

# **Community-based enterprises: The significance of horizontal and vertical institutional linkages**

**Fikret Berkes, Cristiana S. Seixas**

## **Abstract**

Commons institutions evolve all the time, responding to social and economic needs and environmental constraints. Historically, the main drivers have been local needs and constraints. But in recent decades, the use of local commons has been increasingly responding to national and global economic opportunities. Such cases are of interest to commons researchers because they make it possible to investigate how local institutions can develop linkages, networks, relations, new skills, and new knowledge. A promising set of cases comes from the UNDP Equator Initiative. This is a program that holds biennial searches to find and reward entrepreneurship cases that seek to reduce poverty and conserve biodiversity at the same time. The short-listed cases are largely those that have been able to respond to national and global opportunities. What can we learn from these local entrepreneurship cases that seem to be playing successfully at the global level?

Here we focus on partnerships, networks, and specifically on horizontal linkages (across the same level of organization) and vertical linkages (across levels of organization) in a sample of ten UNDP EI projects. We find that successful projects typically interacted with a large array of supportive agencies and partners, around 10 to 15 partners in the cases in our sample. Based on information from on-site research, these partners included local and national NGOs; local, regional and (less commonly) national governments; international donor agencies and other organizations; and universities and research centers. These partners interacted with the local community to provide a range of services and support functions, including raising start-up funds; institution building; business networking and marketing; innovation and knowledge transfer; technical training; research; legal support; infrastructure; and community health and social services. These findings indicate that a diverse variety of partners are needed to help satisfy a diversity of needs, and highlight the importance of networks and support groups in the expanding use of commons.

## **Introduction**

Commons are used, not purely for local livelihoods and economic benefits, but also to develop new understandings, social relations, skills and knowledge, and to craft new institutions. Commons institutions evolve all the time, shaped by the use of commons for local needs, and increasingly in response to national and global economic opportunities. Many rural and indigenous groups have started using community-based enterprises (social enterprises) as a means for

improving their livelihoods through better access to their lands and resources, and generally for empowerment (Berkes and Davidson-Hunt 2007). These enterprises are often not based on utilitarian economic models but rather on a model in which the use of commons provide for broader goals – political, social, cultural, environmental as well as economic (Anderson et al. 2006). Through enterprising engagement, many indigenous and other rural communities have been gaining control of their local natural resources so that they can be utilized to build local economies under local political control.

Examples are many and include the use of indigenous land rights in Canada as a foundation for development (Anderson et al. 2006); ecotourism that allows the development of new skills and social relationships (Stronza 2007), smallholder forestry in the Amazon floodplain (Sears et al. 2007), enterprises based on the multiple goods from the rainforest (Godoy et al. 2002), and indigenous entrepreneurs that tend to focus on social enterprise and local cultural values in integrated conservation-development projects (Berkes and Adhikari 2006). Such cases are of interest to commons researchers because they make it possible to investigate how local institutions can develop linkages, networks, relations, new skills, and new knowledge.

What can we learn from these local entrepreneurship cases that seem to be playing successfully at the global level? This paper explores the linkage between commons and social enterprises in the context of resource governance in a globalized world. We focus on commons institutions with horizontal linkages (across the same level of organization) and vertical linkages (across levels of organization), and partnerships and networks in general (Mahanty 2002; Wollenberg et al. 2006).

We draw our examples from the set of UNDP Equator Initiative cases. This UNDP program holds biennial searches to find and reward entrepreneurship cases that seek to reduce poverty and conserve biodiversity at the same time. The short-listed cases are largely those that have been able to respond to national and global opportunities. They are also presumed to be cases “that work”. These UNDP Equator Initiative cases have been used to explore ways of combining biodiversity conservation and poverty reduction (Timmer and Juma 2005), identifying characteristics of emerging indigenous businesses (Berkes and Adhikari 2006), building multiple levels into community-based conservation (Berkes 2007), and recognizing self-organizational processes in integrated conservation and development (Seixas and Davy 2008).

