

**Lessons from the Equator Initiative:
An Analysis of Partnerships and
Cross-Scale Institutional Linkages
in Forestry/Agro-Forestry
Related Cases**

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Chapter 1: Introduction

1.1 Background to the Research

Conservation and development have been organized and conducted in different forms. Often, the goals of conservation were thought to be conflicting with the goals of development. Traditional, exclusionary approaches to protected areas using “fortress conservation” or “fences and fines” approaches have not met the conservation objectives effectively (Brown, 2002). These approaches distance local resource users, perceiving as drain on the scarce resources of many countries, impoverishing and marginalizing rural communities in poverty (Brown, 2002). The experiences of community-based conservation programs in the 1980s and 1990s have convinced researchers and donor agencies that programs must be based on the active support of local resource users providing appropriate incentives, and institutional support (Mahanty, 2002). The attempts to integrate development with conservation in the community-based approach, putting people at the forefront, has 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, wildlife use and extraction more recently. Some 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 (Wilshusen et al., 2002).

Hence, the general trend had been that the results of community-based conservation had been mixed. There are not enough community level successful cases that provide evidence to substantiate the claim that conservation and development efforts could be met simultaneously. Many researchers have cited different reasons for the failure of integrating conservation and development goals and one of them is the impracticality of the approaches used. Others have suggested that conservation and development integration have failed since there are misconceptions about community, participation, empowerment and sustainability (Brown, 2002). Participation and partnerships among different levels of government and community is emerging as a new approach ensuring sustainable management of biodiversity resources and promoting community development and reducing poverty.

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 alone. Within the public, private and voluntary sectors, the need for partnerships working, often cross-sectoral working or working beyond the boundaries is recognized as a vital component of success (Wildridge et al., 2004). Recognizing partnerships as significant vehicle for implementing rural development policy in Britain scalar hierarchy of the state has been influential in structuring the scales and territories of partnerships, and that, 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). 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, concludes that fundamental changes are necessary to institutions and management and decision-making strategies to address these issues and to effectively meet the goals of conservation and development. There are other cases, such as Small-scale fisheries management (Berkes, 2006), India Eco-development Project, Karnataka, which examined the role of relationships and networks between actors in conservation and development intervention (Mahanty, 2002).

Viewed from Amartya Sen's development-as-freedom perspective of poverty, development requires efforts in capability improvement and greater earning power (Sen, 1999). Similarly, Chambers (1995: 173) believes that realities of the poor are local, diverse, often complex and dynamic, and notes the neglected dimensions of deprivation. Chambers (1995: 173) mentions that development should be reversals to enable poor people to analyze and articulate their own needs. This notion resembles Sen's capability framework. Although facing similar challenges, the Equator Initiative cases have developed some innovative partnerships for conservation and poverty reduction. Trends in development and conservation call for partnerships and cross-scale institutional linkages for better outcomes.

1.2 Purpose of the Research

The overall purpose of this research is to examine some successful examples of the types of partners and kinds of partnerships in local level community-based conservation and development, and document institutional and organizational characteristics, and cross-scale linkages in Equator Initiative cases. The research provides evidence on how these linkages have facilitated meeting the objectives of conservation and development initiatives through participation in various forms of economic activities and small-scale business initiatives. This resulted in the examination of vertical and horizontal institutional linkages practiced in these cases that are contributing to conservation and development.

Community-based and collaborative forms of management between government institutions and local communities are becoming a more common form of natural resource management and conservation throughout the world (Berkes et al., 2003). Further research on Equator Initiative cases would add to better understanding of the possibilities of achieving dual objectives of generating sustainable livelihoods while conserving biodiversity. The increased implementation of community-based management programs, however, has not produced these promised successes. Results from community-based management and conservation programs have thus far been mixed at best, with both successes and failures documented (Barrett et al., 2001). Thus, an important area of research is the study of partnerships and institutional linkages that facilitates conservation and development and promotes community-based resource management.

1.3 Research objectives

The overall goals of the study is to analyze the types of partners and kinds of partnerships and institutional linkages in the Equator Initiative cases related to agro-forestry, non-timber forest products and medicinal plants and analyze the importance of these linkages for conservation and development. More specifically, the objectives of this study are:

- i) To research the types (local and national NGOs, local and national governments, international organizations and others) of partners in the Equator Initiative cases related to forestry/agro-forestry, medicinal plants, and non-timber forest products.
- ii) To identify the kinds of partnerships (business networking, fund raising, training/research, institutional building and others) and cross scale institutional linkages: vertical and horizontal, in the Equator Initiative agro-forestry, non-timber forest products and medicinal plants related cases.
- iii) To derive generally applicable lessons from these partnerships and cross-scale institutional linkages in integrating conservation and development that facilitate community based entrepreneurial initiatives and community economic development.

Chapter 2: Introduction to 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 (Equator Initiative 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. 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).

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 it is planned for 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; adopt sustainable forestry and fisheries practices; engage in organic agricultural approaches; and harvest and market organic coffee, medicines, fabrics, crafts, cosmetics, and other natural sustainable products (Timmer and Juma, 2005). The

Equator Initiative: A partnership for sustainable communities in the tropics

The Equator Initiative is a partnership that brings together the United Nations, civil society, business, governments and local groups that promote sustainable communities in developing countries within the equatorial belt (23.5 degree North and South of the Equator)



are 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. The Equator Initiative aims to champion and support community-level development projects that link economic improvement with the conservation and sustainable use of biodiversity.

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; Berkes, 2006) could be identified (Seixas et al., 2004). Evidently, varying degrees of horizontal and vertical linkages are noticed in these prize-winning cases. Similarly, Berkes and Adhikari (2006), analyzing 42 indigenous entrepreneurship type cases also document evidence of a range of partners and kinds of partnerships.

