

#### **4.3 Types of land and resource based initiatives: Analysis**

The focus in this thesis is on forestry/agro-forestry (N=95 cases), non-timber forest products (N=41), and medicinal plants (N= 37) cases. Case descriptions presented in Tables 4.1.1, 4.1.2, and 4.1.3 and analyzed here are based on randomly selected cases from these three categories of cases. Other productive sector activities, such as agriculture (N=94 cases), eco-tourism (N=50), protected area management (N=33), ecosystem restoration (N=51), livestock (N=41), apiculture (N=31), ecosystem services (N=51), are equally important for the communities but are not covered by the analysis in the thesis.

Communities are involved in wide range of innovative experiments that are specifically relevant to their local context. There are similarities, however, of trends and patterns

observable across these diverse cases and reflective of community lifestyle, culture and social-economic patterns as discussed below. The cases in Equator Initiative Program are generally community-oriented as demonstrated by information in Table 2.2.1. Table 2.2.3 lists large numbers of cases as locus focus: forestry/agro-forestry (N=54); non-timber forest products (N=26); and medicinal plants (N=24), as compared to state/provincial, regional and national focus that is significantly smaller in numbers. This is reflective of the importance of community orientation of productive activities in the Equator Initiative cases.

#### **4.3.1 Dependence of community livelihood on varieties of products and activities**

As in the set of indigenous cases (Berkes and Adhikari, 2006), communities tend to advantageously combine many different kinds of productive activities using more than one resource type (Tables 2.2.4, 4.1.1, 4.1.2, and 4.1.3). For instance, agriculture, forestry/agro-forestry, livestock rearing, making of arts and craft items are commonly combined by the people. Some combination of activities are subsistence oriented such as agriculture and livestock; and others such as fishery, arts and craft, cultivation of medicinal plants, harvest of non-timber forest products are oriented towards income-generation and poverty reduction. As it can be seen from Tables 2.2.4, 4.1.1, 4.1.2, and 4.1.3 many productive sector activities could fit more than one category and these cases are often overlapping.

The communities are practicing a wide variety of integrated income-generating and business activities such as cultivation of non-timber forest products, medicinal plants,

seeds of rice varieties, Soya processing, mushrooms, peanuts, cacao, turmeric, ginger, growing tree fruits, production of juice from baobab and tamarind trees and others on a small scale. They are involved in beekeeping, ecotourism, and handicrafts such as palm leaf baskets, pottery, macadamia nuts, women's weaving cooperatives, honey production and many other income generating sources. Communities' dependence on these various economic and income generating activities is an indication that common property resources are crucially important to the rural poor, and it is a strategy of coping and resilience for them (Beck and Nesmith, 2001). These activities are not only generating income for the communities in local ways of economizing or doing economics (Cavalcanti, 2002) but they are also able to sustain the resources through tree plantation, reforestation, introduction of improved farming techniques, sale of energy saving stoves and others.

#### **4.3.2 Multi-faceted social enterprises**

Communities in the Equator Initiative cases are dependent on multiple products and activities that supplement income sources and enhance their livelihood. For example, in the San Juan project (Mexico), P'urhépecha Indigenous people practice multi-faceted social enterprise based on sustainable forestry and transformation of forest products (furniture and resins), eco-tourism, agro-forestry, and wildlife management.

Many business and income-generating initiatives are either social enterprises or community micro-enterprises as in AIR project (Guatemala and Nicaragua) that are established for meeting multiple community objectives, including income generation

based on the practice of traditional knowledge, provision of employment opportunities and enhancement of community capacity. Many village leadership committees have started community micro-businesses such as selling tree seedlings and planting medicinal gardens to produce medicines, soaps, candles and other products. Community vision tends to over-ride all other individual and self-fulfillment objectives, and the running of the enterprises is guided by social objectives. This is evident in certain cases where the profits from the enterprise are paid to community funds for initiating community programs. Proceeds had been invested in communal projects for each family to receive benefits out of it as in the case of Bustaan Village (Gambia), Programa Mulher Cabocla (Brazil), and Conservation Malenesia (Indonesia) projects.

Some enterprises organize co-operative marketing. The Community Enterprise Forum of India (CEFI) generates income through the cooperative marketing of the produce from biodynamic farming and ethnic recipes, from handicrafts such as palm leaf baskets, terracotta pottery, and from herbal medicines. An emerging trend of communities practicing equitable benefit-sharing mechanisms either with the government, other communities or business enterprises, is noticed. In the Kyantobi Agroforestry Community Association, several enterprise groups have sprung up, which serves to play a large role in creating partnerships and friendships among village groups.

In some cases, communities initiate and operate financial institutions that are capable of providing funds for community-run enterprises and projects. For example, the Kakamega Forest Integrated Conservation Project (Kenya) initiated the establishment of community-

owned and managed Financial Service Associations (FSAs) or 'Village Banks' for credit provision for communities around Kakamega Forest. Since most community enterprises are small-scale, they are primarily targeted in meeting their local community needs. There are, however, some cases that are linked to the international or even national markets, such as CEFI and Kakamega Forest Integrated Conservation Project.

Some of the business initiatives are created by community ownership and shareholding, as in the case of the CEFI project where the Gram (Village) Mooligai (Herbs) Company Limited (GMCL) was created by the community organizations as shareholders and owners to trade in medicinal plants. Social sustainability of CEFI stems from low transaction costs, incentives for quick benefits and gender equity. Generally these community ways of organizing economic activities could be classified as an "ethno-economy". This comes from a situation where production, exchange and consumptions are socially organized and regulated by custom, and where a special system of traditional economic values governs their activities and spurs them on to efforts (Cavalcanti, 2002, quoting Malinowski, 1999), based on the myriad of notions and experiences of the local people.

#### **4.4 Community benefits: Analysis and discussion**

In the Equator Initiative (EI) database, community benefits addressed under a number of categories were found. These include marginalization and empowerment within the Community Focus Sub-category (Table 2.2.8), Poverty Reduction (Table 2.2.9), and environmental sustainability within the Biodiversity sub-category (Table 2.2.10). Table

2.2.11 presents the breakdown, as per the Millennium Development Goal subcategories used in the EI (ensure framework for environmental sustainability, eradicate extreme poverty and hunger, and promote gender equality & empowerment of women). In this section, the benefits of the EI cases will be discussed that incorporate areas such as poverty reduction, empowerment of women and youth/children and issues of marginalization, sustainable use of biodiversity, community ownership and management of resources, role of traditional knowledge in resource management, and importance of leadership in initiating and managing resources contributing to conservation and development. The findings are based on case analysis from all three categories of cases: forestry/agro-forestry, non-timber forest products and medicinal plants. Community benefits generated by the cases, especially with regard to the impacts of the type of partners involved and the kinds of partnership will also be discussed in Chapter Five and Chapter Six.

#### **4.4.1 Poverty reduction**

With community participation in different types of initiatives and a combination of various integrated income-generating activities, people have found or established different paths to poverty reduction. In the Programa Mulher Cabocla Palm Project in Brazil, women are involved in income-generating activities including the production of domestic products which used to be purchased at greater expense from outside sources. The economic success of the palm project is a demonstration to the broader community that sustainable management of a non-timber forest resource can provide income. In the Community-Based Forest Managers of DuralHaitemba Village (Tanzania) Project,

through its conservation of resources, food security has improved as subsistence goods such as fuel wood, medicinal herbs, building materials, fodder for livestock, honey, mushrooms, fruits, and vegetables are plentiful and are free. Beekeeping has also increased livelihoods allowing 75 percent of the families in the villages to meet education and health service costs.

In the AIR project (Guatemala and Nicaragua) sustainable farming reduces poverty by both improving crop productivity and providing free organic fertilizers and pesticides. Food crops such as beans, corn, vegetables, and fruits are more productive; and, although difficult to quantify, farmers say that crop productivity has doubled since working with AIR. In the CEFI project income is generated through the cooperative marketing of the produce from biodynamic farming and ethnic recipes, from handicrafts such as palm leaf baskets, terracotta pottery, and from herbal medicines. In the Kakamega Forest Integrated Conservation Project, farmers are cultivating and selling medicinal plants. An oil extraction business was set up and employs nine youths. Four women's groups now earn income from beekeeping and two women's groups have earned US\$400 from the sale of silkworm cocoons.

#### **4.4.2 Empowerment of women, youth/children and issue of marginalization**

In most projects there is emphasis of community empowerment. The San Juan Project (Mexico) has emphasis on gender equality and social inclusion and community empowerment. Community members, including women, actively participate in all levels of decision-making. A large number of people were trained to fill the range of positions

within the community enterprise. Similarly, in the Improving Hillside Agriculture project in Cameroon, women have been empowered since they are the main farmers and beneficiaries. Women, who make up 80 percent of the farmers, are now able to assume the costs of children's school fees and household medical bills and have more time for social engagement. The initiative has collaborated with the provincial delegation of Agriculture in the training of women's groups in the Northwest province of Cameroon.

In Kakamega Forest Integrated Conservation Project (Kenya), women undertake 90 percent of the income-generating activities and community-based distribution of family planning commodities. The Project also trains community members in beekeeping and sericulture. In general, women participate fully in all the different components of the Project. In the Kyantobi Agro-Forestry Community Association that is traditionally male dominated, women do 70 percent of the work on farms owned by men. With this initiative, women have been able to take up income-generating activities and now own fishponds, have the best nurseries, and, unlike other neighbouring communities, now own land and equitably share proceeds with their male counterparts.

In the Local Empowerment Foundation (the Philippines), the community has benefited from the promotion of self-help, the institutionalization of the "passing-on-the-gift" concept (introduced by Heifer International), the increase in practical agricultural skills and a resultant increased feeling of dignity and sense of security among the powerless poor. Gender and development topics are incorporated in the trainings and capacity-building activities, with an emphasis on promoting equity and the sharing of benefits

among men, women and children. Similarly, Fundacion Chankuap, a project of 56 Achuar indigenous communities of the Ecuadorian Amazon and Peru, the family, as the basic production unit, has led to the involvement of all members. Men have taken on some activities traditionally carried out by women and vice versa. Access to micro-credit is focused on women. Some of their projects, such as the development of essential oils, have enabled women groups to be very successful. This project also places much emphasis on training of men, women and youth. The Programa Mulher Cabocla Palm Project in Brazil is an effort, since 1994, to empower women and improve the well-being of mothers and children. Participation of women and youth is encouraged at all levels. The project is generally empowering members of remote river communities.

#### **4.4.3 Conservation of biodiversity**

There are different forms in which communities have conserved resources. In the Kyantobi Agroforestry Community Association, the 1997 flood crisis caused unprecedented re-union of people in this village resulting in a kind of village movement organization to find ways to rehabilitate their landscape, which has been transformed from an unproductive, waterlogged village to a vibrant and coherent one.

In the Improving Hillside Agriculture (Cameroon) initiative, poor land use in the watershed had led to soil degradation, the destruction and extinction of important flora and fauna, the disappearance of springs and the deepening of water tables. This initiative has trained people to improve soil fertility by increasing organic matter such as inputs of manure, compost, green manure, improved fallowing, alley cropping and mulching.

