Development and conservation: indigenous businesses and the UNDP Equator Initiative

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Abstract: Does indigenous entrepreneurship have distinctive features? We explored resources used, benefits produced and nature of partnerships in 42 indigenous cases in the UNDP Equator Initiative database, mainly involving forestry, agro-forestry, agriculture, NTFPs, ecotourism and protected areas. The cases showed a strong focus on social enterprise and cultural values, and politics of resource access. Many indigenous groups sought control over their traditional lands as essential to rebuilding their societies, and indigenous entrepreneurship was often used as a tool towards self-governance. The cases were characterised by extensive networks, with a large number of partners at the same level of social and political organisation (horizontal linkages). Vertical linkages typically involved three or four levels of political organisation. These connections went far beyond business networking and included, for example, environmental knowledge building. Partnerships for training and institution building often involved NGOs or local-level government agencies or both, but rarely (N=2) non-indigenous joint ventures.

Keywords: indigenous businesses; entrepreneurship; conservation and development; community-based management; self-determination; social enterprise; cultural values; traditional knowledge; networks.

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1 Introduction

Indigenous groups in many parts of the world are characterised by low income levels, high unemployment rates and economic marginalisation in general. Many indigenous and tribal groups live in geographically remote areas and tend to be socially and politically marginalised as well. Various kinds of marginalisation experienced by indigenous people are often rooted in conflicts over land tenure. Many see resource access and self-determination as essential steps towards rebuilding indigenous societies and improving their socio-economic status on their own terms. Entrepreneurial activity is considered a major element to achieve these objectives (Anderson, 1997).

Does indigenous entrepreneurship have distinctive features? One of the ways in which many indigenous groups are distinguishable from other rural groups is their attachment to their ancestral lands and natural resources. This feature is recognised by some (but not all) definitions of indigenous or aboriginal peoples (Anderson et al., 2005), and is a key to understanding the process of marginalisation of indigenous peoples, especially those who have lost access to their lands. As Anderson et al. (2005) point out

> "claims to their traditional lands and the right to use the resources of these lands are central to their drive to nationhood. Land is important in two respects. First, traditional lands are the 'place' of the nation and are inseparable from the people, their culture, and their identity as a nation. Second, land and resources are the foundation upon which indigenous people intend to rebuild the economies of their nations and so improve the socio-economic circumstance of their people – individuals, families, communities and nations (Anderson et al., 2005)".

Mapping programmes for traditional lands in regions as diverse as Central America (Chapin, 1998) and Indonesia (Alcorn, 2000) may be seen in this light. In both of these examples, involving the Kuna of Panama (see Dana and Anderson, 2007) and the Dayak of Borneo, respectively, political empowerment is seen as the essential first step towards social and economic development.

The 'special relationship' with the land, and access to and use of the resources of the land, should perhaps be considered a defining feature of indigenous entrepreneurship, as opposed to ethnic entrepreneurship in general (Dana and Anderson, 2007). Hence, indigenous entrepreneurship that specifically involves local land and resources is a potentially productive area of inquiry in developing a science of indigenous entrepreneurship. Some relevant literature already exists, suggesting that the alleged special relationship of indigenous peoples to their land is reflected in environmentally appropriate productive processes.

A well-known case involves the Menominee of Wisconsin and their forest-based enterprises (Huff and Pecore, 1995; Trosper, 1995). Other relevant work comes from Mexico. Castillo and Toledo (2001) point out that Mexico is (or was) world's leading exporter of shade-grown coffee, the bulk of which was produced by smallholders from some 28 indigenous groups. These people grew coffee, not in monoculture plantations but in multilayered and shaded coffee agro-forests that have been shown to harbour significantly higher levels of animal and plant diversity than do conventional plantations (Moguel and Toledo, 1999).

Case studies such as the above are important for understanding how indigenous entrepreneurship works, but they rarely provide data for more than a handful of examples at a time. As Schaper (see Dana and Anderson, 2007) points out, there is a paucity of data on indigenous enterprises. The Equator Initiative (EI) of the United Nations Development Programme (UNDP) provides one rich data set on indigenous entrepreneurship involving local land and resources. The EI programme has a searchable database (partially developed at the time of writing) involving several hundred Integrated Conservation and Development (ICDP) initiatives (e.g. Brown, 2002) nominated for the Equator Prize. Some 13% of the initiatives in the database are explicitly identified as indigenous cases, but the actual percentage may be higher.

This paper examines The EI database to elucidate lessons relevant to indigenous entrepreneurship. First, we explore the kinds and diversity of land and resource-based entrepreneurship activities initiated by these cases, with special attention to forestry, agro-forestry and agriculture. Second, we explore the range of benefits produced by these activities for the communities involved, with emphasis on poverty reduction, empowerment and sustainable use of biodiversity. We discuss community-based development and the significance of indigenous environmental knowledge in such development. Finally, we examine the partnerships in these cases, with attention to the kind and nature of linkages.