This report examines the Equator Initiative database to document lessons on types of partners and kinds of partnership and cross-scale institutional linkages. First, I explore 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. Second, I discuss the types of partners and kinds of partnerships practiced in these cases and the importance of cross-scale institutional linkages. Third, I explore 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. I examine the community-based development and the importance of traditional ecological knowledge that had been instrumental in promoting community development.

Developing partnership is an essential component of Equator Initiative programs and there is evidence that most cases are required by the program and have built some form of partnerships, linking horizontally across space and vertically across levels of organizations (Berkes, 2006; Berkes, 2002; Young, 2002). Reviewing the cases that illustrate examples of indigenous entrepreneurship in the Equator Initiative database, I found varying degree of complexity at different levels of the organizations. Research on the Equator Initiative cases by other scholars in Asia, Africa, and South America has demonstrated the existence of strong partnerships and cross-scale institutional linkages and the complex nature of this linkage. At the same time, communities themselves are complex systems embedded into more complex systems (Berkes, 2006: 1). Cross-level arrangements, such as co-management provide ways to deal with linkages in complex adaptive systems (Berkes, 2006: 1). These findings are also illustrated by the Equator Initiative cases.

Chapter 3: Methods

3.1 Introduction

This research was carried out primarily as a review of information from the Equator Initiative program of the UNDP and its partner organizations as described above. Hence the primary source of data is the Equator Initiative database. The data generated from this database was 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 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 number of horizontal and vertical cases. This helped identify the dominant types of linkages.
- iv) Sorted the partnerships under various kinds such as business networking, institutional building, fund raising, innovation and knowledge transfer, gender empowerment and equity and others.

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

First, as a starting point, all cases in these three categories were reviewed and found the geographical distributional pattern. Second, 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 on 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. Third, 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. Fourth, community-based development, community economic development, entrepreneurial initiatives, and the use of traditional environmental knowledge were explored and trends noted.

3.2 The Equator Initiative Database and the Data Analysis

There are 817 Equator Initiative cases from the Equator Prize competitions of 2002 and 2004. There were 400 nominations from 2004, out of which only 315 cases were actually available in the UNDP Equator Initiative database at the time of starting the data analysis for this report. In this technical report, I analyzed all available Equator Initiative programs for 2004 database (**Table 1**). These cases have been categorized as national, state/provincial, regional and local (**Table 1**) in terms of the geographical distribution. For the purposes of this research and the technical report, I narrowed down the search to agro-forestry (N=95 cases), non-timber-forest products (N=41) and medicinal plants (N=37) (**Table 2**) in the three regions of Asia & Pacific, Africa and Latin America & Caribbean. Program descriptions in these three categories of cases, with different geographical distribution, are reviewed along with various types of partners. This is then followed by the analysis of kinds of partnerships that helped to illustrate the cross-scale institutional linkages at various levels.

Table 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 scale focus is followed by state/provincial, regional and the national focus. The Equator Initiative database is organized by category. This technical report uses six categories from the database, each of which includes 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 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 technical report is synthesis of information from only three of the cases: agro-forestry, non-timber forest products and medicinal plants. The other productive sector categories include; agriculture, apiculture, artistry, aquaculture, ecosystem restoration, eco-tourism, fisheries, livestock, payment for eco-system services, protected area management, wildlife management (**Table 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.

Tables 5-7 discuss some nominee type sub categories by scale 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 illustrating the importance of community level initiatives for livelihood efforts and

the importance the communities are attaching to the conservation of biodiversity? **Table 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 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. **Table 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 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, some programs that are initiated by indigenous groups and large number of program cases catering to the socio-economically marginalized sector of the population. There are some programs catering to women and youth needs.

Table 9 discusses poverty reduction sub-category such as food security, access to water, health improvement, income generation, reduced vulnerability to disaster, socio-political security and by different regions. In this sub-category I found that a large number of cases are targeted to 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 is also 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 10** lists cases according to biodiversity subcategory such as sustainable use, conservation/protection and rehabilitation/regeneration types and regional distribution. All the three categories of cases have strong emphasis on the three-biodiversity conservation roles.

Table 11 discusses millennium development goals subcategories such as eradicating extreme poverty and hunger, achieving universal primary education, promoting gender equity and empowering women, reducing child mortality, improving maternal health, combat HIV/AIDS, malaria and other diseases, ensuring environmental sustainability, developing a global partnership for development. All three cases have strong focus on ensuring environmental sustainability: forestry/agro-forestry (N=84 cases), non-timber forest products (N=36) and medicinal plants (N=33). All of them have strong 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 indicate less emphasis on this subcategory: forestry/agro-forestry (N=11 cases), non-timber forest products (N=8) and medicinal plants (N=7). But the case descriptions illustrate strong emphasis in all the three categories of cases.

Table 12 lists various types of partners and institutional linkages generated out of case descriptions in the database. **Table 13** lists kinds of partnerships generated out of case descriptions in the database. The primary focus of this report is going to be descriptions of the types of partners and kinds of partnerships as illustrated in **Tables 12 and 13**. The cases analyzed for this report are from Asia & Pacific, Africa, and Latin America & the Caribbean region. I have randomly selected some cases 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.

In this technical report, I have discussed the various types of partners that are represented and described from the cases. These partnership categories represent diverse cross-scale 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 the communities are partnering with (**Table 12**) 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 13**). Some of these activities are business networking; fund raising and management; training, education and research; legal support and conflict resolution; institutional capacity building; technical support, advice and assistance; infrastructure building; cooperative business activities among many others. Community and partners involvement in these activities represents both vertical and horizontal linkages.