### **Researching Equator Initiative cases**

In order to understand the role of partnerships, networks, and specifically of horizontal and vertical linkages, on creating and maintaining community-based enterprises, we analyze a set of 10 case studies from the Equator Prize short-listed, finalists and awarded initiatives. The on-site, in-depth research in nine

countries along the Equator Belt was conducted by a team of graduate students from the University of Manitoba. Technical reports produced for each case study can be found at the site [http://www.umanitoba.ca/institutes/natural\\_resources/nri\\_cbrm\\_projects.html#Equator Initiative](http://www.umanitoba.ca/institutes/natural_resources/nri_cbrm_projects.html#Equator_Initiative). A brief description of each Equator Initiative (EI) case researched by our team can be found at <http://www.equatorinitiative.net/>. The ten projects were:

1. Medicinal Plants Conservation Centre, Pune, India (Shukla 2004)
2. Community-Based Arapaima Conservation in the North Rupuni, Guyana (Fernandes 2004)
3. Honey Care Africa Ltd. (HCA) in Kakamega and Kwale districts, Kenya (Maurice 2004)
4. Cananea Oyster Producers Cooperative (Cooperostra), Brazil (Medeiros 2004)
5. Toledo Institute for Development and Environment (TIDE) Port Honduras marine reserve, Belize (Fernandes 2005)
6. Pred Nai community forestry group and mangrove rehabilitation, Thailand (Senyk 2006)
7. Casa Matsinguenka indigenous ecotourism lodge project, Peru (Herrera 2006).
8. Nuevo San Juan Forest Management, Mexico (Orozco 2006)
9. Torra Conservancy, Namibia (Hoole 2007)
10. Pastoralist Integrated Support Programme (PISP), Kenya (Robinson 2008)

### **A wealth of linkages**

The Equator Initiative (EI) projects are anything but isolated. At the time of field research, all of the EI cases seemed to have an unexpectedly large number of institutional linkages and interactions that cut across many levels of organization, typically five (Table 1). Successful projects usually interacted with a large array of supportive agencies and partners, averaging 15 partners in our sample (ranging from 7 to 25) (Table 1). In most cases, there is a local or community level; a regional or district level; a state or provincial level; a national level; and an international level.

The number and complexity of institutional interactions changes over time according to the development phase of each initiative. In most cases, the number of linkages and levels of organization increases as the initiative evolves. This is the case, for instance, of the Pred Nai Community Forestry Group, in Thailand (Figure 1), the Arapaima Management Project, in Guyana (Figure 2), and the development of Community-based Conservancies in Namibia (Figure 3).

In Thailand, Pred Nai community developed an informal patrolling program to respond to use conflicts and degradation of mangrove forest. From 1988 to 1997, the community established linkages with only two outside partners, resulting in interactions across only three levels of organization. Pred Nai advanced from informal patrolling of their mangroves to the establishment of a formal conservation group that actively manages the local mangrove forest. At the beginning of formal management (1998-2002), nine outside partners from five different organizational levels, including government, NGO, university, and other communities through formal and informal networks, had a stake in management. In recent years (2002-06), the numbers of partners have doubled while the number of organizational levels remained the same (Figure 1).

The idea of managing Arapaima (a large fish from the Amazon basin) in the North Rupununi District in Guyana was developed during a series of workshop involving the North Rupununi District Development Board (NRDDB) and a national NGO (Iwokrama), with support from government and funding agencies. Later, Iwokrama connected NRDDB with a Brazilian NGO managing a protected area (Mamirauá Reserve) with positive experience in Arapaima adaptive management. The Brazilian NGO and Brazilian fishers helped NRDDB to develop its Arapaima Management Plan. They also trained Guyanese fishers to assess Arapaima populations and estimate sustainable harvest levels using local ecological knowledge. Institutional linkages in this case, became more complex as appropriate knowledge to achieve local objectives (i.e., Arapaima management) had to be attained elsewhere (in another country) (Figure 2).

The community-based natural resources management (CBNRM) program and conservancies in Namibia have evolved over a period of 25 years, and the number of conservancies has scaled up from an initial four in 1998 to 44 in 2006. “Key linkages and partnerships have evolved from a few simple ones between local communities, a national conservation NGO and the national government wildlife agency during the initial community game guard program to multiple linkages and networks, involving several international donors, multiple national NGOs, the University of Namibia, private enterprise, and the Ministry of Environment and Tourism” (Hoole, 2008, Figure 3).

What can we learn from these three cases regarding the wealth of partnerships? The Thailand case shows that as an initiative matures, it may start responding to broader needs and/or demands, often increasing the number of partners to do so. The Guyana case demonstrated that resources and/or knowledge/skills required to develop an initiative sometimes are not available within the organizations initially involved in such initiative; hence, there is a need to establish new linkages across organizational levels (vertical linkages) and/or geographical scales (horizontal linkages). The Namibia case points out that as a program expands its geographical scope or functional scope, so does the number of linkages and partners.