Consequently, farmers have become more permanent on the same piece of land because its productivity is ensured, slash/burn agriculture has declined, fallow periods have increased, vegetation has regenerated with an attendant improvement in biodiversity, organic rather than chemical fertilizers are being used, and soil degradation through erosion has been checked. The project has demonstrated that by improving ecological conditions on the hillsides with permanent agriculture through improved soil retention and organic content, the communities benefit from better yields.

The Community Enterprise Forum India (CEFI), an herbal garden initiative, conserves varieties of paddy and millets, vegetable through organic vegetable gardens. Through these gardens, pressure on wild plants is reduced in addition to conserving biodiversity. Traded plants are harvested in a sustainable way and organic farming techniques protect ecological services and increase biodiversity. The CEFI demonstrates that local resources and traditional skills can be both ecologically sustainable and alleviate poverty. Likewise, in the Kakamega Forest Integrated Conservation Project (Kenya), alternative income-generating activities have alleviated pressure on the forest allowing for the conservation and enhancement of biodiversity. Promotion of energy-saving cooking stoves has reduced pressure on the forest for fuel wood by 45 percent, and the on-farm cultivation of threatened medicinal plants protects and conserves these species. In the Kyantobi Agroforestry Community Association project, the tree species are planted in nurseries and on the hill slopes in hedgerows. Rotational woodlots are indigenous and appropriate exotic species are chosen for their abilities to retain soil and improve its fertility.

#### **4.4.4 Community ownership and management of resources using traditional knowledge**

Various forms of community ownership and management are observable in the Equator Initiative programs. There is evidence of evolving nature of the management structure in which government recognizes community institutions and structures in managing resources. In many Equator Initiative cases there is involvement of different forms of traditional knowledge in resource management. In the Local Empowerment Foundation, the Philippines project, three stages of community organization have helped to empower the community: a preparatory phase of sensitization, forming group cohesiveness, and training; followed by building institutional structures and skills; and then implementing the projects through farmers' federations. In the Wildlife and Environmental Society of Malawi (WESM) the Local Steering Committee, a community institution made of representatives from all villages responsible for steering biodiversity conservation activities at the local level, consists of both men and women, such that they are both involved in decision-making.

In the Guassa-Menz Natural Resource Management Initiative the success of the initiative is based on the community's understanding of the ecosystem and the interaction between the community and the ecosystem. It manages common pool resources in sustainable way as it is owned by the local community, is not dependent financially on external inputs, functions democratically and ensures equitable benefit sharing, reduces risks in times of drought and hardship, and is resilient in times of upheaval. In the Community-Based Forest Managers of DuraHaitemba Village, a ten-year-old project, the initiative's strength

and sustainability is anchored in the existing village organizational structure, which has a legal status within the National Forest Policy, and it has proven to be a real working model on the ground. This project is working because the rules are based on a combination of indigenous knowledge and technical advice, true participation in decision-making and improved use of environmental resources. This initiative is seen as an effective model for other parts of the district and the country at large.

#### **4.4.5 Importance of leadership in the initiation and management of resources**

Leadership has played an important role in the Equator Initiative programs. Some leadership roles have evolved from the community organizations and traditional roles assigned within the communities; and in others, various individuals have taken initiatives to provide leadership to the programs. Sexto Sol Center (Mexico and Guatemala) Initiative builds capacity among the groups it works with, developing good group processes, leadership and knowledge of the market to insure the eventual independent management. This Initiative has provided free training to over 750 small-scale peasant farmers, students, government agencies, and community members. Women are viewed as full, equal partners in the collective businesses, expecting full participation in the decision-making and leadership roles.

In some projects their leadership role has been recognized and spilled over beyond the communities and provided good role models for other communities to learn from. For instance, the Wildlife and Environmental Society of Malawi (WESM) has had success of the various conservation-based enterprises and thus gained recognition beyond the

borders of Malawi. It is currently a member of PhytoTrade Africa, the Southern African Natural Products Trade Association. Since the inception of the project, seventy percent of those involved in juice production have been women.

In the Rwoho Forest Community Conservation Project, the entry point for the initiative was through organized community-based groups with well-developed leadership structures. This ensures proper channeling of information, good management and inspirational leadership, which are good for maintaining the initiative ideas.

#### **4.4.6 Conclusion**

In many Equator Initiative Program cases, communities are practicing a wide variety of integrated income-generating and business activities. Community dependence on these various economic and income generating activities is an indication that common property resources are important for coping, and their resilience represents community ways of doing economics or 'ethno-economics'. Some of these cases are social enterprises, providing equitable benefit-sharing and economic incentives for the communities to sustain and conserve resources. Community benefits include poverty reduction; empowerment of women, youth/children; and reduction of marginalization. Communities have found different ways of conserving biodiversity, such as landscape rehabilitation, improved farming practices on the hillsides for soil retention, and reforestation. There is also evidence of community ownership and management of resources, using traditional knowledge and community leadership.

## Chapter Five

### Types of Partners and Institutional Linkages

#### 5.1 Types of partners: Findings

Most Equator Initiative cases involve multiple levels of partnerships and multiple types of partners. Types of partners ranging from NGOs<sup>5</sup> (local and national), government (local, regional, state and national), international organizations, local and national financial institutions, universities and research centers, community associations/organizations, and private sector are found in the cases analyzed (Table 5.1). In the three categories of cases: forestry/agro-forestry (N=95 cases), non-timber forest products (N=41) and medicinal plants (N=37), there is evidence of wide variation in the types of partners. The involvement of community organizations partners is strong with (N=52) for forestry/agro-forestry, (N=27) for non-timber forest products and (N=17) for medicinal plant cases. Forestry/agro-forestry cases have larger number of local NGOs (N=46 cases) than national NGOs (N=28), whereas the non-timber forest products cases have greater number of national NGOs (N=20) than local NGOs (N=18). Similarly, the medicinal plant cases have greater number of national NGOs (N=18) than the local NGOs (N=13).

The types of government partners are also varied. The forestry/agro-forestry cases have (N=26 cases) local government, (N=37) state/regional government and (N=34) national government partners. The state/regional level government partnership is stronger than the

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<sup>5</sup> Non-Governmental Organization (NGO)

national and local level. Non-timber forest product cases have (N=24) local, (N=17) state/regional and (N=16) national government partners. The medicinal plant cases have (N=19) local government, (N=14) state/regional government and (N=15) national government partners. The non-timber forest product and medicinal plant cases have stronger local government focus but little difference between the regional/state government and national level government partners.

**Table 5.1**      **Types of Partners\***

| <b>Total cases in this sub-category</b>  | <b>Forestry/Agro-forestry (N=95)</b> | <b>Non-Timber Forest Products (N=41)</b> | <b>Medicinal Plants (N=37)</b> |
|--|--------------------------------------|--|--------------------------------|
| Local NGOs                               | 46                                   | 18                                       | 13                             |
| National NGOs                            | 28                                   | 20                                       | 18                             |
| Local government                         | 26                                   | 24                                       | 19                             |
| Regional and/or state government         | 37                                   | 17                                       | 14                             |
| National government                      | 34                                   | 16                                       | 15                             |
| Financial Institutions                   | 11                                   | 5  | 8                              |
| International organizations/institutions | 59                                   | 25                                       | 19                             |
| Joint Forest Management                  | 19                                   | 5  | 6                              |
| Universities and research centers        | 35                                   | 19                                       | 18                             |
| Community associations/organizations     | 52                                   | 27                                       | 17                             |
| Private sector                           | 6                                    | 9  | 3                              |
| Unclear                                  | 25                                   | 10                                       | 11                             |

*Source: Equator Initiative Database*

*\*Numbers Generated from Data Coded in Nvivo and Case Description*

In all the three categories of cases, the numbers of local and national financial institutions as partners are limited: forestry/agro-forestry (N=11 cases), non-timber forest product (N=5) and medicinal plants (N=8). In majority of the cases, financial support is either internally generated within the communities or it is mostly provided by international organizations including NGOs and various levels of governments (Table 5.1). The involvement of international organizations/institutions is very strong in all the three

categories of cases: forestry/agro-forestry (N=59), non-timber forest products (N=25) and medicinal plants (N=19). There are more joint forest management types of partners in forestry/agro-forestry (N=19) cases as compared to non-timber forest products (N=5) and medicinal plants (N=6). A strong involvement of universities and research centers is evident in all the three categories: forestry/agro-forestry (N=35 cases), non-timber forest products (N=19) and medicinal plant (N=18). Private sector involvement as partners is limited in all the three categories of cases although non-timber forest products has (N=9) as compared to only (N=6) for forestry/agro-forestry cases and (N=3) for medicinal plant cases. Some unclear cases do not mention types of partners: forestry/agro-forestry (N=25 cases), non-timber forest products (N=10) and medicinal plant (N=11).

There are more horizontal linkages (N=61) in forestry/agro-forestry cases than vertical (N=54). In the case of non-timber forest products, there is little difference in the vertical versus horizontal linkages (N=25) and (N=26), respectively. In the case of medicinal plants horizontal linkage seems to be stronger (N=26) than the vertical linkage (N=22), although there is not a large difference in the two types of linkages. Evidently, there is an emphasis on the importance of both types of linkages. In all the three types of cases-forestry/agro-forestry, non-timber forest products and the medicinal plants-it become obvious that both kinds of partnerships are contributing to community development and biodiversity conservation.

## **5.2 Types of partners: Analysis and discussion**

These Equator Initiative cases provide ample evidence of community partnerships (Timmer and Juma, 2005), and partnership formation is an important part of the Equator Initiative Program cases. Most cases reviewed in this analysis revealed multiple levels of partners at different levels of political organization (Berkes, 2006; Berkes and Adhikari, 2006). Communities are partnering with a wide range of organizations as partners which can be categorized under seven levels: community organizations; local, national and international non-governmental organizations; local governments comprising of municipal, village and district level government organizations including local schools in some cases; state/provincial, regional and central government; regional and international level bilateral and multilateral organizations; private sector including national and local financial institutes; universities and other research centers; and there are many cases with no clear types of partners as well, as shown in Table 5.1.

These various types of partners symbolize involvement of nested institutions (Ostrom, 1990; Agrawal, 2002) in the Equator Initiative cases and which are becoming important strategies in resource management. They also represent diverse cross-level linkages and networks the communities are connected with in the course of managing their livelihood and conservation of biodiversity. The various types of partners the communities are working with in the course of managing local resources are discussed below.

The first category of partners that Equator Initiative cases are working with is the community organizations. There are various categories of community organizations

described in the cases. Some local NGOs are similar to the community organizations/groups; and these mostly represent community interests as is the case of five community/producers' organizations from three communities collaborating with an NGO to manage the initiative (Foundation Natura). Others include farmers associations, like the Guassa Committee (Guassa-Menz Natural Resource Management Initiative, Ethiopia) that was formed through election of representative elders as a governing body based on a centuries-old land tenure system locally called 'Quero'. Nastari Foundation (Indonesia) operates with farmers and farmers' organizations. Some of these community groups are indigenous communities such as Inter-Provincial Federation of the Archur Nationality (Foundation Chankuap, Equador and Guassa-Menz Natural Resource Management Initiative, Ethiopia). Some community organization partners are Joint Forest Management Committees, like the Forest Department of Chattisgarh, India working between the community and the government.