3.3 Data analysis using Nvivo

I used primarily two types of data analysis. The first source of analysis was the tables generated from the Equator Initiative Database that form most of the tables presented, except Tables 13 and 14. 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 12 and 13. 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. Majority of cases reviewed indicate that they are local, community-based initiatives with support from different levels of government, NGO, international agencies and financial institutions (**Table 1**). There are fewer national level cases, some regional and state/provincial level cases (**Table 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 informed by the grounded theory research. Most of these types and kinds of partnership described in the case descriptions are kept 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 added on and developed as informed by the previous research that the researcher had carried out (Berkes & Adhikari, 2006) and identified from 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-scale linkage that was discussed briefly in the previous study (Berkes & Adhikari, 2006).

Coding data in Nvivo was the starting point for data analysis but I had to go back to coding and recoding with the new nodes identified and with new ideas that emerged in the course of starting this coding function. This process was important since it made it possible to go back and check the numbers that I had 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.

- iii) In the course of coding the data, I read through the material carefully to ensure that the information represented relevant categories, and appropriate conceptual linkages were identified.
- iv) After completing the tables I started reviewing them, reading the case descriptions once again and began the process of writing this report. I referred to the summarized figures in this table and compared them across the three different categories of the cases.

Chapter 4: Types of land and resource based community economic and business initiatives: Findings

This section describes some of the economic and business initiative cases in the three Productive Sector subcategories as outlined in **Table 4**. These are forestry/agro-forestry, non-timber forest products, and medicinal plants cases. These case descriptions illustrate the kinds of resources in which the communities covered by the Equator Initiative Programs are based. Some of the cases are the same as those described in Berkes and Adhikari (2006), and I have avoided repeating them but instead included others that are part of the three productive sector subcategories. Some sample cases are outlined in the descriptions.

4.1 Forestry/Agro-forestry

The economic activities and business initiatives described in these cases are widely variable. The Comunidad Indigena de Nuevo San Juan Parangaricutiro (Mexico) is an indigenous people's organization that owns 11000 hectores of Forestland 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. The community-run enterprises employ 800 out of the 1300 people in the community providing them secure and adequately-paid jobs that has helped reduction in out migration of the population, basic needs of all community members have been met, and extreme forms of poverty has been eliminated. The quality of housing has notably improved and the majority of residents have water, sanitation and electricity. Most of the families can count on medical services. This initiative has already sustained for over 20 years with community forest cover increase of 1100 ha and a diminished rate of forest fire. There has been annual produce of 500,000 forest species seedlings for reforestation activities inside and outside the community and white-tailed deer have been re-introduced and protected.

The forestry and forest products transformation activities have been tremendously successful, economically and the community has continued to diversify its economic activities. Sustainable production under different sectors (such as forestry, tourism) is completely integrated where natural resources within the community are managed by the community to complement each other. The community has received several prizes within Mexico and has achieved a certain level of international recognition (Orozco-Quintero, 2006).

In the AIR project, rural communities of Chimaltenango, central Guatemala and Northern 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 beans, corn, and vegetables has doubled reducing poverty by both improving crop productivity and providing free organic fertilizers and pesticides. The use of only organic methods has reduced farmers' expenses. 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 – India (CEFI) operates as a Consortium of 80 community based organizations under the partnership of four NGOs. It involves 3125 entrepreneurs, mostly women. It has improved community well beings by providing opportunities for growing and selling organic and ethnic food and herbal medicines, using bio-energy, setting up revolving funds. Income is generated through the cooperative marketing of the produce from biodynamic farming and ethnic recipes, handicrafts such as palm leaf baskets, terracotta pottery, and herbal medicines. CEFI activities take place in 4 talukas (counties) and involve 3125 entrepreneurs as members of 4 district federations, benefiting 19,182 persons, mostly women. It has succeeded in improving the well being of communities by providing opportunities to grow and sell organic and ethnic food and herbal medicines, using bio-energy, setting up revolving funds, empowering women, and establishing business centers in 4 districts.

The Kakamega Forest Integrated Conservation Project, Kenya, focuses on conservation of the only rainforest in Kenya by promoting non-forest derived income-generating activities for local communities including beekeeping and sericulture technologies, the cultivation of medicinal plants, the sale of energy conservation stoves, and provision of credit facilities. Farmers are cultivating and selling medicinal plants, community members are trained on beekeeping and sericulture. It promotes fuel-wood energy-saving methods and other technologies. Women's groups have increased their income source through this project (Maurice, 2004).

Local Empowerment Foundation, Mindanao, the Philippines project covers two provinces operating among poor farmers, almost 70% of whom grow coconuts. It provides sustainable livelihoods to marginal 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, 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. Every family now has at least two economic activities that are both natural resource and agriculture (market oriented) resource based. Rotational woodlots provide numerous products: wood for fuel and stakes for beans, poles, medicines, timber, and fruit.

4.2 Non-Timber Forest Products

Sexto Sol Center, Sierra Madre region of Chiapas, Mexico, and repatriated refugee communities in Guatemala program supports three programs each with community-based projects located in three geographical regions. Each project furthers income generation, food security, gender equality, and attempts to reverse the destruction of the forest. It has been helping small-scale coffee farmers to overcome the hardships associated with the international coffee crisis by promoting organic and fair trade certification among those whose coffee can compete on the market, and supporting alternative sustainable livelihood strategies such as macademia nuts, women's weaving cooperatives, and eco-tourism. It operates a demonstration school for sustainable food production and ecological park.

Wildlife and Environmental Society of Malawi (WESM), is a community-based natural resources management project. The NGO formed in five villages to address 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 to 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.