Less common though, the number of partners in an initiative decrease as it evolves. Sometimes, as an initiative matures, there is a tendency of supportive organizations, particularly funding agencies and NGOs, to 'phase out' expecting that the initiative will become self-sustaining or will be skilled enough to find other sources of support. This is the case of the Casa Matsinguenka Indigenous Ecotourism Lodge Project in Peru (Figure 4). From 1997 to 2003, an international agency provided funding through government and a national NGO to help building the ecotourism lodge and training community members to manage the lodge. As funding ended in 2003, both the funding agency and the national NGO finished their interactions with the Indigenous Ecotourism Project, reducing the complexity of institutional linkages in both number of linkages and levels of organization involved. Since then, the lodge has been managed primarily by local community members and only one outside assistant manager. Other examples of NGOs reducing involvement with EI initiatives are discussed later for the Belize and Guyana cases.

### **The role of partnerships**

The high diversity of linkages and partnerships may be related to the diversity of functions and roles of the partners. All initiatives analyzed here by definition involve a community-based organization (CBO) and/or local communities working with a particular supportive organization, often a non-governmental organization (NGO). These CBOs or NGOs have established institutional interactions with other NGOs (local, regional, national or international, particularly environmental NGOs); local, regional and (less commonly) national governments; donor agencies, often international; private-sector organizations; regional indigenous organizations or unions representing an economic sector; and universities and research centers. These partners interacted with the local community to provide a range of services and support functions, including raising start-up funds; institution building; business networking and marketing; innovation and knowledge transfer; technical training; research; legal support; infrastructure; and community health and social services.

Interesting to note is that in most cases here analyzed, there is a redundancy on functions of partners. For instance, Figure 5 depicts key institutional linkages and the contribution they provided for the creation of a Port Honduras Marine Reserve and associated livelihood projects. Funding and human resources are provided by at least five stakeholders, and knowledge and technical expertise by at least four stakeholders. In another example, Nuevo San Juan Forest Management initiative in Mexico, out of the 24 partners, 13 (54%) contributed with funding or fundraising; 6 (25%) provided business networking for access to markets and/or access to capital; 6 (25%) provided different types of technical support; 5 (21%) provided training and/or helped the initiative with research; and 3 (13%) contributed with political networking. This redundancy of partners providing similar functions is likely to build resilience into the initiative. In fact, the

Mexican case is the longest running (> 25 years) case among the ten studied here.

Redundancy of interactions providing similar functions may be crucial to sustain a project; when some interactions are weak, others may be well consolidated. This is the case of the Honey Care Africa (HCA) experience in the Kwale region of Kenya (Figure 6). Honey Care Africa partnered with a district NGO program (CRSP) to implement beekeeping in local communities. The NGO staff has faced some communication problems with beekeepers. On the other hand, district level staff of a government department (MLFD) working in the same geographical area and with a close partnership with the NGO has had better communication with beekeepers, which contributed to support the beekeeping project.

Multiple funding sources are a characteristic of most initiatives (e.g., Belize, Guyana, India, Mexico, and Namibia cases). In fact, different sources are often needed for different stages and functions. The Cooperostra case in Brazil provides a good example of the numerous institutional interactions required to conclude one particular project. Figure 7 summarizes how the Cooperostra group went about seeking funds in an effort to obtain a health certification for their oysters from the Brazilian Federal Inspection Service, and where the funds went: designing the oyster depuration station; land for the station; construction materials and so on. At least five complementary sources of funding contributed to the endeavor. Many of the cases show similar multi-source funding and multi-agency linkages. Less common are initiatives that depend on only one source of funding, as in the Peru case discussed in the previous section.

### **The nature of linkages**

Linkages may be analyzed through different lens, such as the levels of organization or spatial scale/sectors that it crosses (vertical or horizontal linkages); the nature of agreement (formal or informal linkages), the flow of resources/information/demands (one way or both way linkages), the magnitude of interactions (weak or strong linkages), and the outcome of the interaction (positive or negative linkages).