2 The EI and methods of study

The EI is designed to reduce poverty through the conservation and sustainable use of biodiversity in the equatorial belt by fostering, supporting and strengthening community partnerships (EI, 2004). It is a partnership that brings together the 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 EI programme 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, many experiments are underway, using local land and resources to create economic opportunities while conserving biodiversity. The EI 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. It has been awarded twice so far, in 2002 and 2004, from hundreds of nominations from various countries.

There are 817 EI cases from the Equator Prize competitions of 2002 and 2004. But so far only 400 nominations from 2004 are listed in the UNDP EI database, and only 315 cases are actually available in the database at the time of writing. Forty-two of these are categorised in the database as indigenous cases, covering three major regions of the world (Table 1). This paper uses information from these 42 cases, with emphasis on 12 of these, 3 from the Asia & Pacific region, 3 from Africa and 6 from Latin America and the Caribbean (Table 2). Of these 12 examples, we have detailed case information on two: Guyana (Fernandes, 2004; Berkes et al., 2004) and Mexico (Orozco, in prep.). The availability of field data on these two cases allows a cross-checking of the EI database. Tables 3 and 4 summarise the cases by geographic scale (local, state/provincial, national and regional/international), for the full set of cases ($N = 315$) and the indigenous cases ($N = 42$), respectively.

Table 1 Total cases and indigenous cases by region

Region	*Total number of cases*	*Indigenous cases*
Asia & Pacific	56	9
Africa	113	5
Latin America & Caribbean	146	28
Total	315	42

Table 2 Profiles of selected cases from the Equator Prize 2004 nominations

Case	*Area*	*Description of case and resources*
Ngata Toro Community	Ngata Toro Village, Indonesia	Sustainable harvesting and production of NTFPs, low external impact agriculture, fish farming and ecotourism
Association de Trabajadores Autonomous San Rafael-Tres Cruces-Yurac Rumi (ASARATY)	Indigenous and Campesino Communities, in Andes, Ecuador	Raising Alpacas and creating value-added products through producing textiles and related products from Alpaca wool. Ecotourism activities, including viewing herds of Alpacas in the páramos; creating markets for textile products
Capitania del Altoy Bajo Izozog (CABI)	Izoceño-Guaraní people, along the banks of Parapeti River, Bolivia	Achieving recognition of land ownership for indigenous people in Bolivia. Creating of a protected area coadministered with the national government to halt the rapidly expanding agro-industrial frontier
Conservation Melanesia	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 Indigenous Maisin peoples
Comunidad Indigena de Nuevo San Juan Parangaricutiro	Purepecha people, Mexico	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

Table 2 Profiles of selected cases from the Equator Prize 2004 nominations (continued)

Case	*Area*	*Description of case and resources*
Improving Hillside Agriculture	Sehn-wowo village, Northwest Province of Cameroon	Integrated sustainable hillside farming, biodiversity conservation and watershed protection (ecological services); encouraging the establishment of permanent agriculture through erosion control and the soil building
Ekuri Initiative	The Ekuri indigenous people of southeast Nigeria	Community forest for the harvest of timber, wild vegetables, Non-Timber Forest Products (NTFPs) such as rattan and other products used communally
Garifuna Emergency Committee of Honduras	Afro-Indigenous Garifuna people, Guaymoreto Lagoon Reserve, Honduras	Recovery from Hurricane Mitch; protection of the ancestral lands and culture from encroaching development; reduction of poverty and malnutrition through improved cultivation practices; reforestation of riverbanks and coastal areas
Mgori Village Forest Reserve	Eastern Rift Valley, Tanzania	Joint village demarcation, protection and coordination of a forest reserve for sustainable natural resource management
Community Enterprise Forum – India (CEFI)	Four talukas (counties), Tamil Nadu, India	Mostly women growing and selling organic and ethnic food and herbal medicines, using bioenergy, setting up revolving funds
AIR project	Chimaltenango, central Guatemala	Fostering the building and maintaining of tree nurseries for reforestation and community-based sustainable farming; providing economic incentives to stem slash and burn practices and to stimulate forest regrowth
The North Rupununi District Development Board (NRDDB)	Isolated and inaccessible North Rupununi Region, Guyana	Demonstration site for sustainable development. NRDDB, peoples' forum, helps communities with income-generating activities (ecotourism, fishing) that simultaneously meet conservation objectives

Table 3 Cases according to geographical scale: the full set of EI cases

Focus by 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 4 Cases according to geographical scale: indigenous cases

Focus by scale	*Asia & Pacific*	*Africa*	*Latin America & Caribbean*	*Total cases*
Local focus	7	5	18	29
State/province focus	2	0	2	4
National focus	0	0	0	0
Regional focus	0	0	8	8
Total cases	9	5	28	42

The EI database is organised by category. This paper uses five categories of the database, each of which includes information related to business organisation and income-generating activities. These five categories are: Productive Sector, Poverty Reduction, Community Focus, Biodiversity and Millennium Development Goals. The database also includes two other categories (Ecosystem and Ecosystem Services) that are not included in this analysis because they are not pertinent to business organisation and income-generating activities. Table 5 lists the indigenous cases by subcategory within the Productive Sector category in the database. Table 6 lists indigenous cases according to Poverty Reduction subcategories, Table 7 according to Community Focus subcategories, Table 8 according to Biodiversity subcategories, Table 9 according to Millennium Development Goals subcategories and Table 10 on partnerships and linkages, is generated out of case descriptions in the database.