CHIEHA takes place in the Sangwe Communal Lands surrounding the Great Limpopo Trans-frontier Park, Zimbabwe. The forest forms an ecological base for CHIEHA projects, which promote sustainable livelihoods from NTFPs, processing these for sale, afforestation to regenerate the forest and protect the watershed, conservation of traditional crops and seeds, and the promotion of conservation through awareness raising activities. More than 50 families and 2,000 people collect and sale NTFPs deriving benefit from the forest products that provide a source of food, income and medicine and the whole community's well being has improved. The community enterprises in a diverse range of activities are promoted having a positive effect on income levels: an eco and ethno tourism venture, beekeeping, mapani worm collection, peanut and butter processing, juice production, sustainable agriculture, and small grains.

In Programa Mulher Cabocla project, Brazil, with a theme of "Protect Health and Happiness" has been working since 1987 with approximately 143 remote communities on the Amazon, Tapajos and Arapiuns rivers. Much of the communities work has centered on education and community capacity strengthening using popular theatre and other means. This project is for their work with a women's organization involved in the production of palm baskets from sustainably managed palm. Through the recovery of traditional handicrafts skills, diversification of products, quality control and organizational strengthening, the palm baskets are now being sold in major urban centers. 15% of profit goes to a community fund to be used for activities that combat malnutrition and improve maternal-infant health. 34 families are involved in palm production and have increased their family income by 80%.

The Fundacion Tierra Viva, Venezuela, initiative Park, People and Cacao are focused on generating an economic and environmentally sustainable relationship among these three elements that have co-existed for some time. Cacao cultivation has been re-introduced (using traditional approaches) and Union of Organic Cacao producers formed. It has 21 male and female members who have received the training required in order to obtain organic certification and to ensure long-term capacity within the community. In the context of the same process, students have also received training in order to ensure long-term capacity within the community. A micro-enterprise for cacao transformation has been established and is run exclusively by women creating ten new jobs. As in the traditional “Cayapa” approach, cacao producers work in teams on one another’s plot. Each member of the organization of producer must contribute a certain amount of labour annually, avoiding payment for external labour when the producers do not have cash flow to cover the expenses. Project grew out of a partnership between the nominee and the National Institute of Parks. Financial support was provided by Philip Morris Latino America.

Guassa-Menz Natural Resource Management Initiative, Guassa-menz area, Afro-alpine ecosystem, Ethiopia, operates 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 and other livestock. There are an estimated 15,000 beneficiaries in the eight farmers’ associations that have user rights to the area. They harvest grasses and fuel wood and graze animals in a controlled way for subsistence and to overcome the risks associated with drought. The sustainable management of these resources has contributed to increased community well-being through reduced dependence on external food aid and income from the sale of thatch. Due to the user laws set up by the community, thatching grass is now abundant and can be sold on the market.

4.3 Medicinal Plants

Community Based Forest Managers of DuralHaitemba Village, 8 village communities in the Miombo Woodlands Manyara Region is a project in Tanzania. In response to Tanzania's 1990 drive to gazette woodlands for conservation, these villages, who 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. Through 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. Women can harvest firewood to sell and are allowed one head load per day, which fetches them about US\$ 210 per month. Beekeeping has also increased livelihoods allowing 75% families in the villages to meet education and health service costs. Improved farming techniques have increased soil fertility; production of food and cash crops and soon each village will be self sufficient in timber production for wood products.

Fundacion Chankuap, 56 Archuar indigenous communities of Ecuadorian Amazon and Peru, is a large scale initiative that began with a primary objective of combating poverty (ensuring food security, health and cultural well-being) in the communities and secondly as income generating. The nominee began by improving basic infrastructure: installing radio for improved communication among the communities, improving paths through the forest, and then installing dryers and fomenters for improved processing of products present in the area: peanuts, cacao, achote (seed used as spice, food colouring and for medicinal purposes), turmeric, ginger, and so on. It also required promoting trade among the communities before looking to trade outside. A range of activities were introduced to achieve these goals: forest management plans; native species nurseries; reforestation; reintroduction of traditional Archuar gardens; breeding places for wildlife; communal trading centers; organic certification and marketing of achote, cacao, chili, peanuts, and an essential oils project.

Fundacion ESPAVE, Biodiversity hotspot of global significance, Columbia, is a women's organization established to produce and process medicinal herbs where both biodiversity and local communities have been threatened by resource exploitation by outside interests. While riches were exported, 82% of the population remained in poverty. Faced with this situation, six women heads of household with experience in collecting and processing medicinal herbs began this initiative and formed a network, which now includes 85 women of African decent. The products are sold in a supermarket chains at good price. The women involved in the network have increased their family incomes by an average of 25%. Five women involved in managing the enterprise receive salaries and benefits in keeping with the legal minimum wage. Regulations regarding medicinal herb extraction/production are laid out and respected by members of the network. Recovery and valuing of medicinal herb species should contribute to biodiversity protection on a

broader level. Traditional knowledge applied to local biodiversity has led to economic returns.

Rwoho Forest Community Conservation Project on the edge of Rwoho Forest Reserve, Uganda, establishes collaborative forest management and equitable benefits sharing between the local forest edge community and the forest department. Through seed collection, tree nursery establishment and maintenance, afforestation 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 that of the forest. This has increased their food production and income from sales that has improved livelihood through sustainable use of forest resources. With increased production and sale of honey, 125 participating households report an average increase of 60% in income. Previously unemployed youth now have jobs in the nursery or in carpentry to make beehives. Locally produced herbal medicine provides available and affordable health care. Women have benefited by having fuel wood close to home, reducing their workload and enabling them to take on emerging roles such as political office.