#### *Cross-scale dynamics: Horizontal and vertical linkages*

One way of analyzing institutional interactions is looking at if they take place within the same organizational levels across space or across sectors (horizontal linkages) or if they connect two or more levels of organization (vertical linkages). All EI cases studied here presented a number of horizontal and vertical linkages. Horizontal linkages may be established at various levels, such is demonstrated in the Guyana case (Figure 2), in which there are horizontal linkages between NGOs of two countries and between fishermen of two countries. Horizontal linkages often serve to (i) exchange information, knowledge and experience, as in the India, Guyana, Brazil, and Thailand cases, to mention only a few,

particularly in networks involving community groups; (ii) to exchange products/clients, as in the case of Peru; and (iii) to complement and/or substitute skills/resources, such was the case of government agencies interacting with NGOs in the Peru, Belize, Kwale/Kenya, and India initiatives (Figure 4, 5, 6, 8).

This last example is particularly interesting because it calls attention for a pattern we noted in half of the initiatives, including Brazil, Guyana, Kenya (both HCA and PISP), and India initiatives. In each of these cases, there is one very strong horizontal linkage providing a tandem of support for the local level, and connecting it to sources of funding, information and other supports. In the India case, the support has the form of a network, with the Pune Center (RCMPCC) at the middle (Figure 8). Of the main supporting organizations in each case, one finds both NGOs and government organizations. The key government agencies are often at state or district level, providing the extremely important function of political support. In most cases, they are not found at the national level; the central government seems passive or benign. It does not have much of a support function, but at least it does not create barriers either. In at least one of the cases (Honey Care Africa, Kenya), we know that the organizers stay away from central government agencies and actively pursue partnerships with the district level government instead. One researcher characterized central agencies “as an omnipresent threat.” The State level, by contrast, is a key level in political support in two cases: Brazil and India. In the India case, it is the State government that created a favorable policy environment (without creating new legislation) that led to the “issuing of government notification” to empower local groups and agencies to participate in the conservation of medicinal plants.

The analysis of horizontal and vertical linkages, though, is not clear cut; for instance, how to define a linkage between the local/regional office of a national-level government agency with a local/regional community-based organization? This seems an unresolved issue, particularly considering that most organizations are based at one level but operates in multiple levels as Table 2 demonstrates.

Another problem one faces in analyzing institutional linkages is related to which organization or level the researcher focuses more attention on. For instance, the Pastoralist Integrated Support Program in Kenya supports and facilitates activities at various communities. Robinson (2008) analyzed institutional linkages first for PISP (Figure 9a) and then for one of the communities has been working with (Balesa) (Figure 9b). One can see that the complexity of interactions in each case is quite different.

#### *Formal and informal agreements*

In most EI cases both formal and informal partnerships played important roles to the project success. Formal partnership always occurs when funding is involved or when a formal network is established, such as the case of the Network of Local Healers in the India initiative. It may also occur when a contract is set up

for an organization to provide a certain service (e.g., training). Informal partnership depends on volunteering work, in-kind support and exchange of knowledge/experiences. Of particular interests are learning networks, both formal and informal. In Thailand, for instance, Pred Nai Community Forest Group was involved in a number of formal networks at various levels (sub-district, provincial and national) as well as informal networks with other communities. On the other hand, formal network does not seem very important for the Pastoralist Integrated Supported Program (PISP) in Kenya. Robinson (2008) suggests that at district level the need for networking with other peer organizations may be largely fulfilled by PISP's participation in two multi-stakeholder consultative bodies.

### *One-way and two-ways linkages*

Interactions among organizations, networks and communities may be one-way or two-way, pointing out which organization influences which. Three examples of one-way interactions are presented here. First, when an organization provides funding, a specific resource or training to another organization, the money, resource or knowledge flows in only one direction – this has happened in all EI cases, and is clearly depicted in the India case (Figure 8) and Guyana case (Figure 10). Second, when a government agency provides legal support (e.g., a favorable political environment) or a service to an initiative, the former often does not receive anything in return. This is seen for example in the Thailand case in which two government agencies (RDF and FD) assisted villagers in transitioning from an informal patrol group to a formal management group (Figure 1). Third, when the positive outcome of an initiative influences higher level institutions, this influence is normally in one direction only - such was the impact of the India project in the Planning Commission of India at national level which was inspired to set up and fund 200 Medicinal Plant Conservation Areas across the country. Other two initiatives that also triggered more government involvement or support to community-based enterprises in their countries are the Thailand and Guyana cases.