Table 5 Indigenous cases according to subcategories within the Productive Sector category

Subcategories	*Asia & Pacific*	*Africa*	*Latin America & Caribbean*	*Total cases*
Forestry/agro-forestry	3	3	11	17
Agriculture	4	4	7	15
NTFPs	4	3	7	14
Ecotourism	2	3	7	12
Protected area management	3	2	7	12
Ecosystem restoration	2	3	3	8
Arts and crafts (artisanry)	4	1	3	8
Medicinal plants	2	0	5	7
Livestock	2	1	3	6
Apiculture	0	2	1	3
Aquaculture	2	0	0	2
Ecosystem services	0	1	1	2
Wildlife management	0	1	1	2
Fisheries	0	0	1	1

Table 6 Indigenous cases according to subcategories within the Poverty Reduction category

Subcategories	*Asia & Pacific*	*Africa*	*Latin America & Caribbean*	*Total cases*
Income generation	7	4	18	29
Food security	4	4	11	19
Social political security	4	0	7	11
Health improvement	2	2	6	10
Reducing vulnerability to natural disaster	1	2	2	5
Access to water	0	0	1	1

Table 7 Indigenous cases according to subcategories within the Community Focus category

Subcategories	*Asia & Pacific*	*Africa*	*Latin America & Caribbean*	*Total cases*
Indigenous	5	4	22	31
Socio-economically marginalised sector	7	4	14	25
Women	3	0	3	6
Youth	0	0	1	1
Children	0	0	0	0

Table 8 Indigenous cases according to subcategories within the Biodiversity category

Subcategories	*Asia & Pacific*	*Africa*	*Latin America & Caribbean*	*Total cases*
Conservation/protection	6	5	10	21
Sustainable use	3	2	10	15
Rehabilitation/regeneration	2	4	5	11

Table 9 Indigenous cases according to subcategories within the Millennium Development Goals[a]

Subcategories	*Asia & Pacific*	*Africa*	*Latin America & Caribbean*	*Total cases*
Ensure environmental sustainability	8	5	22	35
Eradicate extreme poverty and hunger	8	5	20	33
Promote gender equality & empower women	3	0	1	4

[a]EI is relevant to three of the eight UN Millennium Development Goals.

Table 10 Linkages and partnerships, number and kinds of cases. Total $N = 42$

Cases involving	*N*
Number of partnerships	
One to three	12
Four or more	20
Unclear/unstated	10
Linkages involving	
Local NGOs	12
National NGOs	10
Local governments (includes local educational/research organisations)	14
Regional/state governments	4
National governments	9
Financial institutions (including local/national foundations)	6
International organisations (including donor agencies)	21
Kinds of partnerships	
Business networking	33
Fund-raising	21
Training/research	18
Technical support	13
Institution building	15
Legal support	2
Innovation and knowledge transfer	24
Gender empowerment & equity	27
Unclear	17
Joint ventures[a]	4

[a]We defined joint ventures according to explicit profit-sharing provisions with other groups in case descriptions. According to this criterion, two EI cases are joint ventures with non-indigenous partners (Mesoamerican Ecotourism Alliance; the Comunidad Nativa Infierno project) and two are joint ventures with indigenous partners (CEFI; Camp Ya Kanzi).

3 Kinds of resources used: description

This section describes some of the indigenous cases in three subcategories in the Productive Sector category as outlined in Table 5. These are Forestry and agro-forestry, Agriculture and Medicinal plants subcategories. They provide a sense of the kinds of resources on which EI cases are based. The cases mentioned in the descriptions are summarised in Table 2.

3.1 Forestry and agro-forestry

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 people are a small indigenous group occupying five

villages and controlling nearly 10% of the Reserve Forest outside of the National Park. Two of the villages jointly control 33,600 ha of tropical forest on their communal land, probably the largest community-managed forest remaining in Nigeria. Logging concessions (for outsiders) have been stopped, thereby eliminating middlemen, and the communities manage the forest for low-impact harvest and sale of timber and NTFPs. Eliminating timber extraction and replacing it with small-scale use of a variety of products and services from the forest ecosystem is a common theme in many other EI cases, including Comunidad Indigena de Nuevo San Juan Parangaricutiro (Mexico) and Mgori Village Forest Reserve (Tanzania). For example, the Mgori forest is not managed exclusively for timber but for the rich diversity of wild resources that it holds, wood for charcoal, timber, firewood, habitat for beekeeping and NTFPs such as medicinal plants and edible mushrooms.