Certain community groups like Associacaode Desenvolvimento Comunitario do Bairro Rio Preto (Brazil) include the workers' union with 42 associates processing forest products. This union manages the production and the processing of the palm hearts. The Programa Mbaracayu (Paraguay) community organization ensures effective communication, positive interaction and consciousness-raising among the partners, including local stakeholders such as campesino and indigenous leaders, local authorities, military and police, the General Attorney Office and Municipalities. Local and national volunteers are also parts of the foundation's work. In some cases partners are only local communities such as local Maisin people in the case of Conservation Malanesia Project

(Papua New Guinea). In others, like Village Dzao Project (Vietnam), a women's group led by some women in authority coordinate the teaching of agricultural skills, and an association of elders perform the traditional roles.

Some local level partners include individuals on rare occasions like an ethno-botanist and agronomist couple (e.g. Cheque Oitedie Project, Bolivia and Garifuna Emergency Committee, Honduras), working within their own communities. Partners sometimes include the village head in the communities. Some projects like The Kakamega Forest Integrated Conservation Project (Kenya) has local farmers' conservation group as the partners. Another project, Community Enterprise Forum of India (CEFI) partners with South Indian Producer's Organization.

The second category of partners that communities collaborate with is the NGOs. There are three levels of NGOs the communities partner with: local, national and international levels. Some NGOs at the community level are research-oriented; others train rural local people. Some local level NGOs are unique in the sense that they cooperate at a larger geographical scale, as in the case of the Community Enterprise Forum of India that was formed by four NGOs from four different states of India. Others are specialized, like local environmental NGOs in the case of Garifuna Emergency Committee of Honduras. Some local NGOs, like Jatun Sacha Foundation (Ecuador), is the oldest and most successful conservation NGO inviting other organizations to visit, observe and learn from their work. Some NGOs operate as networks, such as Brazilian NGO networks (CTI project); Community Enterprise Forum, India; NGO's Network for Peasant

Empowerment and an NGO's network for organic farming in Java (Nastari Foundation, Indonesia). Other local NGOs are started by local groups and operate within the geographical confines of the local community.

The national level NGOs are organizations catering to a wider range of issues and with expertise that is recognized by the government and international donor agencies. The types of national NGOs as partners include Kenya Forest Working Group and East African Wildlife Society (Kenvo Project, Kenya). Some international NGOs are bilateral, such as the Belgian NGO; SNV, a Dutch Development Organization; SIDA, a Swedish NGO and others. Other international NGOs are multilateral, like the World Wildlife Fund and International Union for Nature Conservancy (Ekuri Initiative, Nigeria), providing funds for forest management plans and training. International NGOs have more expertise and come with larger sources of funds; hence the communities look for more assistance from them. They also bring technical expertise and skills that complement the communities' knowledge gap and that enhance community technical skills and capacities. Many national and international NGOs inherit strong powers and decision-making authority by virtue of their wider coverage and financial support they provide. Some international NGOs such as World Wildlife Fund for Nature and International Union for Nature Conservancy, are well established and operate in many countries. They also have larger financial and human resources and take up larger roles and responsibilities. Others are more focused on the local community needs and have smaller organizational and funding capacity.

The third category of partners communities work with include local governments comprising of municipal, village and district level government organizations, and even local schools in some cases. The district level government includes forest staff members, extension agents or officers, and village level forest and natural resource managers. In certain cases like Community Based Forest Managers of DuraHaitemba Village (Tanzania), district forest staff members are the most important partners, with a relationship that changed from policing to providing technical advice, liaising between community and the government, and coordinating and monitoring. In some cases, like Ekuri Initiatives (Nigeria), national level agencies such as the Cross River National Park provided a community forester for a year. It has continued to contribute funds and roadwork to the community. Others, such as Garifuna Emergency Committee of Honduras, work with local schools in three towns in its reforestation work.

The local governments with a presence in the area develop a close working relationship with the communities and therefore are considered a part of the local social set up. This illustrates an example of horizontal linkage. These various community organizations that the cases are partnering represent horizontal linkages, interacting across wider geographical area (Berkes, 2006; Young, 2002; Young, 2006) and creating diverse socio-political entities. In addition to community groups and local governments, local NGOs also operating at the community level are examples of horizontal linkage. "Vertical linkages" (Young, 2002; Young, 2006) represented by working partnerships that communities have with state/provincial, regional and national governments, international

organizations, research centers and universities further complement the horizontal linkages.

The fourth categories of partners include state/provincial, regional and central government. Such partners include Ministries of Environment and Natural Resource Management; Department of Forestry; Departments of Survey and Remote Sensing; Ministry and Department of Agriculture and other central or state/provincial level government organizations. The role and presence of central government and regional governments differ among country cases. There are also differences among resource regimes where the governments are controlling and the system of government that is in place in each country case.

As reported by Edwards et al (2001) the state has been influential in structuring the scales and territories of partnerships. Despite an apparent devolution of the public face of governance, however, the state remains crucial in governing the process of governance through partnerships (Edward et al., 2001). This is true in many of the Equator Initiative cases where the state remains a strong partner, and the role of the state comes in different forms as discussed here. This is true with local, state/provincial or national level government.

The fifth category of partners includes the regional and international organizations. These regional and international levels of partners come in four categories: NGOs as discussed above; the multi-lateral organizations; the bilateral governments in the developed

countries working with community groups in the developing countries; and in some cases the regional associations. Both the bilateral and multi-lateral partners have a wide range of technical expertise and provide financial support either for initial start-up capital or for continued support within local resource management initiatives.

A variety of multilateral organizations support community initiatives; these include World Wildlife Fund for Nature (WWF), International Union of Nature Conservancy (IUNC), Conservation International (Jatun Sacha Foundation, Ecuador), the World Bank, the Ford Foundation, the European Union, Wildlife Conservation Society, Smithsonian Institute, HELVETAS (a Swiss Association for International Cooperation), United Nations Development Program's Global Environment Facility/Small Grant Program, Heifer International. Additionally, they are mostly donors. Bilateral partners include USAID, German Technical Cooperation, British Department of Foreign and International Development assistance, Japanese International Development Aid and many others. Some cases mention Canadian funders (e.g. Foundation Natura and Foundation Chankuap, Equador) but do not specify which particular organizations.

There are some regional level partners, such as the East Africa Community; Africa 2000 Network; Agro-Forestry Women's Group; Agro-forestry Research Network for Africa; the Confederation of East African Informal Sector Organizations; and Beekeepers Council (Kakamega Forest Integrated Conservation Project, Uganda and East Africa). These regional organizations are smaller in scale, confined to a particular geographical region and have less resources and expertise to offer to the communities. In addition to

providing financial support, most bilateral and multilateral organizations provide technical skills and institutional support such as training village and district staff on managing resources.

The sixth category of partners is the private sector that includes the local and national financial institutions. Some private sector partners include hotels (Tsunza Conservation and Development Programme, Kenya), local church groups, and others not named specifically. Vale do Rio Doce Company that provides financial support and the Natura Cosméticos (Instituto Terra Project, Brazil) are two private companies supporting the Equator Initiative cases. Some private partners are sponsors of large-scale infrastructure projects such as the CABI Project (Bolivia). In certain projects, like Community Enterprise Forum of India, national financial institutes, such as Small Industries Development Bank of India, State Bank of India and Regional Rural Banks are partnering. In others, private companies are taking initiatives themselves in reforestation and conservation projects.

The seventh categories of partners are research institutes. These research institutes are either university research centers such as Belgian Botanical Gardens or local level research organization working at the community level. Some NGOs are also working as research centers in the communities. These organizations facilitate research, development and market research. The National Institute of Parks (Fundacion Tierra Viva, Venezuela), as a partner, started the project in conjunction with the communities. Other organizations, such as Non Conventional Food Resources Promotion Project (CECODI), collaborate

with national research institutes and the Belgian National Botanical Garden. Wildlife and Environmental Society of Malawi (WESM) works with Malawi University in research. Similarly, the Ngata Toro Community works with Stability of Rainforest Margins (STORMA) Project while carrying out its research function.

In Tsunza Conservation and Development Programme (TCDP-Kenya), researchers from Kenyan Universities, universities from abroad, delegations from Kenyan fisheries institutions, and community delegations have all variously been visiting the TCDP project at Tsunza either to learn about crab farming with the objective of starting others like it, or for research purposes. Sexto Sol Centre (Mexico) has Stanley Smith Horticultural Trust as its main partner and it builds institutions such as local schools and technical high schools, among others. Forest Restoration Research Institute (Thailand) has Chiang Mai University and the UK Government's Horticultural Research International as partners. In some cases government ministries involved in agriculture and forestry are taking part in research initiatives. The ATIRI Project has 16 Kenya Agricultural Research Institutes as partners in research.

### **5.3 Analysis of major findings**

In all the three categories of cases: forestry/agro-forestry, non-timber forest products and medicinal plant cases, there is a variation in the number and types of partners involved, and there is no one particular dominant pattern or trend (Table 5.1). Perhaps this is reflective of the nature of community organizations and the various roles they perform in the communities.

### 5.3.1 Varieties of partners

In some cases there are many partners (e.g. Ngata Toro Community; Garifuna Emergency Committee of Honduras; Community Enterprise Forum of India) creating complex cross-level institutional linkages (Berkes, 2006). In other cases there are fewer partners (Cheque Oitedie Project, Bolivia; Conservation Malanesia Project, Papua New Guinea) with a much simpler partnership and cross-level linkages. In most cases, however, there is a mix of both horizontal and vertical linkages. The prevalence of horizontal partnerships is reflective in local community organizations, local government and local NGOs jointly compared to national, regional and state/provincial focus (Tables 2.2.3; 2.2.5; and 5.1).

The prevalence of the horizontal linkage is further reiterated by another study. Seixas et al (submitted) interviewed 24 out of the 26 finalists for the 2004 Equator Prize, and twenty one provided information about partnerships. At least eight of these initiatives interacted or networked with other similar initiatives or groups (i.e. horizontal interactions) to exchange experiences and share information, lessons and problems (Seixas et al., submitted). Indeed, horizontal interactions seem to be an important learning mechanism, and also an important way of disseminating lessons learnt (Seixas et al., submitted).

One of the Equator Initiative cases (Honey Care Project in Kenya) studied recognized the importance of complementarities of the role of different partners (Maurice, 2006). The

case showed that the strengths of one institution can be used to offset the weaknesses of another (Maurice, 2006) that is, two institutions can complement each other. In another Equator Initiative case (Prad Nai Community Forestry Group), an international NGO (Regional Community Forestry Training Centre for Asia and the Pacific) played a critical, catalytic role enabling the community to further develop their management plan and activities, network with other communities and engage in local research (Senyk, 2006).

### **5.3.2 Drivers in the formation of partnerships**

The Equator Initiative cases have multiple partnerships. Horizontal partnerships at local level are further complemented by the vertical partnerships that involves the state, regional and national governments and the support of the international organizations (Tables 2.2.3 and 5.1). The necessity for these nested relationships (Ostrom, 1990) and partnership linkages seems to spring from need. The government alone does not have adequate resources to fund development programs. At the same time communities do not have sufficient funds on their own for their community development and conservation needs. However communities and governments jointly are able to strengthen financial, social, ecological and human assets as represented in Figure 6.1. See also the discussion of the various case examples in Chapter Four.