Examples of two-way interactions are often related to exchange of information/knowledge or share of power and/or responsibilities, although in various cases resources flow in one or both directions as well. A classic example of two-way interactions is co-management arrangements. In the Belize case, the Toledo Institute for Development and Environment (TIDE) co-manages the Port Honduras Marine Reserve with the Government of Belize (Figure 5). Another good example of two-way interactions is the development of a “symbiotic relationship” between two strongly interacting organizations in the process of supporting a project. There are several examples of such an interaction in our set of EI cases.

In the India case, the leading NGO (Rural Commune's Medicinal Plant Conservation Centre - RCMPCC) has maintained such a relationship with State and District Forest officers in implementing and monitoring project activities



(Figure 8). In the Honey Care Africa initiative in Kwale, Kenya, the NGO (CRSP) provides office space and transportation for the government agency staff, which government is unable to provide; in turn, the NGO gets help from government field staff, which has close relationship with local farmers, to help promote and support the NGO's projects (Figure 6). In addition to complementarity in effort, infrastructure and personnel, the fact that staff of two agencies works so closely is beneficial to both parties, as it also creates opportunity for learning. Other examples of one-way and two-ways interactions can be found in Figures 1, 4, 6, 8 and 10. Two-ways interactions may be either horizontal linkages or vertical linkages, while one-way interactions often involve vertical linkages.

### *Magnitude of interaction in the linkages*

In addition to the direction resources and knowledge flow among stakeholder, it is important to understand the magnitude or the degree of intensity of such interactions. This magnitude varies along a continuum, and although it cannot be measured quantitatively, it can be qualified comparing linkages in the same system. Our research team developed some figures indicating the magnitude of linkages, as weak, strong, or non-functional, in the EI cases. Figures 4, 6, 8 and 10, regarding the Peru, Kenya (Kwale), India and Guyana cases, respectively, show the magnitude of linkages. Of particular interest is the Guyana case (Figure 10) which indicates that in two-ways interactions, the magnitude of the interaction may be different for the two partners. Another point: non-functional interactions may hinder the project success, as the case of communication problems mentioned above in the Honey Care Africa initiative in Kwale, Kenya (Figure 6). Moreover, the inability of establishing strong political linkages with government, in some cases, may become a threat to the initiative. The lack of policies or adequate legislation (or the lack of enforcement of existing ones) affects negatively some initiatives. One case in point is the Arapaiama Management Plan in Guyana: "the government's lack of commitment to Arapaiama management is arguably the biggest threat to the continued survival of the species in Guyana" (Fernandes 2004).

Despite the large number of horizontal and vertical institutional linkages identified in each project, most of them have only very few (often one or two) quite strong, two-ways linkages that are the core set of linkages that maintain the project functioning. This core set of linkages, though, is likely to increase with an increase in the scope of the project (either in number of communities or activities involved). For instance, in the India case involving several communities in a state-level project, there are about seven strong, two-ways linkages (Figure 8).

### *Outcomes of Linkages*

One can analyze institutional interactions according to their outcomes. Positive interactions may be understood as any interactions that contribute to the project evolution, whereas negative interactions are those that somehow hinder the

project evolution. In all EI projects in our sample, the number of positive interactions outweighs the number of negative interactions. But there are cases in which a negative relationship may prove crucial to the outcome. An example of a key negative interaction is the Peru case. The NGO (CEDIA) that had the original idea to develop the indigenous ecotourism lodge accused the government agency (INRENA) of plagiarizing the project and put both the government agency and the indigenous communities on trial. As a consequence, one of the two communities involved in the project broke relations with the NGO (Figure 4). It is important to note, though, that in some cases negative interactions may stimulate learning, as it happened in the India project after some community groups started free-riding by selling their products on other communities' market. The NGO implementing the project had then to develop new norms and ways of managing the free-riding groups, i.e., redesigning some local management strategies.

One interesting point about outcomes of linkages is that some linkages that at one time contribute to the project development, may at another moment hinder the project. This was the case with the government agency (INRENA) in the Peru case and its relation to the Ecotourism Lodge enterprise. At the national level the agency has promoted and supported project development, but at regional level this agency's staff hindered the project evolution, as they do not respond in a timely way to the needs/requests of the Ecotourism Lodge Enterprise (Figure 4). This was also the case in the Honey Care Africa initiative in Kwale, Kenya (Figure 6). The national level NGO (AKF), out of which emerged the district NGO program (CRSP) that partnered with Honey Care Africa, did not devolve authority down to district level NGO, resulting in situation in which decisions were made in the country's capital, rather than at the district level.