Some of the cases have been able to use local resources while rehabilitating the forest environment as a whole. For example, the Garifuna Emergency Committee of Honduras, in one of their projects, conserves and utilises a wild vine used to make household and artisanal items. Enhancing the resource base of the vine helps protect riverbank vegetation, providing bank stabilisation in an erosion-prone and hurricane damaged area. Other projects undertaken by the Committee include reforesting the beaches with the wild fruit plants which used to be abundant (sea grapes, almonds, camacamas, nance, cashews and jicacos that stabilise the sands); establishing hardwood tree nurseries; protecting the reserve forest from illegal exploitation of mangrove (for charcoal), sand extraction and dumping of waste. Systematically protecting the vegetation and rehabilitating the forest cover has hydrological benefits as well as in protecting water resources.

Some of the projects have demonstrated region-wide effects, scaling-up from local successes. Conservation Melanesia (Papua New Guinea) supports nearly 3000 people living in nine villages and covering 370,000 ha of land. They are involved in the production and sale of tapa, a traditional cloth made from tree bark and processed with natural dyes from berries. The AIR Project works with rural communities of central Guatemala and northern Nicaragua. It fosters the building and maintaining of tree nurseries for reforestation, and community-based sustainable farming. The project demonstrates the use of economic incentives to stem forest degradation and to stimulate forest regrowth and recovery, and provides an outreach programme that has brought its lessons to 48 villages and 166 schools, reaching over 30,000 rural residents.

3.2 Agriculture

Many agriculture and agriculture-related projects among EI cases are integrative in nature. That is, projects seem to target not only agriculture but a range of productive activities including agro-forestry and agriculture, as well as supportive activities such as ecosystem rehabilitation and cultural revitalisation. A case in point is the Garifuna Emergency Committee of Honduras. The initiative began in 1998 to support recovery from Hurricane Mitch and grew from the ideas and needs of resident farmers. It works with the residents of 16 towns to protect the ancestral lands and culture of the Afro-Indigenous Garifuna. It seeks to reduce poverty and malnutrition through improved cultivation practices and a diversified agricultural base. It supports traditional root crops

such as taro, red grow yams, arrowroot and sweet potato; introduces disease-resistant varieties of coconuts; trains farmers in organic composting and use of organic pesticides and provides tools to lend from the communal tool bank.

The Improving Hillside Agriculture initiative carries out integrated agriculture and biodiversity conservation projects in village communities of the Northwest Province of Cameroon. It is a sustainable hillside farming and watershed protection project to encourage the cessation of slash and burn practices and the establishment of permanent, sustainable agriculture through erosion control and the building of soil health. The project uses farmer-centred participatory approaches in training. It engages in practical field demonstrations, followed by training of village-based technicians. The project is said to have resulted in the control of soil degradation and erosion; income from crops and livestock has increased and women have been empowered, as they are the main farmers and beneficiaries.

Many EI projects combine agriculture and animal husbandry. The Ngata Toro Community project (Indonesia) helps an indigenous community use their traditional lands and indigenous knowledge to manage their natural resources. The people are involved in integrated production, using low-impact methods for agriculture, fish farming and pig and duck raising. These activities have diversified the resource base for livelihoods and augmented incomes. In Ecuador, ASARATY encourages the raising of the alpaca, an indigenous animal of the Andes. The use of alpaca manure has increased soil fertility and improved soil structure, thus reducing fertiliser costs. Potato production has increased from 8 to 14 tonnes per ha.

4 Kinds of resources used: analysis

Many EI cases include more than one resource type and opportunistically combine different kinds of productive activities. Here, we pay special attention to forestry/ agro-forestry ($N = 17$ cases) and agriculture ($N = 15$). But the categories of NTFPs ($N = 14$), ecotourism ($N = 12$), protected area management ($N = 12$), ecosystem restoration ($N = 8$), arts and crafts ($N = 8$), medicinal plants ($N = 7$) and animal culture ($N = 11$ combining livestock, apiculture and aquaculture) are clearly also important. The categories in Table 5 depend to some extent on how productive activities are classified; for example, agro-forestry, NTFPs and medicinal plants are overlapping categories. The total number of cases in Table 5 (109) reflects the fact that many initiatives fit more than one category.

Two related features of land- and resource-based activities stand out: the integrated nature of productive activities and their sheer diversity. Many of the projects innovatively seek to combine different ways of making a living from a variety of products and services. For example, forests are managed for multiple products and purposes and not just for timber; agricultural lands support a diversity of crops and not monocultures. This approach is not only more environmentally sustainable than the alternative (Brown, 2002; Castillo and Toledo, 2001) but also reflects on the nature of enterprises in EI cases.

There are a large variety of community-oriented indigenous business enterprises – cultivation of medicinal plants, organic farming, ecotourism, fish farming and small enterprises organised in and around homes and communities, involving activities such as handicrafts made from bamboo, palms and rattan. This diversity

indicates the pluralistic nature of business management approaches and tools used in these indigenous cases. They are close to community needs and cultural norms, perhaps closer than one might expect to find in larger-scale, non-indigenous businesses.