Mama Watoto Women Group, 20 women near Kakamega rain forest, Kenya, is an initiative of women headed households due to absentee husbands who started self-help project in response to restrictions on collecting resources from the Kakamega rain forest. They started their own wood supply by planting trees, and introduced a number of income-generating activities, including 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. They diversified their income sources by introducing beekeeping which brings them good revenue and Soya bean cultivation and processing with appropriate techniques from which they earn income from sales to local consumers and middlemen. From the firewood, timber, honey, herbal medicine, vegetables sales and soya beans, members are able to pay for their children’s school and college fees, feed and clothe their families and construct their own houses. The domestication of medicinal plants is helping ensure the survival of rare indigenous species and the pollination by the women bees is helping to improve biodiversity and ensure food security. With emulation by the extended community, encroachment in the forest and conflict with Wardens is decreasing even more.

The Community Agro-biodiversity Center, Swaminathan Research Foundation, Kerala, India, has done some pioneering work in researching and recovering rice varieties, training/educating groups of mostly women in cultivating and processing medicinal plants, mushrooms and other skills related to the sustainable production of food and conservation of natural resources. The Center is revitalizing traditional health care by training women’s self-help groups. About 500 members, largely women, are educated and trained in the conservation and sustainable use of at least 75 species of medicinal plants and equipped with skills and knowledge in the preparation and storage of about 36 different healthcare products that are in large demand. The Center produced purified quality seeds of rice varieties with medicinal value, including Navara, a well-known

variety that self-help groups is producing and marketing as a nutritious drink. The Center is involved in a network of partners that includes local communities. The Center fostered the formation of a network of 15 NGOs in the district each addressing different biodiversity aspects. With the help of extension agencies, the Center is promoting awareness among policy makers of potential of integrated farming towards income generation and sustainability.

The Bustaan Village initiative in 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. It is improving its living standards through the sustainable use of forest resources, protection against fires, agriculture, and agro-forestry. The village is using the natural resources of two management forest areas in a sustained way for their own domestic use such as firewood, construction materials, food and medicinal herbs, which is contributing towards household savings for energy, shelter, food, and health. It also commercializes forest timber products in a controlled manner, such that it has benefited from the sale of wood in high demand. Proceeds had been invested in communal projects enabling each family to receive benefits out of it. Participatory forest management concepts promote poverty reduction and biodiversity conservation and the interdependency of the ecological, social and economic factors are recognized. The village started to manage the site in 1999 and gained ownership rights in 2000. It manages forest with only token interference by the government. The community is highly motivated to care for the surrounding forest.

4.4: Types of land and resource based community economic and business initiatives: Analysis

As in the set of indigenous cases (Berkes and Adhikari, 2006), communities tend to combine many different kinds of productive activities using different resources (**Table 4**). My focus in this report is on forestry/agro-forestry (N=95 cases), non-timber forest products (N=41), and medicinal plants (N= 37). Case descriptions analyzed here are based on randomly selected cases from these three categories. 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) and others, are equally important and essential for the communities but are not covered here. As it can be seen from (**Table 4**), many productive sector activities could fit more than one category and these cases are overlapping. Communities advantageously combine different sectors activities as they vary with different seasons and their livelihood needs are dependent on these different activities.

Communities are involved in wide range of innovative experiments that are specifically relevant to local context. But there are similarities of trends and patterns observable across these diverse cases, reflective of community lifestyle, culture and social-economic patterns as discussed below.

Communities are practicing wide varieties of income generating and business activities such as 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 and others on a small scale. They are involved in beekeeping, ecotourism, and handicrafts such as palm leaf baskets, pottery, macademia nuts, women's weaving cooperatives, honey production and many other income generating sources. Livelihood needs of the communities are dependent on various income generating and business activities with reduced reliance on single product or service that may not be sustainable in the long run. These activities are not only generating income for the communities but they are also able to sustain the resources through tree plantation, conserving resources, introduction of improved farming techniques, sale of energy saving stoves and others.

Most business and income generating initiatives are either social or community enterprises that are established for meeting varieties of community objectives including income generation, preservation of traditional community knowledge and culture, ecological restoration, management of natural resources, social welfare benefits such as provision of health, education and provision of employment opportunities and enhancement of community capacity. Financial and management support is shared among the community and family members with some external donor and government funding. These activities are integrated and practiced simultaneously with community well being as the focus rather than exclusively for profit motives. Community vision tends to over-ride all other individual and self-fulfillment objectives and the running of the enterprises is guided by social objectives. Since most community enterprises are

small-scale, those are primarily targeted in meeting their local community needs and there are very few cases that are linked to the international or even national market.

There is increased evidence of shifting management and ownership rights towards the communities either through joint management initiatives, legal and policy support or total delegation of the ownership rights to the communities. Communities are managing forest resources themselves with little interference from the government, as a result of the shift in ownership rights. An example of this trend includes Bustaan Village initiative in Gambia. There is a new trend in land and resource management that gives communities' greater voice and power in their effort towards self-determination. An emerging trend of communities practicing equitable benefit sharing mechanisms either with the government, other communities or business enterprises is noticed in the case descriptions. There is greater involvement of women folks in the ownership and management of land and resources that are representative of community empowerment.

Communities are benefiting from practice of traditional ecological knowledge either through use of traditional skills in making products that are now fetching better income or through sustainable management of resources and contributing in conservation of biodiversity resources. Traditional knowledge is strengthening community institutions and governments in some countries are adapting the community practices into the management of natural resources such as parks, fish and forests.

Chapter 5: Partnerships and cross-scale institutional linkages

5.1 Types of partners: Findings

Most Equator Initiative cases involve multiple levels of partnership and multiple types of partners. Types of partners ranging from NGOs (local and national), government (local, regional, state and national), international organizations, local and national financial institutions, joint forest management, universities and research centers, community associations/organizations, and private sector are found in the cases analyzed (**Table 12**). In the three categories of cases: forestry/agro-forestry (N=95 cases), non-timber forest products (N=41) and medicinal plants (N=37) I found wide variation in the types of partners. Forestry/agro-forestry cases have greater 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 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 not much difference between the regional/state government and national level government partners.