### **Establishing linkages: leadership, institutional memory, learning**

In the previous section we showed that successful projects were partnered with a number of organizations across institutional levels, sectors and space, to obtain the required knowledge, skill and resources to attain their objectives. We also showed that the nature of such partnerships often varied widely according to several attributes (cross-scale dynamics, formality, direction and magnitude of impacts, and outcomes). In this section we turn to the question of how linkages are established.

The major lesson from most if not all of the cases is that key individuals matters a lot! Often key individuals that initiate linkages are based at the lead organization, such is the case in Belize and Guyana discussed below. Moreover, sometimes linkages are established with individuals within an organization and not with the organization *per se*. This was the case at the beginning of the enterprise development in the Mexico initiative: key linkages were established primarily with individuals rather than with organizations and agencies *per se*.

In Belize, TIDE's (NGO) Executive Director "pushed for the creation of Port Honduras Marine Reserve by lobbying Government officials and promoting the Reserve in the surrounding communities." He was also heavily involved in fund raising activities, and increasing TIDE's visibility both nationally and internationally. As Director, he was cognisant of the multiple actors and institutional levels involved in the project. He was able to link international concerns with local needs. In doing so, he gained Belize Government's support and transfer of management jurisdiction (Fernandes 2005). In the Guyana case, the acting Director General of Iwokrama (NGO) was directly responsible for sourcing project funding, and establishing links between the communities, government agencies, and Mamirauá (Brazilian NGO).

One interesting pattern that we observed is that key people initiating linkages within an organization, often bring their knowledge/skills/memory from their previous work experience in other organization. Several examples were found. In Belize, TIDE's Executive Director had previous experience as a consultant for the Belize Centre for Environmental Studies which worked closely with The Nature Conservancy's (TNC) local office. In his new position he used much of his previous experiences to establish new linkages. In India, a senior Forest Official became the project director of the NGO (RCMPCC Pune) responsible for implementing the project. This enabled him to strengthen linkages between the NGO and the State Forest Department. In Brazil, a university researcher contacted by the federal government to help establish an extractive reserve in the Atlantic Rain Forest, formed partnerships between the university and the State Secretariat for the Environment and the Fisheries Institute. Later he moved to the Forest Foundation and began coordinating a project to implement the oyster cooperative (Cooperostrá). In this new role he has established a number of linkages that enabled the evolution of the project.

One important finding is that key people often operate at multiple levels of organization. That is, many key leaders do not seem to be active at only one particular level (e.g., the community). Rather, they seem to be straddling two or more levels of social and political organization, often making the linkages and translating local concerns to the levels above and *vice versa*. This mode of operation is consistent with what Cash and Moser (2000) refer to as "boundary organizations", that is, groups (or in this case individuals) that translate findings or messages from one level of organization to another.

New interactions may emerge as a result of positive outcomes of previous linkages. In India, the earlier work between two NGOs (FRLHT and RC) "in the field of revitalization of local health traditions through medicinal plants has created an enabling environment for an increased focus on and commit more resources for the project on the part of UNDP and Ministry of Environment and Forests" (Shukla 2004). Previous experience with a partner may also help facilitate new linkages. In Mexico, several outsiders that provided some help to

Nuevo San Juan developed contact with this community through the active role it played in a regional organization of local communities years before. In addition, the establishment of one linkage can make the project more visible to other potential partners. This was the case of the Pred Nai community, which became known by RECOFT (a national and international level NGO which became the project's major supportive partner) after the project received support from smaller groups and funding from the government.

Some key partners may play an important role at the beginning of a project but may reduce involvement as the project matures. For instance, in Belize, the Nature Conservancy (TNC) local office gave a great support (technical and funding) for TIDE's development, and also served a major role in linking TIDE to other donors, but as TIDE matured, TNC local office has reduced its involvement with TIDE and has taken more of a supportive role. A similar pattern is observed in the Guyana case, where "most of the NRDDDB/community linkages with funding sources, government agencies and the private sector were initially facilitated by Iwokrama (NGO). This is changing as the NRDDDB begins to use Iwokrama-created linkages to establish independent links with Government and funding groups. The NRDDDB however, is still dependent on Iwokrama for some technical, financial and organizational support" (Fernandes 2004).