Many indigenous entrepreneurial cases include sporadic income-generating projects such as small-scale cultivation of cash crops, harvesting NTFPs, undertaking small weaving and craft making ventures at the micro-scale. Many of these activities are those in which indigenous people may be said to have comparative advantage. Schaper (see Dana and Anderson, 2007) has pointed out the importance of activities in which indigenous peoples have a form of comparative advantage related to their skills and backgrounds. For example, there are some areas of business in which Torres Strait islanders have achieved success: tourism, pastoral industries (stock herding, horse handling) and the arts and crafts sector. In each of these areas, these aboriginal Australians have a unique product or service to offer, related to their skills – skills not easily obtained by non-indigenous people (see Dana and Anderson, 2007). Likewise, the list of productive activities in Table 5 represents areas in which indigenous peoples have comparative advantage because of their skills (e.g. traditional agro-forestry) or background (e.g. arts and crafts), and because of the relevance of their environmental knowledge (e.g. NTFPs, ecological restoration and ecotourism).

5 Community benefits: description

The EI database addresses community benefits under a number of headings. These include Poverty Reduction (Table 6); marginalisation and empowerment within the Community Focus field (Table 7), and environmental sustainability within the Biodiversity field (Table 8). Table 9 presents a breakdown of cases according to the different Millennium Development Goal subcategories used by the EI (ensuring environmental sustainability, eradicating extreme poverty and hunger and promoting gender equality and empowerment of women). In this section, we begin by providing some descriptions of EI cases falling under the first three of these headings. Then we analyse community benefits with special attention to:

1 entrepreneurship and cultural values and

2 indigenous knowledge and community-based development.

5.1 Poverty reduction

Income generation and the creation of employment opportunities are well documented in the EI cases. Some of the initiatives reach a large number of people. For example, the CEFI, a consortium of about 80 community-based organisations, generates income through cooperative marketing ventures, revolving funds and the establishment of specialised companies. About 1750 families were said to benefit from revolving funds. In 2000, the Gram (Village) Mooligai (Herbs) Company Limited (GMCL) was created by the community organisations as shareholders and owners to trade in medicinal plants.

The Comunidad Indigena de Nuevo San Juan Parangaricutiro project controls 11,000 ha of forest land in a biodiversity-rich region under collective ownership. The project has set up a multifaceted social enterprise based on sustainable forestry and transformation of forest products; ecotourism; agro-forestry and wildlife management.

Of the 1300 community members and communal landowners, 800 are directly employed by the community-run enterprises. Community benefits flowing from the project have reduced out-migration, helped meet basic needs, eliminated extreme poverty, upgraded medical services, improved the quality of housing and helped provide residential water, sanitation and electricity.

5.2 Empowerment of women and issue of marginalisation

EI projects address empowerment and marginalisation issues in a variety of ways: by empowering the community as a whole with respect to their resource rights; empowering women by improving incomes in areas in which women dominate; encouraging gender equity so that men would not take over productive activities and enabling women to form their own groups. We provide examples of each.

The project, Mgori Village Forest Reserve, comprises the indigenous peoples of five villages occupying a 40,000 ha area in Tanzania on the eastern Rift Valley. This project was a response to the government's push to gazette forest areas in the 1990s, initiating an agreement between the government and the villagers that led to village demarcation, protection and coordination of a forest reserve for sustainable natural resource management. The community zoned the forest areas into three different areas: one for grazing and collection of firewood; one for beekeeping and one for biodiversity conservation. Villagers were empowered through the devolution of management powers over their resources and instituted a 25-member coordinating board to oversee activities in the 5 villages. The villages entrenched their forest management plans through district bylaws. Women were involved in beekeeping as well as in leading committees responsible for resources conservation.

In Improving Hillside Agriculture project, the Sehn-wowo village women make up 80% of the farmers. This project provides farmer-centred participatory training in which the target group is fully engaged in the identification, analysis and classification of problems, the formulation and application of solutions, as well as monitoring and evaluation of results. The ratio of women to men benefiting from the initiative is 3:1 since women dominate the farming sector. The initiative financially benefits and empowers women, as it enables them to cover the costs of children's school fees and household medical bills.

In the Conservation Melanesia project, 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 proved to be profitable, men joined the women in the enterprise, threatening women's incomes. This project encouraged gender equity so that the men would not dominate the industry; it made sure that women are included when members travel off the island to sell the cloth.

In ASARATY, community benefits included empowerment through increased self-esteem. The experience of the project opened up space for activity in new areas. Women were been involved at every level of the initiative, and some women formed their own group to manage textile production. Similar women's groups have emerged in the course of other EI projects. For example, the CABI project (Bolivia) facilitates an equitable distribution of benefits across 23 member communities and maintains communal access to natural resources. The project supported the creation of a women's centre that helped generate economic opportunities for women, strengthen indigenous

culture and ensure the sustainable use of the riverine forest. The group has implemented small-scale commercial projects administered by Izoceño women's groups, community stores, weaving, production of fish flour, mesquite flour and honey.