In all the three categories of cases local and national financial institutions as partners is limited in numbers: forestry/agro-forestry (N=11 cases), non-timber forest product (N=5) and medicinal plants (N=6). 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 12**). 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 is 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). There is a strong involvement of universities and research centers 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 category of cases although non-timber forest products have (N=9) as compared to only (N=6) for forestry/agro-forestry cases and (N=3) for medicinal plant cases. The involvement of community organizations as partners is very strong with (N=52) for forestry/agro-forestry, (N=27) for non-timber forest products and (N=17) for medicinal plant cases. There are also some unclear cases that do not mention about the types of partners: forestry/agro-forestry (N=25 cases), non-timber forest products (N=10) and medicinal plant (N=11).

5.2 Types of partners: Analysis

These Equator Initiative cases provide ample evidence of community partnerships (Timmer & Juma, 2005) and partnership formation as an important part of the Equator Initiative program. Most cases reviewed in this analysis revealed multiple levels of partners at different levels of political organization (Berkes & Adhikari, 2006). The communities are partnering with wide range of organizations as partners ranging from community organizations; local, state, and national governments; local and national level non-governmental organizations; international organizations; joint forest management; university and research organizations; private sector and there are many cases with no clear types of partners as well (**Table 12**). These types of partners can be categorized under five levels: international (funders), national (government agencies), regional, state/provincial level and the local level (community organizations).

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 12**). Perhaps this is reflective of the nature of community organizations and the various roles they perform in the communities. I found a strong dominance of horizontal partnerships representing local community organizations, local government and local NGOs jointly. But the local level, horizontal partnerships is further supported by the vertical level of partnerships that involves the state, regional and national government and the strong support of the international organizations. The necessity for this nested institutions (Ostrom, 1990) nature of partnerships linkage is beyond the scope of this report but I will discuss it in more detail in my thesis.

The importance of types of partners varies based on local needs. In some countries there is stronger role-played by NGOs, and in others governments have played a stronger role. Some development organizations have priority needs in some countries and they would be interested to partner with local community based organizations in such countries. But some form of partnerships seems inevitable in resource management and community initiation and participation makes it easier for other partners involved to join and contribute in the development of the region or the local economy. The international movement towards more community participation, scarcity of resources with the different levels of government, greater political awareness of the communities leading to the demand for more democratic and participatory form of government in the developing countries, and communities as complex systems (Berkes, 2006) are perhaps some factors encouraging partnerships in resource management. Certain resources like fish, forest and water span beyond national boundaries and necessitate nested institutions (Ostrom, 1990).

This analysis of some Equator Initiative cases reveals that partnership at various levels is complementary to each other. The case analysis indicated that the communities and their local organizations have the capacity to initiate and manage local resources using their local institutions and local practices but they do not have sufficient institutional (legal, policy, regulations), technical and financial resources to manage resources on their own. Governments at different levels plan for resource management but without community participation and using local organizational and social system it is not possible for them to achieve desired results. Similarly, international donors and NGOs have development priorities. But without community and government participation, international organizations are not able to have access to local level resource management and development. Hence, co-management initiatives apparently stand out as a highly desirable alternative in the expanding, complex global resource management scenario.

5.3 Kinds of partnerships: Findings

As mentioned earlier, the kinds of partnerships refer to the various community developments and income-generating activities supported by different outside agencies, government and community groups. These partnerships activities are business networking; providing and raising funding; training, education and research; institutional capacity building, legal support and conflict resolution, innovation and knowledge transfer; technical support; infrastructure building; promoting social enterprises; extension services and many more (**Table 13**). 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).

Provision of funding and fund raising is another strong area of partnerships: 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. Education, training and research have strong partnerships focus in all the three category of cases: forestry/agro-forestry (N=58), non-timber forest products (N=28) and medicinal plant (N=23).

In the access and benefit sharing area, there are (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, community to community and community and the people. In the technical support, advice and assistant 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 strong partnerships focus in the area of 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 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 not much difference in the vertical and horizontal linkages (N=25) and (N=26), respectively. But evidently there is an emphasis on the importance of both types of linkages. 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 big difference in the two types of linkages. In all the three types of cases:

forestry/agro-forestry, non-timber forest products and the medicinal plants, both kinds of partnerships are contributing to community development and biodiversity conservation.

There are also program areas with relatively smaller emphasis of 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 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 many other program cases there is enough 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).

5.4 Kinds of partnerships: Analysis

The review of the kinds of partnerships reveal networking for multiple purposes, ranging broadly from community development, promotion of business entrepreneurship and economic activities, restoration of degraded land and resources, biodiversity conservation, capacity building of the communities and others (**Table 13**). 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. These Equator Initiative cases provide strong evidence that the kinds of support provided by various levels of government; international organizations (including NGOs) are instrumental in strengthening the community initiatives. A case in point is the Ngata Toro Community (Indonesia) forest protection. Special areas for resource extraction and for protection are identified through participatory land use mapping and spatial planning; traditional fines and social sanctions are 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. Without the provision of external funding, technical support, government recognition of local level institutions and initiatives, many of these innovative programs would fall apart.