Almost all of the longer-term EI projects, including the Mexico case (Orozco, 2006), have partnerships that have evolved and partners that have declined in importance. In other cases, key partners may continue assisting community organizations, even when a particular funded project is over. For instance, RECOFT has remained an important partner of Pred Nai community, assisting them with conservation and management issues, even after the funded project that linked them ended.

The analysis of these cases suggests a number of hypotheses that could be further investigated, either by asking the researchers to re-analyze their original data or by using a different set of cases. They include the following:

- In successful community-based enterprises, the number of two-way interactions (i.e., those benefiting two parties) exceeds the number of one-way interactions.
- In successful community-based enterprises, the core set of strong two-way linkages occurs at levels closer to the community (rather than at higher levels, such as the national).
- The positive outcomes of the first interactions are crucial to the full development of a project, that is, path-dependency is important. Hence, choosing initial partners carefully is fundamental to a project success.
- Successful community-based enterprises are those that take advantage of a window of opportunity to establish linkages for their benefit, but most

- importantly, those that can foster the creation of such windows of opportunity.
- The availability of a redundancy of partners with similar interests and capabilities may be important to provide back-up support for a community-based enterprise.

## **Conclusions**

Based on a set of ten UNDP Equator Initiative cases studied in the field, our findings suggest a number of conclusions. The results indicate that a diverse variety of partners with different skills and capabilities are needed to help satisfy a diversity of organizational and development needs. These results expand and support the earlier findings based on 42 indigenous peoples cases from the 2004 UNDP Equator Initiative database, that is, without the benefit of field work (Berkes and Adhikari 2006). The results also highlight the importance of networks and support groups in the development of conservation-development projects (Mahanty 2002; Stronza 2007), and in the expanding use of the commons in the way that local groups are able to “opt-in” to the global economy (Anderson et al. 2006).

The findings indicate the importance of on-site research to assess the full wealth of linkages in a community-based enterprise. Key partners of each project are listed in the UNDP Equator Initiative database. But typically, these lists do not do justice to the range of partners involved with a project during the lifetime of that project. When we analyzed the data concerning key partnerships in the Nomination Forms of 21 Equator Prize finalists, we found that the total number of key linkages per initiative varied from two to 16, with a median of five and a mode of four (Seixas et al. 2008). By contrast, in the present sample of ten EI projects studied in the field, the number of key partners ranged from seven to 25, with a mean of 15.

Not all of these partnerships are active at any one time. Certainly, they are not all equally important. Despite the large number of horizontal and vertical linkages identified in each project, most of these projects show only very few (often one or two) strong, two-way linkages that are at the core of developing and maintaining that project. In most cases, the supporting partner is not a single group but a “tandem” of two groups with complementary strengths and capabilities. This tandem of support is often provided by a NGOs and/or a district or state-level government agency.

These findings raise the question of why one finds such a large number of partnerships in a given case (averaging 15 in our ten cases) when the key linkages often involve only two partners and the number of partners listed in the UNDP Equator Initiative nomination forms only average five. There seems to be

two possible explanations for this, one having to do with the history of the project and the other with the function of partnerships.

Regarding the first explanation, the number and complexity of institutional interactions change over time according to the development phase of each initiative, as seen for example in the Mexico case. As an initiative matures, it may start responding to broader or different needs, requiring different kinds of partners. Resources or skills needed may not be available through the partners initially involved in an initiative. As an initiative expands its geographical scope or functional scope, the number of linkages and partners may also increase. Alternatively, as an initiative matures, there may be a tendency to phase out some of the partners, for example the initial funding agencies.

Regarding the second explanation, the diversity of linkages and partnerships are no doubt related to the diversity of functions and roles of the partners. For example, an initiative may need help with fund-raising, business networking, legal support, training, technical support, research, knowledge transfer, institution-building, and capacity-building for gender and equity (Berkes and Adhikari 2006). Often, a diversity of partners is needed for these multiple functions. Perhaps less obvious, redundancy of partnerships may also be important. Redundancy of partnerships providing similar functions may be crucial to sustain a project, as redundancy provides resilience (Low et al. 2003). When some linkages fail, other partners may step in to help the project ride out shocks and stresses. In our ten cases, the most common kind of redundancy involved funding; many projects were characterized by multiple funding sources.