5.3 Sustainable use of biodiversity

Many of the EI projects are based on the idea of sustainable use of biodiversity but others were set up with the purpose of environmental restoration. For example, the Garifuna Emergency Committee of Honduras project has explicit ecological objectives. It involves the protection of forests, riverbanks, beaches and water sources; it teaches soil conservation, organic composting and the benefits of living in harmony with the environment. It has resulted in the planting of trees on both communal and private land. The NRDDB devised a management plan for the threatened species, Arapaima (*Arapaima gigas*), one of the largest freshwater fish in the world and a valuable commercial species. It included a two-year moratorium leading to a near doubling of Arapaima numbers (Fernandes, 2004). The NRDBB also seeks to rehabilitate several other kinds of depleted resources such as palms, valuable hardwoods, fruit and nut trees and natural fishponds, all of them economically important. The project engages in community-based monitoring for Arapaima and other resources.

In other projects, monitoring data are available to show sustainable use of resources over a period of time. Evaluation studies done in the Mgori Village Forest Reserve revealed sustainable use since the reserve was handed over to the villages in 1996. A forest department inventory showed an increase in the number of tree stems per ha from 988 in 1994 to 1012 in 2002. In the Comunidad Indigena de Nuevo San Juan Parangaricutiro project, monitoring carried out jointly with university partners showed that forest cover has increased by 1000 ha over 20 years. Illegal cutting has been eliminated; there are no diseases in the community forest and the frequency of forest fires has been reduced.

In many EI cases, improved livelihoods have helped reduce pressure on resources. For example, in Ngata Toro Community, where many economic activities are based on protecting biodiversity, alternative incomes have helped to reduce or eliminate illegal logging. Species diversity is preserved through the management of plant resources for handicrafts. The use of traditional crop species and varieties protect biodiversity and improve food security; organic produce often fetches a premium at the market and ecotourism brings supplemental income while preserving cultural and natural heritage.

6 Community benefits: analysis

6.1 Entrepreneurship and cultural values

Many of the EI indigenous businesses are social enterprises, often involving family members and relying on the support of extended family networks. The individual profit motive no doubt exists but it seems to be subordinate to meeting community needs and objectives. The social role of many of these enterprises are apparent in terms of providing local employment, making use of talents and resources locally available and sharing profits among community members.

Anderson (2002) and Anderson et al. (2003) have hypothesised that one common characteristic of indigenous enterprises may be the maintenance of cultural values while providing participation in the modern economy. These values may include the use of traditional social values in the business, a community emphasis, consensus decision-making and a focus on sharing and cooperation, instead of competition. It is well known that indigenous societies have their own economic logic that may be different from the Western one (Cavalcanti, 2002). There appears to be a strong cultural component to many of the study cases. However, the extent to which indigenous EI cases exhibit unique cultural characteristics is difficult to establish without carrying out work in the field. For example, the NRDDB case indicates that the social value of Arapaima fish (reflected through local myths and stories) was instrumental in the conservation action taken by the local indigenous communities (Fernandes, 2004). However, since the Arapaima stock has not yet recovered and there are no enterprises (yet) based on it, it is difficult to evaluate the use of some of these other cultural values.

The Menominee forest enterprise example (not an EI case) indicates that traditional values may indeed be crucially important. The Menominee started their forestry operations under three principles:

1 produce trees with both quality and quantity

2 do not put all the eggs in one basket and

3 remember that we are borrowing the forest from our grandchildren.

The first two principles illustrate community and connectedness. Production of quality requires growing trees to a large size, a practice that compromises quantity of production. The practice is different from the conventional one in that the older trees are not high-graded and harvested all at the same time. All species, and not only the commercial ones, are supported under the principle of keeping the eggs (forest productivity) in different baskets (species). The idea that the forest is borrowed from future generations expresses a lower than conventional discount rate for the future, sometimes called the seventh-generation principle (Trosper, 1995).

Similarly, the EI case of Nuevo San Juan Parangaricutiro is characterised by the use of indigenous holistic values for multiple-purpose forest management, rather than management for timber production alone (Castillo and Toledo, 2001). The Nuevo San Juan Parangaricutiro experiment has been evolving over two decades (Alvarez-Icaza, 1993; Pego, 1995). Multiple-use forest management has come to include objectives of biological conservation, environmental education and ecotourism, as well as forest products, and it is based on a management plan that combines scientific information (through university linkages) and local knowledge (Bocco and Toledo, 1997; Castillo and Toledo, 2001).

6.2 Indigenous knowledge and community-based development

These examples underscore the importance of the use of traditional ecological knowledge in indigenous entrepreneurships that are land- and resource-based. Indigenous communities tend to have substantial knowledge and understanding of the local fauna, flora and ecological processes, knowledge that is accumulated by generations of observation, practice and learning transmitted culturally. It is known, for example, that the ecological knowledge held by local indigenous groups is qualitatively and

quantitatively different from that of colonists in Amazonia (Muchagata and Brown, 2000). In 19 of the 42 EI cases, there is explicit reference to the use of local or traditional knowledge. The importance of indigenous knowledge for development has been recognised for some time (Warren et al., 1995), but its significance for indigenous entrepreneurship has not been investigated systematically.