Analysis of these Equator Initiative cases reveals that partnerships at various levels can be complementary. The case analyses indicated that the communities and their local organizations have the capacity to initiate and to manage local resources using their own

institutions and practices, but they do not have sufficient institutional (legal, policy, regulations) or technical and financial resources to do so on their own. Governments at different levels plan for resource management but without community participation and using local organizational and social practices, it is not possible to achieve desired results. Similarly, international donors and NGOs have development priorities but without community and government participation, international organizations are not able to access local level resources for development intervention.

In many cases, civil society groups such as women's groups have been important drivers in the formation of partnerships. There is increasing evidence revealing rising role of women in the Equator Initiative Program cases. In empowering community, notably empowerment of women and youth, women's groups have played important role as discussed in Chapter Four. There is recognition, reliance and adaptation of the communities' traditional ecological knowledge by the government, donor agencies and other partners as discussed in Chapter Four. Many cases show evidence that government is adopting community practices and their knowledge in the management of resources, either jointly or by transferring management rights to the community groups. This is an evidence of the community having some say in self-determination and access to resources. In some cases communities are forcing the government to recognize their practices, allowing them greater access and benefit-sharing of the resources.

Hence, management initiatives that involve distributing authority across multiple institutions rather than concentrating in just one (Berkes, 2003; quoting Barrett et al,

2001) stand out as a highly desirable alternative in the expanding, complex global resource management context. The most common form of partnership is a tripartite one with development organizations, local communities, and the government. Maurice (2006) who investigated Honey Care, an Equator Initiative case, in Kenya presents similar findings reporting three-way partnership between the private sector, development organizations and small-scale farmers in the project and later it becomes four-way, with the government as the fourth partner (Maurice, 2006).

#### **5.4 Conclusion**

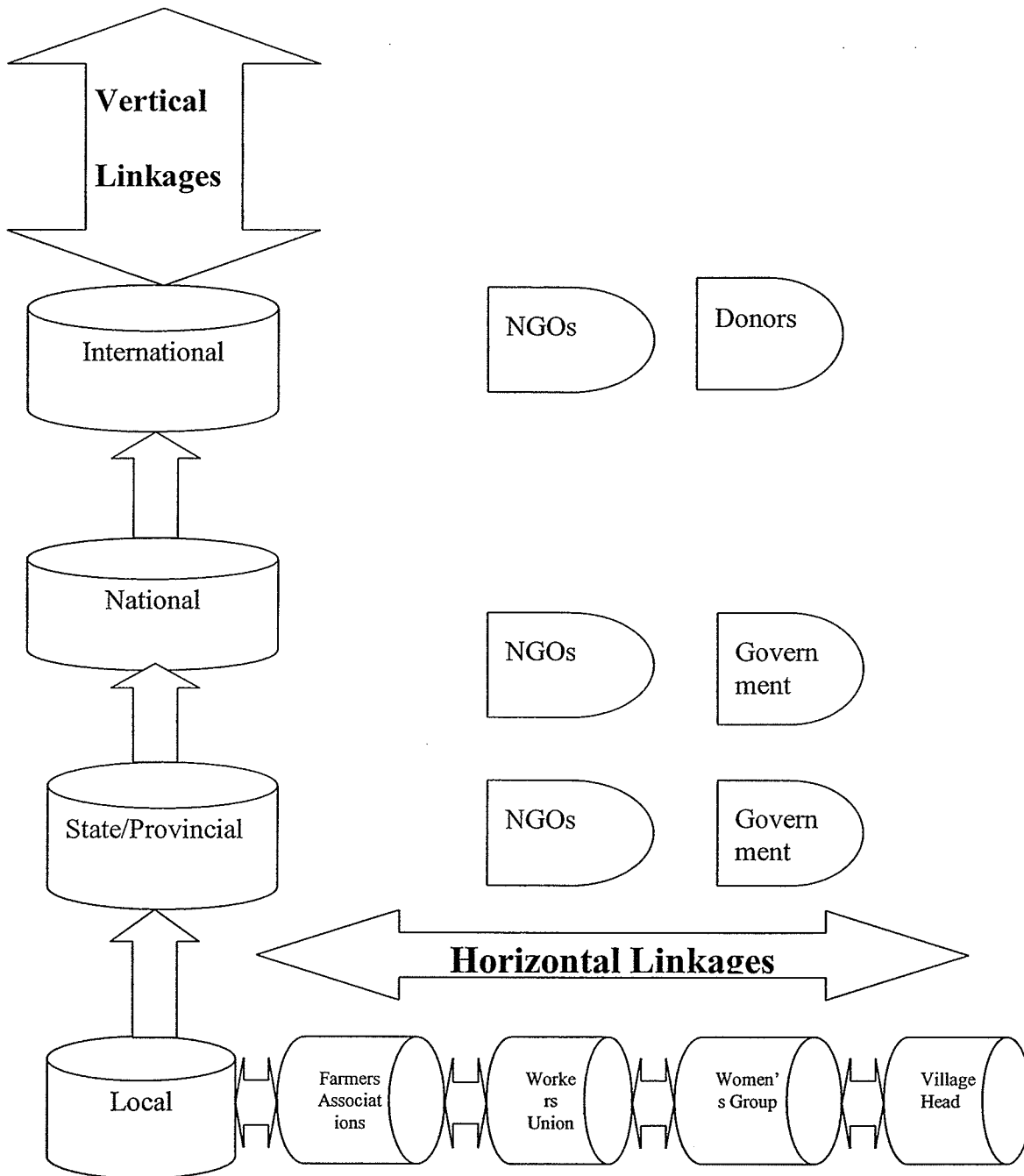
From the foregoing analysis, we can conclude that there are strong relationships and networks between conservation agencies and development with practitioners who focus on negotiation and network building as the primary, rather than secondary, part in the intervention process (Mahanty, 2002). There is evidence that the recognition and strengthening of community institutions such as rules governing the access of common property resources, participation of the communities in the management and ownership of the conservation (Chambers, 1995; Brown, 2002) and development of national level policies that support community conservation is becoming the norm.

Institutions that have formal and informal rules, monitoring and enforcement mechanisms, systems of meaning that define the context within which individuals, corporations, labour unions, nation-states, and other organizations operate and interact, are considered the foundations of social life (Campbell, 2004). These are commonly noted in the Equator Initiative cases discuss in this thesis. The complexity of social-political systems is evident (in Equator Initiative cases) from the fact that a multitude of

interactions take place in many different forms and at different intensities, and from the many interactions in governing that occur concurrently and inter-dependently of others (Kooiman, 2003).

In the Equator Initiative cases discussed here, there is variety of institutional interplay that has been instrumental in resource conservation and development. Attributes of partnerships and participation are described to involve compatibility among participants, with benefits to all partners, equitable representation and power, communication mechanisms, adaptability, integrity, patience and perseverance (Mitchell, 2002) are evident among the partners in these cases. The extent of these various attributes, however, is difficult to assess objectively. Vertical linkages are comprised of donors, central and state government, regional government and other centralized units that support the community cases. Horizontal linkages are comprised of operation at the geographically confined local scale and involve communities and their various community organizations, local government officials at the community and municipal levels, district government staff and extension agents, NGOs, research centers and universities.

Figure 5.1 represents the kinds of vertical and horizontal linkages discussed in this chapter symbolizing the nested nature of the relationships between the various partners.



**Figure 5.1** *Horizontal and Vertical Linkages*

## Chapter Six

### Kinds of Partnerships

#### 6.1 Kinds of partnerships: Findings

As discussed in Chapter Five, kinds of partnerships refer to the various community development and income-generating activities supported by different outside agencies, government and community groups. These partnership activities are business networking; providing and raising funds; training, education and research; institutional capacity building; legal support and conflict resolution; innovation and knowledge transfer; technical support; infrastructure building; promotion of social enterprises; extension services; and others (Table 6.1). Business networking is a strong area of partnerships between the communities and different organizations: forestry/agro-forestry (N=57 cases), non-timber forest products (N=30), and medicinal plants (N=27).

Data in table 6.1 show that provision of fund and fund-raising is another strong aspect of activity: forestry/agro-forestry (N=56), non-timber forest products (N=27) and medicinal plant (N=17). In the land, forest and resource management area there are: forestry/agro-forestry (N=50 cases), non-timber forest products (N=30) and medicinal plant (N=28) partnerships. Institutional capacity building is another strong area of partnerships: forestry/agro-forestry (N=61), non-timber forest products (N=29) and medicinal plant (N=28). In the innovation and knowledge transfer category, there are (N=50) forestry/agro-forestry, (N=28) non-timber forest products and (N=18) medicinal plant partnerships. Training, education and research have strong partnerships focus in all the

three categories of cases: forestry/agro-forestry (N=58), non-timber forest products (N=28) and medicinal plant (N=23).

**Table 6.1 Kinds of Partnerships\***

| Total cases in this sub-category   | Forestry/Agro-forestry (N=95) | Non-Timber Forest Products (N=41) | Medicinal Plants (N=37) |
|--|-------------------------------|-----------------------------------|-------------------------|
| Business networking  | 57                            | 30                                | 27                      |
| Provision of funding and fund raising                                    | 56                            | 27                                | 17                      |
| Training, education and research   | 58                            | 28                                | 23                      |
| Institutional capacity building  | 61                            | 29                                | 28                      |
| Legal support and conflict resolution                                    | 25                            | 18                                | 11                      |
| Innovation and knowledge transfer  | 50                            | 28                                | 18                      |
| Technical support  | 43                            | 12                                | 14                      |
| Initial investment and improvement of infrastructure                     | 30                            | 11                                | 11                      |
| Facilitating social enterprises and change                               | 36                            | 24                                | 23                      |
| Harvesting, sales, and marketing of products made from natural resources | 37                            | 30                                | 23                      |
| Cooperative business activities  | 17                            | 10                                | 13                      |
| Health promotion programs  | 28                            | 9                                 | 18                      |
| Extension services   | 35                            | 17                                | 9                       |
| Land, forest, and resource management                                    | 50                            | 30                                | 28                      |
| Joint venture initiatives  | 8                             | 5                                 | 11                      |
| Promoting cultural well-being and preservation                           | 4                             | 2                                 | 1                       |
| Access and benefit sharing   | 52                            | 32                                | 25                      |
| Unclear  | 25                            | 10                                | 11                      |

*Source: Equator Initiative Database*

*\*Numbers Generated from Data Coded in Nvivo and Case Description*

In the access and benefit-sharing sub-category (N=52) forestry/agro-forestry, (N=32) non-timber forest products and (N=25) medicinal plant partnerships. Access and benefit-sharing practices are mostly between the government and the community groups, between one community and another, and between communities and the people. In the technical assistance and advice area there are (N=43), (N=12) and (N=14) partnerships in the forestry/agro-forestry, non-timber forest products and medicinal plants respectively.