We use the term, one-way interaction, to refer to one organization providing to another organization a specific resource or service, such as funding. In such interactions, the money, resource or knowledge flows in only one direction. By contrast, two-way interactions are often related to exchanges of goods and services, such as information and knowledge. Two-way interactions may either be horizontal or vertical linkages, whereas one-way interactions typically involve vertical linkages.

Many of the EI initiatives have linkages in the form of networks. Although the distinctions between horizontal and vertical linkages are not clear-cut, in the sample of ten EI cases, horizontal linkages often serve to exchange information, knowledge, experience, products and clients. Between government agencies and NGOs, horizontal linkages may serve to complement skills and resources between the two parties. Vertical linkages are often important for funding, business networking, legal support, technology transfer and capacity building. Vertical linkages are important in power sharing for resource and environmental management, as in co-management arrangements. But the cases were not designed to study co-management.

The combination of a number of factors, analogous to the ingredients of a great meal, is important in the development and success of a conservation-development initiative (Seixas and Davy 2008). Our findings here are particularly supportive of the importance of one of these factors: leadership. Leaders or key individuals often make the difference between a successful or a failed project. Some leaders may play an important role at the beginning of a project but reduce their involvement as the project matures, as in the Thai case. In other cases, leaders may continue assisting the initiative, with an evolving portfolio of functions, as in the Kenya example. Key people initiate linkages and they often bring their knowledge, skills, and experience from their previous work. Many leaders and key people, like boundary organizations (Cash and Moser 2000), operate at multiple levels, straddling and bridging two or more levels of organization.

Ultimately, successful conservation-development initiatives, such as many of the EI cases, are dependent on successful learning, experimentation and working together. New interactions may emerge as a result of the experience, creativity and bridge building of the leaders, and the positive outcome of previous linkages. Previous experience with a partner often facilitates further linkages. Experience with new skills and technologies accumulate iteratively, with adaptive learning (Armitage et al. 2007). Successful enterprises, including those in the conservation-development area, are those that can build on their experience, engage in mutual learning with their partners, and further develop their linkages.

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Table 1. Number of partners of each initiative at the time of field research and number of levels of organization in which these partners operate

<b>CASES</b>	<b>Partners<sup>a,b</sup></b>	<b>Levels of organization<sup>a,b</sup></b>
Medicinal Plants Conservation Centre, India	15	6
Arapaima conservation, Guyana	20 <sup>c</sup> [13 <sup>d</sup> ]	4
Honey Care Africa Ltd., Kenya - Kakamega	8	6
Honey Care Africa Ltd., Kenya – Kwale	7	6
Cananea Oyster Producers Cooperative, Brazil	14	5
TIDE Port Honduras marine reserve, Belize	14 <sup>e</sup> [12 <sup>f</sup> ]	4
Pred Nai mangrove rehabilitation, Thailand	24	5
Casa Matsigenka indigenous ecotourism, Peru	8	3 <sup>g</sup>
Nuevo San Juan forest management, Mexico	25	5 <sup>h</sup>
Torra Conservancy, Namibia	8 <sup>h</sup>	4 <sup>h</sup>
Pastoralist Integrated Support Programme, Kenya	25	5

<sup>a</sup> Including local communities and/or the leading organization

<sup>b</sup> Based on Tables of key partners provided by researchers

<sup>c</sup> Partners involved facilitating activities of the North Rupununi District Development Board (NRDDB)

<sup>d</sup> Partners involved in the Arapaima Management Project

<sup>e</sup> Partners involved in the creation and development of TIDE

<sup>f</sup> Partners involved in the management of Port Honduras Marine Reserve

<sup>g</sup> There was an international NGO level until 2003

<sup>h</sup> Based on Figures and texts provided by researchers

Table 2: Cross-scale representation of stakeholders in Kakamega Honey Care Africa project, Kenya. (Maurice 2004).

	Local	Division	District	Province	National	International
Honey Care					X	
HCA PO			X			
CARD			X			
Local Groups	X					
Forest Dept					X	
KWS					X	
Livestock/Aggr					X	

HCA PO: Honey Care Project Officer

CARD: Community Action for Rural Development (Community-based organization)

KWS: Kenya Wildlife Services

MLFD: Ministry of Livestock and Fisheries Development.

X


Level at which institution is based

Level at which institution is active in relation to the HCA project

Level at which institution is not active in relation to the HCA project