There is evidence that the kinds of partnerships vary among the cases; it differs based on geographical location of the community. Communities in different regions of the world have different contexts and their community needs are different. Many cases require financial support but others need more technical and institutional support. The evidence indicates that a single case may be partnering with many organizations at the same time but different partners are providing different categories of support. In majority of the cases there is a mix of both horizontal and vertical linkages but generally there is greater tendency for a partnerships preference of horizontal linkages. There is increasingly a stronger tendency among the various levels of government organizations to partner with community groups, international donors, research institutions and others. It is indicative of the fact that different levels of governments are beginning to realize the importance of partnerships as an important tool in resource management with varying degree of efficiency gains. There is a strong recognition, reliance and adaptation of the communities' traditional ecological knowledge by the government, donor agencies and other partners. In many cases there is evidence that government is adopting the community practices and their knowledge in the management of resources either jointly or by transferring the management rights to the community groups. This is an evidence of the community having a stronger self-determination and access to resources. In some other cases communities are forcing the government to allow them to recognize community practices and give them greater access and benefit sharing of the resources.

Chapter 6: Conclusion

Equator Initiative program is founded on the principles of partnerships and institutional linkages. These linkages occur horizontally across wide range of geographical scale and vertically across multiple levels of political organizations (Berkes, 2006; Timmer and Juma, 2005; Berkes and Adhikari, 2006). Varying types of partners and kinds of partnerships was observed in the cases (Table 12 and 13) analyzed for this report. Some partnerships are simple and few as in Improving Hillside Agriculture (Cameroon) that has two international donors and the farming community groups. Others are more complex, complementing different kinds of activities such as Kakamega Forest Integrated Conservation Project (Kenya) that partners with number of international organizations; governments of Uganda, Tanzania and Kenya; community groups and NGOs. These various forms of partnerships illustrate that communities themselves can be seen as complex systems – embedded in larger complex systems (Berkes, 2006) such as donors, government organizations, larger geographical span of resources, and varieties of ecological services. These partnerships are strengthening community institutions, enhancing the productive capacities of the communities and improving their resilience. Participation and partnerships among different levels of governments, communities and international organizations is emerging in the sustainable management of biodiversity resources and promoting community development.

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. In others, communities are practicing wide varieties of income generating and business activities such as 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 and others on a small scale. Livelihood needs of the communities are dependent on various income generating and business activities (Timmer and Juma, 2005; Berkes and Adhikari, 2006) with reduced reliance on single product or service that may not be sustainable in the long run. These activities are not only generating income for the communities, but they are also able to sustain the resources through tree plantation, conserving resources, introduction of improved farming techniques, sale of energy saving stoves and others. Communities are able to achieve not only development goals but they are also enhancing biodiversity conservation simultaneously as their needs are dependent on these resources.

The types of partners that communities are working with include a wide range of organizations such as community organizations, various levels of government organizations, local and national NGOs, international organizations, joint forest management, university and research institutions and private sector. Five categories of types of partners are observable: international (funders), national (government agencies), regional, state/provincial level and the local level (community organizations and local governments). In the three productive sector categories investigated, there is a dominance of horizontal partnerships: most of these include community organizations, local government and local NGOs. Vertical partnerships and linkages complement the

horizontal partnerships by providing linkages across levels of organizations. The kinds of partnerships 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 empowerment of communities. The kinds of partnerships vary among cases and by regions. Without the provision of external funding, technical support, government recognition of local level institutions and initiatives, many of these innovative programs would fail to survive.

These partnership efforts are strengthening community efforts in localizing globalization. The partnerships arrangements have proven critically important in resource allocation among the community groups. Business and income generating initiatives are either social or community enterprises 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. Most community enterprises are small-scale, primarily targeting local community needs with few cases linked to the international or even national markets.

There is increased evidence of shifting management and ownership rights towards the communities either through joint management initiatives, legal and policy support or total delegation of the ownership rights to the communities. Communities are managing forest resources themselves with little interference from the government, as a result of the shift in ownership rights (e.g. Bustaan Village initiative, Gambia). A new trend in land and resource management, at local level, giving communities greater voice and power in their effort towards self-determination is increasing (MEA, 2005; Berkes and Adhikari 2006). Communities practicing equitable benefit sharing with the government or other communities or business enterprises, are also on the rise. There is greater involvement of women in the ownership and management of land and resources that are representing community empowerment trends.

Communities are benefiting from practice of traditional ecological knowledge; traditional skills in making products that are now fetching better income and sustainable management of resources conserving biodiversity. Traditional knowledge is strengthening community institutions and governments are adapting the community practices into the management of natural resources such as parks, fish and forests with greater involvement of communities and other partners. Local communities are experiencing greater dependence of their sustainable livelihood needs on the common pool resources, providing incentives for conservation of biodiversity.

As evidenced in the foregoing discussion, many Equator Initiative cases are driven by biophysical changes such as land use changes and not driven purely by market or other economic considerations. Economic considerations, especially livelihood maintenance through socially initiated business and economic activities, closely follow. Other considerations include demographic, socio-political, and cultural matters at the local scale and their cross-scale impacts.

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Table 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 |
| State/Province focus | 13 | 13 | 4 | 30 |
| National focus | 4 | 15 | 7 | 26 |
| Regional focus | 2 | 5 | 28 | 35 |
| Total Cases | 56 | 113 | 146 | 315 |

Table 2: Forestry/Agro-Forestry, Non-Timber Forest Products & Medicinal Plants Cases by Region

| Region | Forestry/Agro-forestry | Non-Timber Forest Products | Medicinal Plant | Total number of cases |
|---------------------------|------------------------|----------------------------|-----------------|-----------------------|
| Asia & Pacific | 16 | 7 | 8 | 56 |
| Africa | 42 | 11 | 12 | 113 |
| Latin America & Caribbean | 37 | 23 | 17 | 146 |
| Total | 95 | 41 | 37 | 315 |

Table 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 | NTF P | MP | FAF | NTF P | MP | FAF | NT FP | M P | FAF N=95 | NTF P N=4 | MP N=3 |
| 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 |
| Total cases | 17 | 7 | 8 | 40 | 11 | 13 | 38 | 23 | 16 | 95 | 41 | 37 |