Proportionately smaller numbers of cooperative business activities are observable: forestry/agro-forestry, (N=17) non-timber forest products (N=10) and medicinal plants (N=13). Activities that relate to promoting social enterprise and change are (N=36) in forestry/agro-forestry, (N=24) in non-timber forest products and (N=23) in medicinal plants areas. In the area of harvesting, sales and marketing of the products (including export), there is a relatively stronger partnership focus with non-timber forest products (N=30 cases), than in the forestry/agro-forestry (N=37) and the medicinal plants (N=23) cases. In the infrastructure building kinds of partnerships, the forestry/agro-forestry has (N=30 example), non-timber forest products have (N=11) and the medicinal plants have (N=11).

There also are program areas with relatively smaller emphasis on the kinds of partnerships as discussed below. In the health promotion programs: there are (N=28 cases) forestry/agro-forestry: (N=9) non-timber forest products, and (N=18) medicinal plants. The legal support and conflict resolution has: forestry/agro-forestry (N=25 cases), non-timber forest products (N=18) and medicinal plant (N=11). The extension services area has forestry/agro-forestry (N=37 cases), non-timber forest products (N=17) and medicinal plant (N=9) partnerships. The joint venture programs have (N=8 cases) in the forestry/agro-forestry area, (N=5) in the non-timber forest products area, and (N=11) in the medicinal plant program area. The promotion of cultural well-being and preservation has a very small number of partnerships: forestry/agro-forestry (N=4 cases), non-timber forest products (N=2) and medicinal plant (N=1). The case descriptions do not mention many programs that had partnerships meant specifically for cultural preservation or well-

being, but in the descriptions of the cases there is more evidence of the importance of traditional knowledge in resource management. There are also cases with unclear partnerships kinds: forestry/agro-forestry (N=25 cases), non-timber forest products (N=10) and medicinal plant (N=11).

## **6.2 Kinds of partnerships: Analysis and discussion**

### **6.2.1 Introduction and some key findings**

The review of the kinds of partnerships reveal networking for multiple purposes (Timmer and Juma, 2005; Berkes and Adhikari 2006). These purposes range broadly from community development, promotion of business entrepreneurship and economic activities, restoration of degraded land and resources, biodiversity conservation, to communities' capacity building, including marginalized groups such as women and youth (Table 6.1). Many initiatives such as business networking, providing alternative income sources and income generation are targeted towards poverty reduction, whereas others are motivated by biodiversity conservation, and restoration of previously damaged landscape and resources. Many Equator Initiative cases have a combination of these functions.

An illustrative case in this respect is the Ngata Toro Community (Indonesia) forest protection program in which special areas for resource extraction and protection are identified through participatory land use mapping and spatial planning. Traditional fines and social sanctions used to discourage illegal activities; a system of customary laws, collaboration with the Park Authority, and traditional forest rangers control the sustainable extraction and use of natural resources. There is regular adaptation and

learning between the community's traditional knowledge and modern scientific knowledge systems that has the possibility of making the system resilient socially, economically and ecologically (Walker et al., 2004).

Without the provision of external funding, technical support, government recognition of local institutions and initiatives, many of these innovative programs would not be able to function. These Equator Initiative cases provide evidence that the kinds of support provided by various levels of government; international organizations (including NGOs), financial institutes, research centers and universities, and private sector are instrumental in enhancing the community capacity. These supports have fostered linkage not only among organizations but between the traditional and scientific knowledge as well fostering a dynamic partnership and interaction pattern ranging from local to global levels of institutions (Ostrom et al., 1999). There is evidence (as discussed in Chapters Four and Five) that government and other agencies are now adopting community practices and knowledge in the management of resources, either jointly or by transferring the management rights to the community groups.

The data also provide evidence that the kinds of partnerships vary among the cases. It differs based on geographical location of the community, community initiative and capacity, learning opportunities for the communities from others within a proximate geographical area. It also depends on availability of funding sources and infrastructure, the social norms and values creating incentives and opportunities for governance and management of resources. Communities in different regions of the world have different

social, spatial, economic, political contexts; and often their community needs are different. Many cases require financial support but others need more technical and institutional support. It was found that different cases are partnering with many organizations at the same time but different partners are providing different categories of support jointly or independently.

In Chapter Five different types of partners were discussed starting from the community, local government, NGOs, international donor organizations, private sector and research institutes and their linkages. In the following sections of this Chapter functions and roles of different categories of partners will be discussed by illustrating the importance of partnerships in community development.

### **6.2.2 Training, education and research**

Training, education and research is an important function of partnerships represented by the interaction of various organizations in Equator Initiative cases. Some communities like Ngata Toro Community have partnered with research institutes and universities to carry out studies to revive traditional knowledge in relation to natural resources management, and they have documented resources within the community (both inside and outside Lore Lindu National Park). As result Ngata Toro community is now sharing and disseminating its experiences and indigenous knowledge with neighbouring communities. As a result, other villages have used the village's model to set up women's organizations. Similarly, in Village Dzaio Project (Vietnam), three groups of partners are involved: a technical team made up of scholars from different universities; a women's

group led by a woman in power who coordinated the teaching of agricultural skills; and an association of elders with traditional roles. This represents the collaborative networking between community institutions and modern research institutions.

The African College for Community Based Natural Resource Management (ACCBNRM) in Zambia trains rural communities to manage, market and legally benefit from their natural resources. Communities have found that opportunities offered by the college for crop diversification and crop surplus enables a net reduction in both farmed areas and wildlife conflicts. A two-month training exercise has exposed over 2,000 rural residents to new skills that improved food security and income through legal markets for natural resources. Farmers are earning 20 to 30 percent more for these legal products due to improved organization.

Forest Restoration Research Unit (Thailand) developed an innovative method to restore natural tropical forest to degraded areas in the mountains of Thailand by planting 'framework tree species.' The training provided among the largest hill tribe community in Northern Thailand combines the scientific knowledge with the ecological knowledge of local people, who protect the nurseries from fire and monitor the trees and biodiversity recovery. In addition this project conducts training workshops for government and NGOs, and provides learning activities for young children. The Rwoho Forest Community Conservation Project (Uganda) is participatory and has a training and awareness component. In the Forest Department of Chhattisgarh (India) Project, capacity-building among all stakeholders and training for the income-generating activities build on

the new State Forestry Policy 2001 and its Joint Forest Management resolutions. Sustainability of protected areas flows from the interaction of different stakeholders, values, interests, knowledge, entitlement regime, and lobbying power.

The training, education and research is understood not just in formal education and skill building sense, but in a more inclusive form of generating knowledge that draws together a range of different types of knowledge (Keen and Mahanty, 2006). This can take place when various partners continuously interact in joint learning. It also takes into consideration the traditional knowledge which communities have inherited through generations of learning in resource management, passed from parents and grand parents to children and grand children (Berkes, 1999).

### **6.2.3 Business networking**

In many cases the community business networking is with the local, district, state and national level governments. It also takes place within other communities, outside businesses in few cases and financial institutes such as banks. In the Mgori Village Forest Reserve (Tanzania) villages approached the District Council with an innovative plan to protect and manage the forests in which they live. In other cases, business networking is with NGOs and other farmers' networks. The Green Foundation (India) networks with like-minded NGOs in Karnataka State. It held a conference of Seed Savers Network to assemble all the seed-saver persons from different eco-regions of South India and to create a common platform for them to share their knowledge and experience in saving and conserving seed varieties. The Fundacion ESPAVE Project (Columbia) is arranged as

a network, with women initially trading among themselves in order to combine capacities of collecting and processing various herbs.

In other cases, business networking had been more complex and with multi-level organizations for different purposes. The Improving Hillside Agriculture (Cameroon) is partnering with HELVETAS (a Swiss Association for International Cooperation), which has been the Cameroon's main funding source of the initiative for the past three years. The local farming communities are integral partners, initiative holders and beneficiaries.

#### **6.2.4 Funding and fund raising**

Funding comes from various sources including the community themselves, the local, state and national governments, private financial institutions such as banks and, in most cases, from international donors including NGOs. The international organizations provide varying amounts of initial start-up funds for the projects, and some of them continue to build sustainability into the projects.

The Kakamega Forest Integrated Conservation Project (Kenya) initiated the establishment of the community-owned and managed Financial Services Association or Village Banks for credit provision to communities around Kakamega forest. This has ensured continued sustainability. Likewise the CEDESA Project's (Mexico) robust financial capacity of the community funding mechanisms, without reliance to external funding sources, has ensured its sustainability. The North Rupununi District Development Board (Guyana) project is helping the communities plan for sustainable

income-generating activities such as eco-tourism and fishing that will simultaneously protect the ecosystem. It had set up a credit facility five years ago that strengthened community financial management capacities and supported micro-enterprise initiatives, readying them for commerce and trade on a wider scale.

In the Pastoralist Integrated Support Program (Kenya) external funding agencies have funded an implementation of emergency water project in 2001 for livestock and wildlife and the Netherlands Development Organization (SNV) provided capacity to build support for this project in the last five years. A review of this wide range of funding agencies and types indicate that they vary significantly in their structure, yet they appear to be operating successfully.

### **6.2.5 Institutional capacity building**

The general role of central and regional governments, commonly found in most cases, is policy, institutional and legal support to the community initiatives. The extent and strength of this support varies for each country's case. In some cases central and regional governments have provided financial and monitoring support to local village level initiatives. The Fundacion Chankuap project focuses on creating a self-sustaining economy on a local level, based on traditional practices and a strong infrastructure base, and thus has a potential to continue in the long run. A three-year management plan was developed which was approved by the Ministry of Environment putting ownership and responsibility for management of the forest in the hands of the Archuar Federation and communities. In the Forest Department of Chattisgarh (India) Project, the Forest

Department facilitates the community-based organizations and provides the policy and legislative framework to such initiatives. Here State joint forest management resolution and government guidelines for nationalized forest produce provide the robust framework to the partnership.

The CEDESA project's (Mexico) capacity to intervene in a coordinated way with such a large number of communities is the result of its long institutional evolution. Its stability is based on the democratic organization of community groups at local and regional levels that share a vision of integrated rural development.

#### **6.2.6 Legal support and conflict resolution**

In the Mgori Village Forest Reserve project communities are conserving and utilizing the resources in partnership with the district government through provision of by-laws and action plans. Villagers are empowered with more rights through development of by-laws that have strengthened them in taking control of their resources. The Community Based Forest Managers of DuraHaitemba Village (Tanzania) initiative's strength and sustainability is anchored in the existing village organizational structure, which has a legal status within the national forest policy and it has proven to be a real working model on the ground. It is working because the rules are based on a combination of indigenous knowledge and technical advice, true participation in decision-making, tangible poverty alleviation, and improved utilization of environmental resources. The approach has shaped and promoted local capacity, by creating new relations and refining old ones.

In the Guassa-Menz Natural Resource Management Initiative (Ethiopia) the system has instituted a Guassa Committee with the democratic election of five elders from each user-community. These elders have the responsibility of the enactment and enforcement of the by-laws. The communities also elect guards that combine to form a militia to patrol the area. The guards are empowered by the committee to report violators of the by-laws. The enactment and enforcement of the by-laws and the democratic nature of the Idir committee ensure fair and equitable sharing of the harvest among local community. Violators of the by-laws are thereafter tried under the Idir or traditional legal system. In the Mgori Village Forest Reserve (Tanzania) communities are conserving and utilizing the resources in partnership with the district government that provides by-laws and action plans and the central government provides policy and legal support.