The health of local knowledge depends on its continuous practice (Ingold, 2000) and its ongoing development through adaptive learning (Berkes, 1999). Indigenous people without a land and resource base are people who are in the process of losing what little comparative advantage they do have. Indigenous business enterprises are more likely to flourish when an indigenous group has control over its resources than not. The innovations of the Menominee forest enterprise and the Nuevo San Juan were possible only because these groups had the political power to manage their forests. Successful indigenous entrepreneurship is contingent on political control of resources and self-determination, and the recovery of access to and use of traditional lands and resources is important for business development.

Among the EI cases, there are clear instances of political empowerment, as well as cases of empowerment of women (CEFI) and youth (Ngata Toro Community). In the Mgori Village Forest Reserve case, for example, the formalisation of village forest management plans through district bylaws enables the villages to retain control over their forest. In this initiative and others, the ability to control resources in turn raises other issues regarding intellectual ownership. The cultivation of medicinal plants and the protection of genetically significant local varieties (land races) have been creating awareness among the communities about their intellectual property rights over these products, and leading them to seek ways of increasing the share of benefits from their use (Posey and Dutfield, 1996).

The symposium book, *Case Studies of Community-Based Forestry Enterprises in the Americas*, emphasises the importance of land tenure issues and political control in each of the seven cases in the volume, one each from the USA and Peru, two from Bolivia and three from Mexico. It shows that the development of forestry enterprises in each case required obtaining control of the resource in question. The community of Nuevo San Juan, one of the cases covered by the volume, obtained its first logging permits in 1979 and established its own forestry enterprise in 1981. But it was not until 1991 that the community was successful in securing legal recognition of their rights to communal land and innovative work began (Pego, 1995).

The Nuevo San Juan case and others help make the point that the issue is not merely entrepreneurship and economic development but rather community-based resource management that includes aspects of political, social as well as economic development. Community-based management and development, as a subject area, complements the study of indigenous entrepreneurship. Recent work has been focusing on bottom-up approaches and the sharing of rights and responsibilities at multiple levels of management (Berkes, 2004). Community-based approaches have come to predominate in a number of regions of the world. With some 70% of forests under the control of mestizo (mixed-blood) and indigenous communities, Mexico is said to be the largest experiment in community-based resource management in the world (Bray, 1995). Thousands of community-based forest management experiments are underway in India as well, although only a small percentage of these would involve tribal/indigenous groups.

6.3 Linkages and partnerships: description

Many EI cases show multiple linkages and partnerships. Of the 42 indigenous cases, 12 have one to three and 20 have four or more partners (Table 10). These partners are varied and they include local and national NGOs (22), various levels of government and governmental agencies (27), local and national financial institutions (6) and international organisations, including NGOs and donor agencies (21) (Table 10).

In some projects, the partnership structure is functionally simple, as in the case of Conservation Melanesia project. The partnership is between Conservation Melanesia and the Maisin people. CEFI project is formed through a partnership of four state-level NGOs: CCD (Tamil Nadu), IDPMS (Karnataka), SSP (Maharashtra) and Ekta Parishad (Madhya Pradesh) that facilitated community-based organisations in their respective states. In the Mgori Village Forest Reserve case, Mgori community's main partner is the district government that provides technical support and promulgates by-laws and action plans. The central government provides policy and legal support, and SIDA, the Swedish aid agency, provides financial support and training. In the Improving Hillside Agriculture project, the main partner of Sehn-wowo is HELVETAS, the Swiss aid agency, which is also the main provider of support.

An example of a more complex partnership is provided by ASARATY. The primary support for the initiative comes from the NGO, Fundación Natura. Other partners include an export corporation (Corporación de Promoción de Exportaciones e Inversiones – Corpei) that provides training for the local women's group (Asociación de Mujeres 'Grupo Germen') for textile production, and a local polytechnic that assists with the development of the ecotourism initiative. Additional support comes from other NGOs and private Alpaca herders.

Partnership formation in the Ngata Toro Community project is complex, involving as many as five partners, each specialising in different functions. CARE International Indonesia facilitates self-help community development; the Nature Conservancy provides technical assistance; Yayasan Tanah Meredeka conducts resource mapping; Stability of Rainforest Margins (STORMA) carries out research and Lore Lindu National Park Authority partners in conservation and community development.

Bolivia's CABI project has local/national NGO, international donor and industrial partners: Wildlife Conservation Society (WCS); Servicio Nacional de Areas Protegidas (SERNAP); Gas TransBoliviano (GTB) and the US Agency for International Development (USAID). CABI established the Ivi Iyambae Foundation as its technical arm, and developed the Kaa-Iya Project in conjunction with WCS and USAID-Bolivia for institution building. CABI also directed the design of the agreement signed by indigenous organisations and the sponsors of the Bolivia–Brazil gas pipeline, said to be an innovative framework for equitable participation of indigenous organisations and private companies. In the case of India's CEFI project, sponsors include multiple national and international NGOs and international donors: FRLHT, MSSRF, Ashoka Trust, Ford Foundation, Oxfam, HIVOS, South Indian Producer's Organisation, Small Industries Development Bank of India (SIDBI), State Bank of India (SBI), Regional Rural Bank (RRB) and Women Empowerment Cell of the Tamil Nadu State Government.