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

Table 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 | 95 |
| Non-timber Forest Products | 7 | 11 | 23 | 41 |
| Medicinal Plants | 8 | 13 | 16 | 37 |
| Agriculture | 21 | 36 | 37 | 94 |
| Ecotourism | 5 | 12 | 33 | 50 |
| Protected Area Management | 5 | 14 | 14 | 33 |
| Ecosystem Restoration | 16 | 25 | 10 | 51 |
| Artisanry (Arts & Craft) | 7 | 5 | 12 | 24 |
| Livestock | 10 | 21 | 10 | 41 |
| Apiculture | 2 | 24 | 5 | 31 |
| Aquaculture | 8 | 5 | 6 | 19 |
| Ecosystem Services | 16 | 25 | 10 | 51 |
| Wildlife Management | 1 | 7 | 5 | 13 |
| Fisheries | 4 | 3 | 9 | 16 |

Table 5: Nominee Type: Community-Based Organization Sub-Category by Scale and Region

| Scale | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|------------------------|----------------|----------|----------|-----------|----------|-----------|---------------------------|-----------|----------|-------------------------|-------------------------|-------------------------|
| | FAF | NTF P | MP | FAF | NTF P | MP | FAF | NTF P | MP | FAF N=9 5 | NTF P N=4 1 | MP N=3 7 |
| 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 |
| Total cases | 11 | 4 | 6 | 30 | 8 | 11 | 15 | 10 | 8 | 56/9 5 | 22/4 1 | 25/3 7 |

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

Table 6: Nominee Type: Indigenous Sub-Category by Scale and Region

| Scale | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|------------------------|----------------|----------|----------|----------|----------|----------|---------------------------|----------|----------|--------------|--------------|-------------|
| | FAF | NTF P | MP | FAF | NTF P | M P | FAF | NT FP | MP | FA F 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 |
| Total cases | 3 | 4 | 2 | 3 | 3 | 0 | 11 | 7 | 4 | 17/95 | 14/41 | 6/37 |

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

Table 7: Nominee Type: Non-Governmental Organization Sub-Category by Scale and Region

| Scale | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|------------------------|----------------|----------|----------|-----------|----------|----------|---------------------------|-----------|----------|--------------|--------------|--------------|
| | FAF | NTF P | MP | FAF | NTF P | MP | FAF | NTF P | MP | FAF N=95 | NTF P N=47 | MP 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 |
| Total cases | 7 | 3 | 3 | 15 | 3 | 1 | 25 | 14 | 5 | 47/95 | 20/47 | 12/37 |

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

Table 8: Cases According to Community Focus Sub-Category and Region

| Sub-Categories | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|---|----------------|-------|----|--------|-------|----|---------------------------|-------|----|-------------|------------|---------|
| | FAF | NTF P | MP | FAF | NTF P | MP | FAF | NTF P | MP | FAF N=95 | NTF P N=47 | MP 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-economically marginalized sectors | 16 | 5 | 6 | 34 | 9 | 11 | 25 | 19 | 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 9: Cases According to Poverty Reduction Sub-Category and Region

| Sub-Categories | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|--|----------------|----------|----|--------|----------|----|---------------------------|----------|----|-----------------|----------------------|----------------|
| | FAF | NTF P | MP | FAF | NTF P | MP | FAF | NTF P | MP | FAF N=9 5 | NTF P N=4 1 | MP N=3 7 |
| 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 10: Cases According to Biodiversity Sub-Category and Region

| Sub-Categories | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|-----------------------------|----------------|----------|----|--------|----------|----|---------------------------|----------|----|-----------------|----------------------|----------------|
| | FAF | NTF P | MP | FAF | NTF P | MP | FAF | NTF P | MP | FAF N=9 5 | NTF P N=4 1 | MP N=3 7 |
| 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 11: According to Millennium Development Goals Sub-Category and Region

| Sub-Category | Asia & Pacific | | | Africa | | | Latin America & Caribbean | | | Total Cases | | |
|---|----------------|----------|----|--------|----------|----|---------------------------|----------|----|-----------------|----------------------|----------------|
| | FAF | NTF P | MP | FAF | NTF P | MP | FAF | NTF P | MP | FAF N=9 5 | NTF P N=4 1 | MP N=3 7 |
| 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 partnerships 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 12: Types of Partners*

| Total cases in this sub-category | Forestry/Agro-forestry (N=95) | Non-Timber Forest Products (N=41) | Medicinal Plant (N=37) |
|--|--------------------------------------|--|-------------------------------|
| 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 |
| Private sector | 6 | 9 | 3 |
| Community associations/organizations | 52 | 27 | 17 |
| Unclear | 25 | 10 | 11 |

** Coding Based on Case Description*

Table 13: Kinds of Partnerships*

| Total cases in this sub-category | Forestry/Agro-forestry (N=95) | Non-Timber Forest Products (N=41) | Medicinal Plant (N=37) |
|--|--------------------------------------|--|-------------------------------|
| Business networking | 57 | 30 | 27 |
| Providing and raising funds | 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, assistance and advice | 43 | 12 | 14 |
| Infrastructure building | 30 | 11 | 11 |
| Facilitating social enterprises and change | 36 | 24 | 23 |
| Harvesting, sales, and marketing (including exports) | 37 | 30 | 23 |
| Cooperative business activities | 17 | 10 | 13 |
| Health promotion programs | 28 | 9 | 18 |
| Extension services | 35 | 17 | 9 |
| Land, forest, resource management | 50 | 30 | 28 |
| Joint venture | 8 | 5 | 11 |
| Promoting cultural well-being and preservation | 4 | 2 | 1 |
| Access and benefit sharing | 52 | 32 | 25 |
| Unclear | 25 | 10 | 11 |

** Coding Based on Case Description*