#### **6.2.7 Innovation and knowledge transfer**

In the Peekay Project (India) farmers' participatory studies identified four coconut ecotypes that, under threat of genetic erosion, need special measures for conservation. These ecotypes, as well as those valued by the farmers for their special traits, were characterized and multiplied through farmer participation to conserve genetic diversity. The farmer's meetings were organized in many locations in the state to disseminate information on the options available. These options included converting the small and marginal coconut holdings to economically viable operation units. This initiative has gained wider acceptance by farmers and their associations, government and NGOs, both within and outside the country.

In the Community Based Forest Managers of DuraHaitemba Village (Tanzania) villagers are now taking collective responsibility in managing their forest resources through village committees. Villagers are more knowledgeable about their rights on forest resources and they have more say in decisions over the use and management of the forest resources. The project was allowed by the government to continue as an experimental initiative but later it influenced changes within national policy. This was because the project proved to be sustainable in biodiversity conservation and showed extraordinary achievement in reducing poverty within the district. The Kakamega Forest Integrated Conservation project (Kenya) helps to train members by first training a few people in the various income-generating activities, such as beekeeping, sericulture, energy-saving stove building; and these farmers go to train other community members.

The Hedaru Secondary School Project (Tanzania) promotes inter-school learning whereby other schools visit Hedaru to learn about low cost environmental conservation methodologies. It has been using these outreach initiatives also to train local government leaders in the adjacent villages to adopt participatory methodologies in decision-making processes. This has not only fostered participatory and transparent governance (Kooiman, 2003), but has led to the school headmaster being elected a member of parliament for the local constituency. In the Fundacion ESPAVE Project (Columbia) a small group of marginalized women have successfully developed a “green” business that operates on a national level. This initiative already having received four prizes is based on restoring and then adapting traditional practices, building on the knowledge of the original participants who used medicinal herbs domestically.

The Rwoho Forest Community Conservation Project (Uganda) uses locally available knowledge so that even when the intervention pulls out, the ideas will continue thus ensuring the survival of the initiative. The Mama Watoto Women Group (Kenya) has promoted the values of self-help and stimulated awareness among members and local communities about the need to conserve the forest and develop their own woodlots. This innovative “women-made forests” is spreading widely among families that are not even members of the group. Group leaders have been accessing training and transmitting the experiences to other group members and the national government now showcases the community effort as the ideal way of protecting Kakamega forest. The Ngata Toro Community Project formed their own five-member village committee to help with their own development linking government programs and NGO initiatives with their own self-help programs. The group has also hosted cross-visits by other indigenous groups who wanted to learn from the success of Ngata Toro.

In 1998 the Garifuna Emergency Committee of Honduras began its support recovery from Hurricane Mitch; the resultant ideas grew from the needs and ideas of resident farmers. The project builds on Garifuna custom, adding the agronomists’ new knowledge of growing crops while combining with the wisdom of the old farmers. Built into this project is the requirement that all beneficiaries must help someone in the future. There is genuine commitment to women’s empowerment and participation, which led to the initiative being acknowledged as a best practice by a local women’s network. Working with youth in beach reforestation, as well as other projects, ensures that the leaders of the

future are gaining real knowledge and experience about protecting the environment while seeking the sustainable development of their communities.

#### **6.2.8 Extension services and technical assistance**

The district level government includes forest staff members, extension agents or officers, and village level forest and natural resource managers. These staff members contribute technical skills by providing liaison between the communities and the government, monitoring and coordination of village level resource management activities. Such is the case of the Mgari Village Project. Villagers organize to develop their community resource management plans, and government supports through extension services. In the Forest Department of Chhattisgarh (India), communities are conserving and utilizing resources in partnership with the district government, which, in turn, provides technical support through staff members. For example the Forest Department facilitates the community-based organizations and provides the policy and legislative framework to such initiatives.

In certain cases, like Community-Based Forest Managers of DuraHaitemba Village (Tanzania) district forest staff members are the most important partners, with a relationship that evolved from policing to providing technical advice, liaising between community and the government, and coordination and monitoring. One case (Bustaan Village, Gambia) has a multidisciplinary facility team of extension workers along with other category of partners.

In some cases, such as Garifuna Emergency Committee of Honduras, works with local schools in three towns in its reforestation work. Lake Tanganyika Catchment Reforestation and Education Project (Tanzania) enters the partnership by offering technical services to NGOs and private companies who wish to start reforestation and conservation projects.

### **6.2.9 Facilitating social enterprise**

Many Equator Initiative cases are organized as social enterprises catering to community needs and goals, not as individual profit seeking enterprises. The Rwoho Forest Community Conservation Project (Uganda) partners with an NGO for social change. Through negotiations between the community and the forest department, the initiative has enabled the forest-edge communities to grow crops and install beehives on the reserve in a controlled manner that has boosted production and sale. The watershed committees and user groups in the BAIF project (India), maintain, manage and share the benefits of common assets. Children are educated and partake in conservation activities. After formation of the self-help groups within BAIF, about 50 percent of the women are participating in various community organizations.

In the Conservation Melanesia project the proceeds of tapa sales go to a community-wide fund. Making tapa cloth is an age-old Maisin tradition, and this activity reaffirms the community's strong cultural heritage. When tapa making was seen to be profitable, men joined the women in the enterprise, which helped to bring gender equality in their operations. In the Wildlife and Environment Society of Malawi, people are able to

generate income from the better management of wildlife and forest products. The initiative has contributed to sustainable use of biodiversity by demonstrating that unsustainable production and sale of charcoal and firewood can be stopped in favour of fruit juice production, bee keeping, and guinea fowl rearing. As a result of involvement in these conservation based-enterprises, there has been a significant reduction in deforestation. The baobab is not cut down for its juice nor is trees destroyed for honey; rather they are conserved as the basis of the activities.

The Bustaan village project (Gambia) is using the natural resources of two management forest areas in a sustained way for their own domestic use, which is contributing towards household savings for energy, shelter, food, and health. It also commercializes forest timber products in a controlled manner, benefiting from the harvest of high-value species without depleting the resource. Proceeds have been invested in communal projects, enabling each family compound to receive a water pump for rice field irrigation. Investment into communal projects resulted in a half year's supply of rice for the village, fund for the maintenance of hand pumps, and the construction of speed bumps on the main road.

### **6.3 Conclusion**

The analysis of the community benefits presented in Chapter Four and the discussion of functions and roles of partnerships illustrate the importance of kinds of partnerships that enhances community benefits. The impacts of partnerships are illustrated by Figure 6.1, adapted from Wheeler et al (2003). Asset growth is initiated by investments, both

endogenous (from within the community) and exogenous (coming from international organizations, government, private sector). These investments lead to the creation of asset growth in the form of social, ecological, human and financial capital. The forms of capital are further strengthened by the kinds of partnerships initiated through various ways. These partnerships function in providing some of the 'missing ingredients' to make a project work, such as business networking; institutional capacity building; training, research, and education; technical and legal support and others.

These partnerships, in conjunction with the various asset types in the communities, promote sustainable community development (implied economic development); biodiversity conservation, poverty reduction, community empowerment and enhancement of individual and community self-reliance. Since the livelihood of the community and its survival hinges on the common property resources, communities have economic incentives to reinvestment in these resources, completing the cycle of asset growth, further empowering, and continuing sustainability of the communities and their economic development. But there is no proof that communities can always accomplish this. Analysis of the secondary data in this thesis, do not provide conclusive evidence that partnerships necessarily result in such a virtuous cycle of economic growth. In some cases the vicious cycle of poverty may prevail.

Figure 6.1 illustrates this asset development possibility leading to more sustained and sustainable development of the communities including economic development if the kinds of partnerships operate as envisioned.

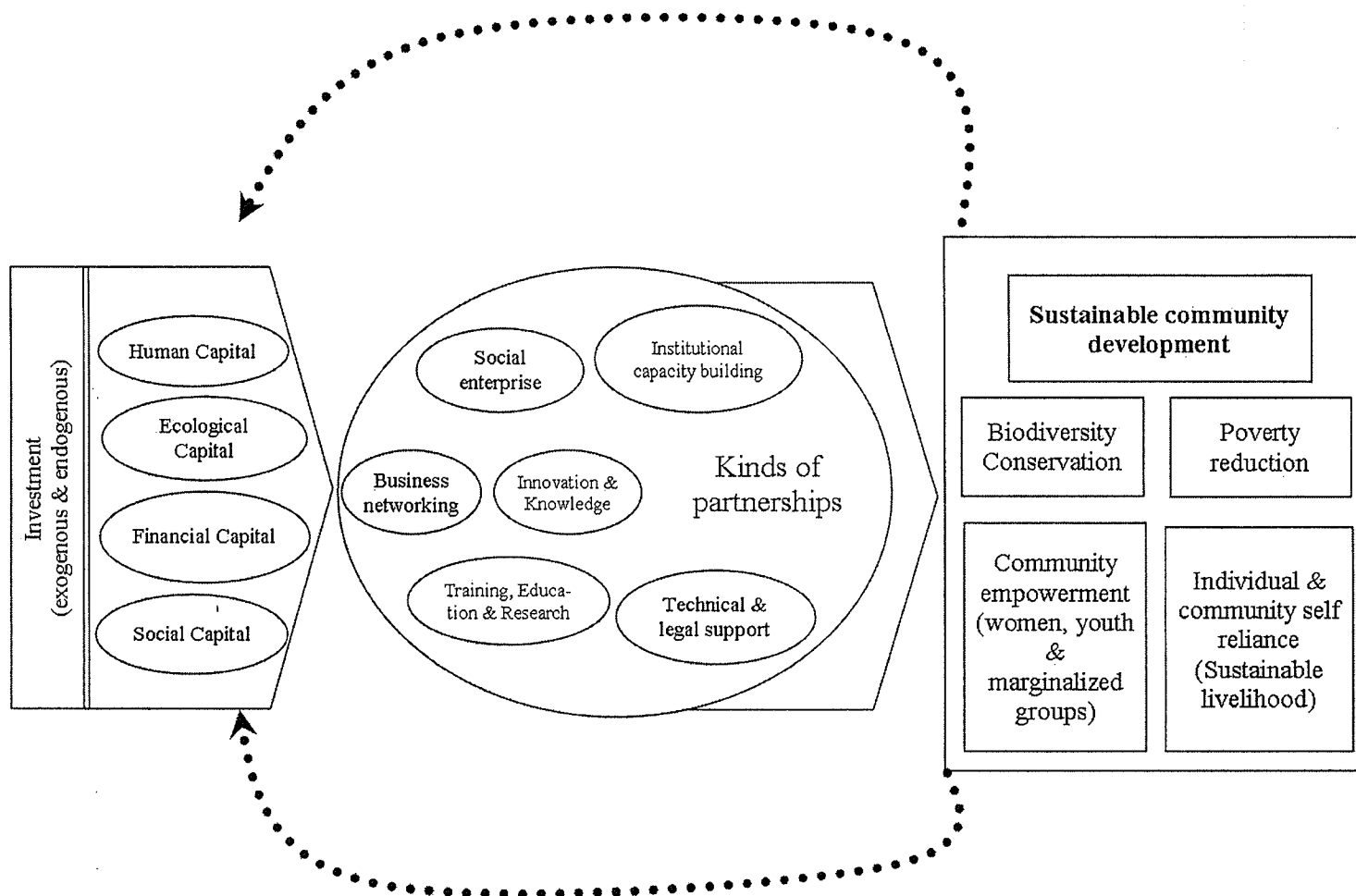


Figure 6.1 Kinds of partnerships and their impact to the community

Source: Framework adapted from Wheeler, McKague and Thomson (2003)

# Chapter Seven

## Lessons, Conclusion and Recommendations

### 7.1 Introduction

This Chapter presents findings of research that illustrate the role of partners and partnerships in community-based resource management, linking conservation and development. It should be noted that findings can be applied to other similar contexts; however these findings are limited in scope due to the analysis of secondary data only, in addition to the researcher's lack of opportunity to observe the context in the field, first hand, and to draw conclusions based on the primary sources of data. There are common patterns, practices and lessons learned, nonetheless that could inform resource management and raise questions for future research discussed in this chapter and in the previous chapters. The main findings are discussed for each objective and lessons and recommendations made in the last section of the chapter.