7 Partnerships and linkages: analysis

The literature on indigenous entrepreneurship has generated a few hypotheses regarding partnerships and linkages. Anderson (1997) and Anderson et al. (2005) indicate that competitive indigenous businesses are often made possible by alliances and joint ventures among indigenous groups and with non-indigenous partners. Reasons for this include generally lower levels of education and human capital development in indigenous communities. Specific technical skills and general business management skills tend to be lower among indigenous people as compared to the general population (see Dana and Anderson, 2007).

The EI experience provides ample evidence regarding the importance of partnerships. Nominations need to mention partnerships; hence, probably all EI cases have some sort of partnerships, although descriptions in 10 of the 42 cases do not specify them. Many cases have partnerships at multiple levels of political organisation. For example, in the NRDDB case, subject of a case study by Fernandes, there was one key partner, a national NGO (Iwokrama), but there were also three government agency partners and four funding agency partners. The case involved partnerships at four levels: international (funders), national (government agencies), regional (the NRDDB itself) and the local level (communities) (Berkes et al., 2004).

Data on EI projects (33 out of 42 cases) support Foley's (2003) finding that indigenous enterprises had a high degree of emphasis on business networking. However, the cases further indicate the importance of networking for fund-raising (21 cases), training and research (18), technical support (13), institution building (15), innovation and knowledge transfer (24) and gender empowerment and equity (27). The EI database does not support the hypothesis that indigenous businesses are often formed through with joint ventures with non-indigenous enterprises. There were only two examples of such joint ventures in 42 cases, plus two with indigenous enterprises (Table 10).

The EI cases provide solid evidence that there is an important role for development NGOs in indigenous business enterprises. In a forestry enterprise of the Runa of Ecuador (a non-EI project), Irvine (2000) comments that the communities had no commercial forestry expertise, no business experience and no marketing contacts. Development NGOs can fill this gap:

> "They offer technical advice and training. They can link local community projects to a wide network of valuable contacts. They can provide financial backing, especially to buffer the risk of starting new ventures" (Irvine, 2000, p.40).

The data on 42 EI cases indicate that there were 12 local NGOs and 10 national NGOs helping in the establishment or strengthening of business enterprises. The majority of the funding came from development organisations (15 cases) that included multilateral and bilateral donors and international NGOs. But there were also local and national financial institutions and foundations that provided funding.

8 Conclusions

The EI database of biodiversity conservation and poverty reduction cases is particularly well suited to investigate indigenous entrepreneurships that involve local land and resources. The 42 indigenous cases in 2004 EI database reveal a high diversity in the

kinds of businesses developed and resources used. The nature of community benefits strongly suggests that indigenous entrepreneurships tend to focus on social enterprise and local cultural values (Cavalcanti, 2002). Hence, indigenous entrepreneurship efforts involve social as well as economic development, integrating the two through community-based development.

Also an integral part of indigenous entrepreneurship is the question of land tenure, the politics of access to and use of indigenous lands and resources. Many groups seek self-determination and control over their traditional lands as a prerequisite to rebuilding their societies and improving their socio-economic status. Many of the cases illustrate the importance of indigenous control of land (e.g. Nuevo San Juan Parangaricutiro), and the devolution of management rights and responsibilities (e.g. Mgori Village Forest Reserve).

The 'special relationship to the land', a central pillar of indigenous identity, is manifested through local and traditional ecological knowledge. Traditional skills and activities, along with detailed knowledge of the land, provide indigenous entrepreneurs with comparative advantage in certain kinds of activities. For example, Donovan and Puri (2004) point out that throughout Southeast Asia, NTFPs, such as the aromatic resin *gaharu*, have traditionally been collected by tribal people because of their knowledge of the forest and their skill in organising collecting expeditions. Indigenous enterprises may have comparative advantage over non-indigenous ones in dealing with agro-forestry products, medicinal plants, arts and crafts, ecotourism and other areas in which indigenous people have special skills and knowledge. Hence, many successful indigenous businesses may be seen to be a consequence of special relationships to the land.

A major conclusion is the pervasiveness of networks and partnerships, consistent with other recent findings (Mahanty, 2002). Partnerships with groups at the same level of social and political organisation, for example, with communities across a geographic area (horizontal linkages), seem to be the norm rather than the exception. Perhaps even more significant, these linkages typically involve three or four levels of political organisation (vertical linkages). These connections go far beyond the needs of business networking and may include fund-raising networks and environmental knowledge building networks, as in the NRDDB example. Partnerships rarely entail joint ventures with non-indigenous businesses (only two of 42 cases) but instead involve NGOs or local-level government agencies or both.

It is difficult to say if extensive partnerships are typical of indigenous entrepreneurships in general. The EI set of cases is not a random sample of indigenous businesses. It is a handpicked set of presumably successful cases – those nominated for an international prize in poverty reduction through the sustainable use of biodiversity. To the extent that EI cases provide lessons in successful organisation, one may conclude that extensive networks and partnerships increase the chances of success of indigenous businesses.

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