The purpose of this research was to examine and to analyze the Equator Initiative Program cases, particularly the role of partnerships and institutional linkages that facilitated community-based resource management linking conservation and development. There were three objectives of this research:

- i) to research the types of partners and cross-level institutional linkages in the Equator Initiative Program cases related to forestry/agro-forestry, medicinal plants, and non-timber forest products;

- ii) to identify the kinds of partnerships in these three categories of cases and their impact on community empowerment; and
- iii) to derive possible lessons applicable to other contexts from these partnerships and cross- level institutional linkages that integrate conservation and development initiatives.

## **7.2 Types of partners and cross-level interaction**

The Equator Initiative Program cases are founded on principles of community partnerships and institutional linkages (Timmer and Juma, 2005; Berkes and Adhikari, 2006). In this research, it was found that there was variation in the numbers and types of partners in each of the three productive sector sub-categories investigated. These variations are indicative of differences within community organizations and their contribution in community development. The types of partners ranged from community groups, NGOs, different levels of government, international organizations, research centers/institutes and the private sector. Some of these organizations operate at the community level only whereas others operate at the state/provincial, regional, national, and international levels symbolizing nested institutions (Ostrom, 1990). This is either because of the nature of resources they are managing or because they work at different organizations that are spread across the geographical range of areas. Each category of partners comes with its own capacities, strengths and limitations but when combined, the partners represent a unified mode of governance capable of achieving much higher goals than individually possible, both in development and conservation.

All levels of partners have played a facilitative and supportive role to others and have helped to build stronger communities financially, socially and politically since they bring their own strength and type of governance (Kooiman, 1993). This observation shows that governance is not unilateral from the governing system (implying only state) to the system to be governed (communities) but has aspects, qualities, opportunities and problems of both the state and other actors taken into consideration (Kooiman, 1993), resulting in a systemic interaction. It was found that in some cases the state has been influential in structuring the scales and territories of partnerships (Edwards et al., 2001) through devolution of resource management responsibilities to the communities and through recognition of the community practices.

Findings in this research (some cases) show a recognition, reliance and adaptation of the communities' traditional ecological knowledge by the government, donor agencies and other partners. In some cases there is evidence that the government is adopting community practices and knowledge in the management of resources, either jointly or by transferring the management rights to the community groups. This indicates that the communities are attaining self-determination and access to resources in some instances. In other cases communities are compelling the government to recognize community practices and give them greater access and benefit sharing of the resources.

International donors, through their funding support and research centers/universities and through their support in knowledge creation and dissemination, have been critical forces in linking the local level with the national and international levels (as demonstrated by

Figure 5.1 and discussions in Chapter Five). International level partners include NGOs, bilateral and multilateral donors, and regional associations. In some cases there are large numbers of partners creating complex cross-level institutional linkages (Berkes, 2006 and Cash et al., 2006) and, in others, there are fewer partners with a much simpler partnership and cross-level linkages, as discussed in Chapter Five.

The importance of types of partners varies based on local needs. There is no conclusive evidence that only a particular type of partner is applicable across all cases. The heterogeneity of the communities within a country and across countries means that the local needs are so diverse and based on divergent socio-cultural, economic and environmental realities in each case. In some countries there is a stronger role played by NGOs, and conversely, in other countries governments have played a stronger role. Some form of partnerships, however seems inevitable in resource management and community initiation, and so participation makes it easier for partners involved to join and contribute in the development of the region or the local economy.

### **7.2.1 Horizontal linkages**

In the three productive sector categories investigated, there is a prevalence of horizontal partnerships: most of these include different types of community organizations, local government and local NGOs. As discussed in Chapter Five, the communities organizations interact at the horizontal level include local NGOs, producers' organizations, farmers associations, representatives of elders, and village heads. Other organizations are joint forest management committees, workers' union, local and national

volunteers, women's groups and individuals. Some organizations working at the grassroots level are indigenous community groups. The local level government institutions are comprised of municipal, village and district level organizations including local schools in some cases. Horizontal linkages create opportunities for mutual support and replication of good practices between communities working in close cooperation with local NGOs and local level government institutions. In others horizontal linkages seems to evolve gradually over time as the communities learn new things and gain experiences as was found in Prad Nai Community Forestry Group (Thailand); one of the Equator Initiative case researched by the a fellow researcher (Senyk, 2006).

As illustrated by Figure 5.1, horizontal interactions are further complemented by vertical linkages creating nested institutions (Ostrom, 1990). The necessity for these nested institutions and partnership linkages seem to emerge as governments experience diminishing resources to fund community development programs and when communities lack sufficient funds to take up their own community development and conservation efforts. This reflects the new forms of governing complex, dynamic and varied qualities of socio-political and resource management systems that may find a better and more profound expression than in most traditional models of governance (Kooiman, 1993).

Some of these horizontal linkages represent communities working with other communities, local government working with community organizations, international donor agencies and NGOs working with community groups. Others include community groups working with various communities to share knowledge and expertise in resource

management and dissemination of innovative practices. There are inherent incentives for the community groups working with other communities at the same geographical scale. The primary motivation is the development of similar and parallel communities, economically, environmentally or socially.

Local communities and community level organizations, including the local governments, have played very important roles initiating the innovative partnership programs and linking their activities at micro and macro levels. The district level government most often includes forest staff members, extension agents or officers, village level forest and natural resource managers and, since they are in close proximity to the community they are considered as part of the local set up. Such initiatives represent horizontal linkages and in most cases have been instrumental in raising community well-being. They have, in fact, demonstrated their ability to integrate science and policy across multiples levels (Cash and Moser, 2000 and Cash et al. 2006) through their integrated activities which then do not compartmentalize into specialized units.

### **7.2.2 Vertical linkages**

Vertical partnerships and linkages complement the horizontal partnerships by providing connection across levels of organizations (Table 5.1 and Figure 5.1). These vertical linkages enable the utilization of the strength of diverse institutional levels through sharing of the knowledge/expertise and thereby complementing the limited knowledge of the local communities in resource management. The types of partners that communities are working to create these vertical linkages include a wide range of institutions such as

community organizations, various levels of government, local and national NGOs, international organizations, universities and research centers, private sector, local and national financial institutions.

In the Equator Initiative Program cases the state remains a strong partner and the state is present at the local, state/provincial, regional and national level. The state provides the policy framework, guiding the community-initiated activities, making laws and providing a legal and institutional base for the communities on which to operate. At other times, it is providing technical assistance and training through the extension agents that work with the local community groups. The state provides financial and management support by recognizing and building the community initiatives. As a result, there is a strong tendency among various levels of government organizations to partner with community groups, international donors, research institutions and others. The state, as a partner, has been playing a facilitative role in the Equator Initiative Program cases.

Non-Government Organizations have been instrumental in supporting and diversifying the community initiatives. Some NGOs are research-oriented; some train local people on various capacity building initiatives; some are more specialized, for example, the environmental NGOs, others operate at a much wider geographical scale and region; and some work as networks. Certain NGOs are bilateral and others are multilateral. Many national and international NGOs inherit strong powers and decision-making authority by virtue of their wider coverage and financial support they provide. Private sectors are emerging as partners in the Equator Initiative Program cases with their financial support,

their participation in conservation-related business activities, and with other community development programs.

In the Equator Initiative Program cases, participation and partnerships among different levels of governments, NGOs, communities and international organizations have emerged in the sustainable management of biodiversity resources and promotion of community development. Varying degrees of interactions among different institutional levels, symbolizing adaptive co-management, especially in resource management, recognizes participatory and transparent governance is evident (Kooiman, 2003; Lebel et al., 2006). This interactive mode of governance has shifted governance and management of natural resources from a state-sponsored, top-down approach, towards a more community-oriented, bottom-up endeavour. Such a partnership approach to community resource management created common and shared vision in these initiatives, increased communication, built each other's trust (Wildridge, 2004) and brought in greater strength as a group to the community.

More partners have come together through this initiative than would have been possible earlier. As a result the activities of diverse stakeholders are more successfully integrated in this development process. There is evidence of increased role of relationships and networks between conservation agencies, and development interventions and practitioners are focused on negotiations and network-building efforts.

### **7.3 Kinds of partnerships and community empowerment**

#### **7.3.1 Communities' dependence on multiple products and activities**

Communities are dependant on multiple products, varieties of integrated income-generating and other business activities for their livelihood (Timmer and Juma, 2005; Berkes and Adhikari, 2006). Such activities include small scale cultivation of non-timber forest products, medicinal plants, seeds of rice varieties, Soya processing, mushrooms, peanuts, cacao, achote, turmeric, ginger, growing tree fruits, production of juice from baobab and tamarind trees. Several communities are involved in beekeeping, ecotourism, and handicrafts such as palm leaf baskets, pottery, macadamia nuts, women's weaving cooperatives, honey production and other such activities. These activities are not only generating income for the communities but also help sustain resources through tree plantation, conserving resources, introduction of improved farming techniques, and sale of energy-saving stoves. Production of these varieties of goods and services enhances community resilience with sustained livelihood and reduced dependence on single products such as timber harvest. Local communities are thus experiencing greater dependence on the common pool resources for their sustainable livelihood needs (Beck and Nesmith, 2001), providing incentives for conservation of biodiversity.

#### **7.3.2 Community partnerships for multiple purposes**

The kinds of partnerships studied within this research demonstrate networking for multiple purposes ranging from community development, promotion of business entrepreneurship and economic activities, restoration of degraded land and resources, biodiversity conservation, and capacity building to empowerment of communities

including women, youth and marginalized groups (Table 6.1; Figure 6.1). Without the provision of external funding, technical support, and government recognition of local level institutions and initiatives, many of these innovative programs would fail to survive.

It was found that different cases are partnering with many organizations at the same time period. These simultaneous partners are providing diverse categories of support, jointly or independently. Such partnership arrangements have proven critically important in resource allocation among the community groups. Partnerships in some cases are involved in mitigating environmental damages such as those caused by improper use of slash and burn practices (AIR Project) through engagement in reforestation, environmental education, and community forestry. Community practices reinforce conservation of biodiversity resources by growing different varieties of species together and by using traditional practices, as opposed to single species cultivation through the scientific method. Business and income-generating initiatives are either social or community oriented, established for meeting varieties of integrated community objectives, including income-generation, preservation of traditional community knowledge and culture, ecological restoration, management of natural resources, social welfare and enhancement of community capacity (Figure 6.1). Most community enterprises are small-scale, primarily targeting local community needs with some cases linked to the international or even national markets.

### **7.3.3 Kinds of partnerships promoting community empowerment**

Through the partnership efforts, community capacity and empowerment have been enhanced in different ways as illustrated by Figure 6.1. Communities practicing equitable benefit-sharing with the government, other communities, business enterprises, and with the people, is one such method found in some cases. Such benefit sharing efforts have increased community access to resources and enhanced communities' capacities in making decisions that affect their lives. There is greater involvement of women in the ownership and management of land and resources representing increasing trends in community empowerment. Through training, education and research communities have been able to enhance their skills; increase their sources of revenue; and contribute to community development in many ways.

Youth and children obtain education and training facilities that have enhanced their capacities, and they too, have been contributing in community development. This is an indication of long-term sustainability of the programs, because strengthening the capacity of societies to manage resilience is critical to effectively pursue sustainable development (Lebel et al., 2006). The Equator Initiative Program was initially targeted for poverty reduction and conservation of biodiversity only but as the communities have experienced increased and diversifies activities, it has empowered communities in different ways.

### **7.3.4 Community self-determination: Integration of new learning with traditional knowledge**

A new trend in land and resource management, at the local level, giving communities greater voice and power in their effort towards self-determination is increasing (MEA, 2005; Berkes and Adhikari 2006). By this interactive process there is evidence of synergy created between the local knowledge possessed by the communities through generations of practices (Berkes, 1999), and the learning and refinement with the scientific knowledge. Such collaboration holds the potential for sustained conservation of biodiversity and socio-economic development.

Through this current collaborative trend there is regular adaptation and learning between the community's traditional knowledge and modern scientific knowledge, strengthening community institutions, enhancing the productive capacities of the communities and improving their resilience; socially, economically and ecologically (Walker et al, 2004). Communities are benefiting from the practice of traditional ecological knowledge; from traditional skills in making products that are now fetching better income; and from sustainable management of resources and biodiversity conserving. Governments, with other partners, are adapting the community practices into the management of natural resources such as parks, fish and forests with greater community involvement. Communities in some cases are undertaking training, education, and research to revive traditional management practices. They are sharing and disseminating their experiences and indigenous knowledge with neighbouring communities. These interactions have created a new kind of knowledge that has brought diverse individuals and institutions

together, representing a form of good governance. Such learning has widened the knowledge base in the communities and has tended to extend horizontally to other communities and vertically to higher level institutions, such as state/provincial, regional, national and international level.

### **7.3.5 Partnerships for business networking and economic development**

In many cases the community business networking is with the government; local, district, state and national level, other communities, outside businesses in a few cases, and financial institutions such as banks. These networks have extended the market for the communities, enhanced their income and diversified production of various goods and services based on natural resources, and increased the sources of income for the communities. Since most community enterprises are small-scale, those are primarily targeted in meeting their local community needs. There are some cases that are linked to the international or even national markets such as San Juan (Mexico) case. Some cases, such as San Juan, have been exemplary in promoting the economic and social development of the whole region as a result of this initiative extending the benefit of the program to much wider range of population and geographical scale.

Funding has been provided by diverse sources for the Equator Initiative cases ranging from the community themselves; local, state and national government; private financial institutions such as banks and in most cases from international donors including NGOs. The international organizations provide varying amounts of initial start up funds for the projects. Many social enterprises are set up not for profit motive alone, but they are

established to promote community social goals. These goals include conserving resources, providing employment, and blocking external companies from taking the major role of manufacturing, trade and other income generation activities. A certain percentage of earnings from the social, micro, and community enterprises are invested back into the community, and that investment has been instrumental in promoting community social, economic, ecological, and human capital, as illustrated by Figure 6.1.

### **7.3.6 Drivers of the Equator Initiative Program**

As shown in the previous discussion, many Equator Initiative Program cases are driven by market or other economic considerations along with biophysical changes such as land use changes (MEA, 2005). Economic considerations, especially livelihood practices through cultivation and harvesting of varieties of products, socially initiated business and economic activities are an important driver of the Equator Initiative Program cases. The multiple products and services based economic activities of the communities have tended to increase economic sustainability and community resilience. The introduction of alternative economic activities such as use of energy saving stoves has reduced direct community dependence on forest resources. It has helped in promoting communities health and biodiversity conservation.

Some bigger projects, such as San Juan (Mexico), practice multi-faceted social enterprises based on sustainable forestry and transformation of forest products (furniture and resins), eco-tourism, agro-forestry, and wildlife management. With the practice of social enterprises the profits from the enterprise are paid to community funds for

initiating community programs. Proceeds had been invested in communal projects for each family to receive benefits out of it as in the case of Bustaan Village (Gambia), Programa Mulher Cabocla (Brazil), and Conservation Malenesia (Indonesia) projects.

The Equator Initiative cases illustrate that involvement of grassroots-level local community members is becoming essential for biodiversity conservation as opposed to dependence on 'fortress and fine' (state-controlled and managed approach by creating parks and reserves excluding local resource users) approach. Involvement of humans in the integrated conservation initiatives is practiced as a norm and not as an exception. Evidence within this research thus shows that the partnerships have created many win-win situations for those involved, managing their livelihood needs. It could also be argued that consequently it has resisted the pressures of globalization and marginalization of community.

#### **7.4 Lessons and Recommendations**

The findings of this research in the Equator Initiative Program cases, about the types of partners creating cross-level (horizontal and vertical) institutional interactions, and the kinds of partnerships potentially could be replicated in other communities within other contexts, via adaptation. The kinds of adaptation depend on the contextual realities of the communities, including types of resources, socio-political, economic, institutional, policy and legal institutions.

#### **7.4.1 Horizontal and Vertical Linkages in Creating Good Governance**

The interactive mode of governance (Kooiman, 2003) created by the horizontal and vertical linkages through the community level partners working with higher level institutional partners in the Equator Initiative Program cases is a new trend in natural resource management – it deserves consideration. From the perspective of formulating policy for resource management, this presents an ideal participatory and interactive model. Governments could create facilitating institutions (policy and legal) to recognize the community level institutions based on traditional ecological knowledge practiced through generations of learning (Berkes, 1999).

Governance mode could also incorporate local practices with national initiatives linking local resource management with national and global practices (Ostrom et al., 1999). Governments could recognize community (often indigenous) laws and practices and institute capacity building mechanisms through various forms of legal and technical supports. These way communities would have greater access and rights to resources on which their community livelihood is dependent. It could inspire and promote horizontal linkages for communities to cooperate and create parallel institutions facilitating community development. International donor and NGO support could be solicited in promoting participatory and good governance through involvement of multi-stakeholder, co-management practices.

#### **7.4.2 Communities Dependence on Multiple Products and Multiple Economic Activities**

In the Equator Initiative Program cases, the reliance of communities on multiple products and multiple activities, as a source of livelihood is an important model to replicate in other contexts and has the potential to guarantee long-term sustainability of the communities and to conserve biodiversity perpetually. The threats and risks of relying on one product are reduced through this strategy of development and conservation and thereby ensuring community resilience. Historically, small-scale communities have survived through commodification of nature by extracting, producing, processing, and trading varieties of products from a range of natural environments (Zerner, 2000).

Community dependence on multiple products and multiple economic activities reflects development based on multiple values. The reliance on multiple interests and values is also implied when various stakeholder groups such as government, community organizations, NGOs, private sector, research institutes are involved in resource management and development. Governments and development organizations could study these community practices and gradually incorporate them into their development and conservation initiatives. The integrated nature of the activities that communities are practicing in the Equator Initiatives cases present a particularly interesting model to build from giving greater consideration in research and community development programs in other contexts.

### **7.4.3 Importance of Social Enterprises and Entrepreneurship in Community Development**

Social enterprises and community entrepreneurship have been important mechanisms of community development in the Equator Initiative cases. These have been more important for the indigenous cases within the Equator Initiative Program, as illustrated by the extent of community benefits they have generated. Entrepreneurship involves both social as well economic developments, integrating the two through community development. Hence, community development programs could be building around social enterprises as they promise better success in community empowerment and community asset building. The requirement for communities to invest a certain percentage of the earnings from these social and community enterprises suggests the necessity for business enterprises to take a greater role in development and community capacity building. There is an important message to learn from these practices for development and investment in other contexts.

### **7.4.4 Sustainable Community Development**

The types and kinds of partnerships creating vertical and horizontal linkages have been reported to be promoting sustainable community development. Besides promoting poverty reduction and biodiversity conservation (primary objective of Equator Initiative Program cases) these institutional linkages have promoted community empowerment and sustainable livelihood (Figure 6.1). Poverty reduction is more pathological in approach oriented towards remedying a deficiency of lower income in the communities. Sustainable livelihood practices promote individual and community self-reliance that is self-sustaining; more than just being pathological. It caters to wider range of well-being

such as psycho-social, spiritual, and humanitarian needs besides fulfilling the physical needs. Similarly, the varieties of ways in which community empowerment tends to happen, especially greater role and capacity for women and marginalized groups (i.e. indigenous) are noteworthy. Hence these partnership types and kinds point towards much wider gains to the communities. This model presents good lessons for replication in other countries, particularly for development organizations such as UNDP and its partner organizations in the Equator Initiative Program cases.

#### **7.4.5 Model for Managing Commons**

The Equator Initiative Program cases discuss varieties of grassroots initiated community partnerships in managing commons through creation of institutions and policies. Through these interactive institutional practices, communities and governments manage commons resources not due to any coercive, top-down directions but naturally in the process of managing their livelihoods. So, biodiversity conservation is not initiated through any external pressure but intuitively by the communities themselves through the internal drive to conserve these resources facilitated by the practice of traditional knowledge and community sustenance dependent on these resources as well. In the process communities constantly design rules of managing commons resources suitable to the local context through adaptive, interactive process. This is a good model for knowledge transfer in other contexts with appropriate modification and adaptation. This practice provides opportunities for inclusion of local people in the conservation of biodiversity resources and ensure enhancement of the community livelihood, as reported in this research.

#### **7.4.6 Further Research**

This research identified some important trends in the study of types of partners and kinds of partnerships that require further research. A number of research questions emerge as a consequence of this study. One generic question that requires further investigations is: What are important incentives and drivers promoting community participation in resource management in the Equator Initiative Program cases? Another question that may require further research is: How effective are horizontal and vertical partnerships in each case and what kind of community benefits are they promoting? This question requires researching each case independently or as a set of cases based on certain criteria.

A third important question is: How effective is government partnership in promoting community initiatives; or how do communities view government partnerships? Another research question may be: How important is the actual role of community institutions nested with government institutions in the management of resources? Finally, this research investigated some issues of political economy through discussion of community and higher level institutions influencing resource use and community economic development. More pertinent issues of the extent and the type of specific institutions, such as policies made at higher level of government and their effect on community practice of economic activities at the local level needs to be addressed with focus on selected communities and cases.

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