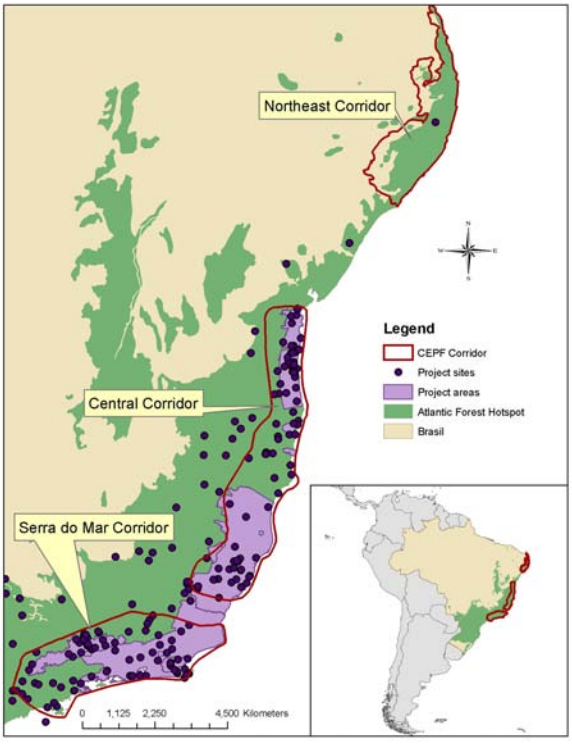
CEPF and Poverty Reduction: A Review of the Atlantic Forest CEPF Portfolio

Although the target of Critical Ecosystem Partnership Fund (CEPF) investments is biodiversity conservation, the benefits from intact habitats and healthy ecosystems extend well beyond biodiversity. CEPF is undertaking an effort to evaluate the relationship between the projects it supports and poverty reduction. This evaluation includes a socioeconomic study across the CEPF geographic funding area and a project- and portfolio-specific assessment performed through questionnaires to grantees. The socioeconomic information will provide CEPF with more detailed information about the areas where it invests, and can be layered with existing biodiversity data to present a more comprehensive picture of the priority areas. Project-specific information, collected through questionnaires, provides specific data on key indicators and anecdotes that will complete the story of how CEPF-supported conservation projects contribute to poverty reduction. Ultimately, the project-level information will be presented in a standard format that could be globally aggregated and become a part of regular reporting to the CEPF donor partners. This approach is being piloted in four regions: Atlantic Forest, Philippines, Southern Mesoamerica, and Succulent Karoo. The following report presents the results from the Atlantic Forest, focusing exclusively on the Brazilian portion of that region.

CEPF's Atlantic Forest ecosystem profile focuses on three biodiversity conservation corridors (Figure 1). Data from various, complementary sources were used for this analysis. For the entire region and the separate corridors, socioeconomic data was compiled and examined from the country of Brazil. For individual projects, data was collected and analyzed from CEPF grantees. This report summarizes the data analysis, at a corridor scale and for individual projects.

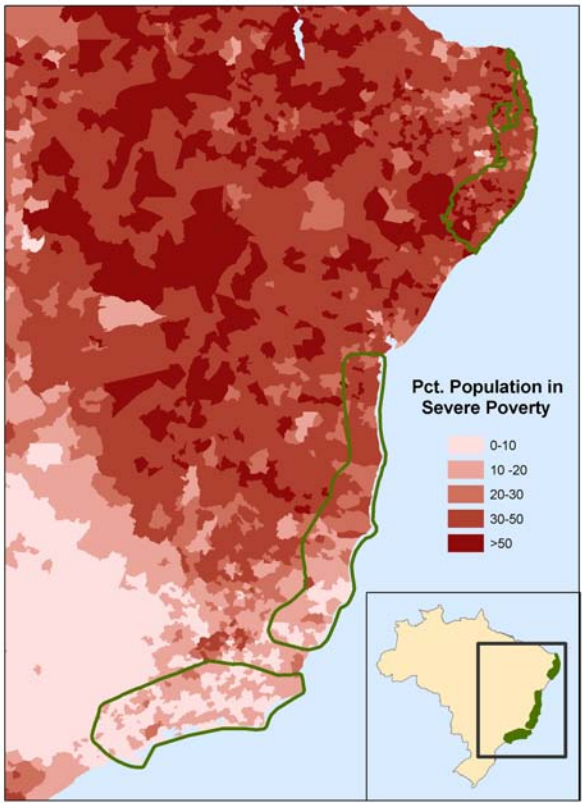
Figure 1. Map of Atlantic Forest, Brazil, CEPF corridors, and project sites & areas (note that several sites may correspond to one CEPF grantee, particularly for the small grants programs; region-wide projects are not mapped).



Socioeconomic Conditions in the Atlantic Forest

Most of the Atlantic Forest is located in Brazil, one of the largest and most socioeconomically complex countries in the world. At the national level, the economy of Brazil and the general human condition is improving rapidly. As of 2003, the human development index for Brazil was 0.792 (63rd of 177 countries) and the poverty index was 10.3 (20th of 103 developing countries) (United Nations Development Programme-Human Development Report, http://cfapp.undp.org/hdr). An estimated 11.6% of Brazil's population lives on $1 per day or less, while 26.5% survives on $2 per day or less (Nationmaster, http://www.nationmaster.com). Considerable socioeconomic diversity occurs within Brazil, and examples of this diversity occur within the Atlantic Forest. The southernmost Serra do Mar Corridor, containing Río de Janeiro and with Saõ Paolo lying just beyond its bounds, lies in a part of Brazil offering some of the best human conditions in the country, often better than those of Brazil as a whole (Figure 2). In contrast, the Central and Northeast Corridors occur in much poorer parts of Brazil—better off than much of the interior, but much worse off than the Serra do Mar Corridor.

Figure 2. Percent of inhabitants living in severe poverty in east-central Brazil, by municipio: 2000 (Data source: Atlas do Desenvolvimento Humano no Brasil (IDH-M) 1991-2000, http://www.fjp.gov.br/produtos/cees/idh/atlas_ idh.php)



Corridor Level

To evaluate the socioeconomic context in the Atlantic Forest, the study examined variables widely recognized as indicators of poverty, focusing on both population and housing characteristics. These variables can be shown in map form. Consistent with the pattern of poverty presented in Figure 2, other indicators, such as infant mortality (Figure 3) and population in residences with plumbing (Figure 4) reveal better conditions in the Serra do Mar Corridor relative to the other corridors and Brazil as a whole.

Figure 3. Map of infant mortality and CEPF corridors, project sites, and project areas (Data source: Atlas do Desenvolvimento Humano no Brasil (IDH-M) 1991-2000, http://www.fjp.gov.br/produtos/cees/idh/atlas_idh.php)

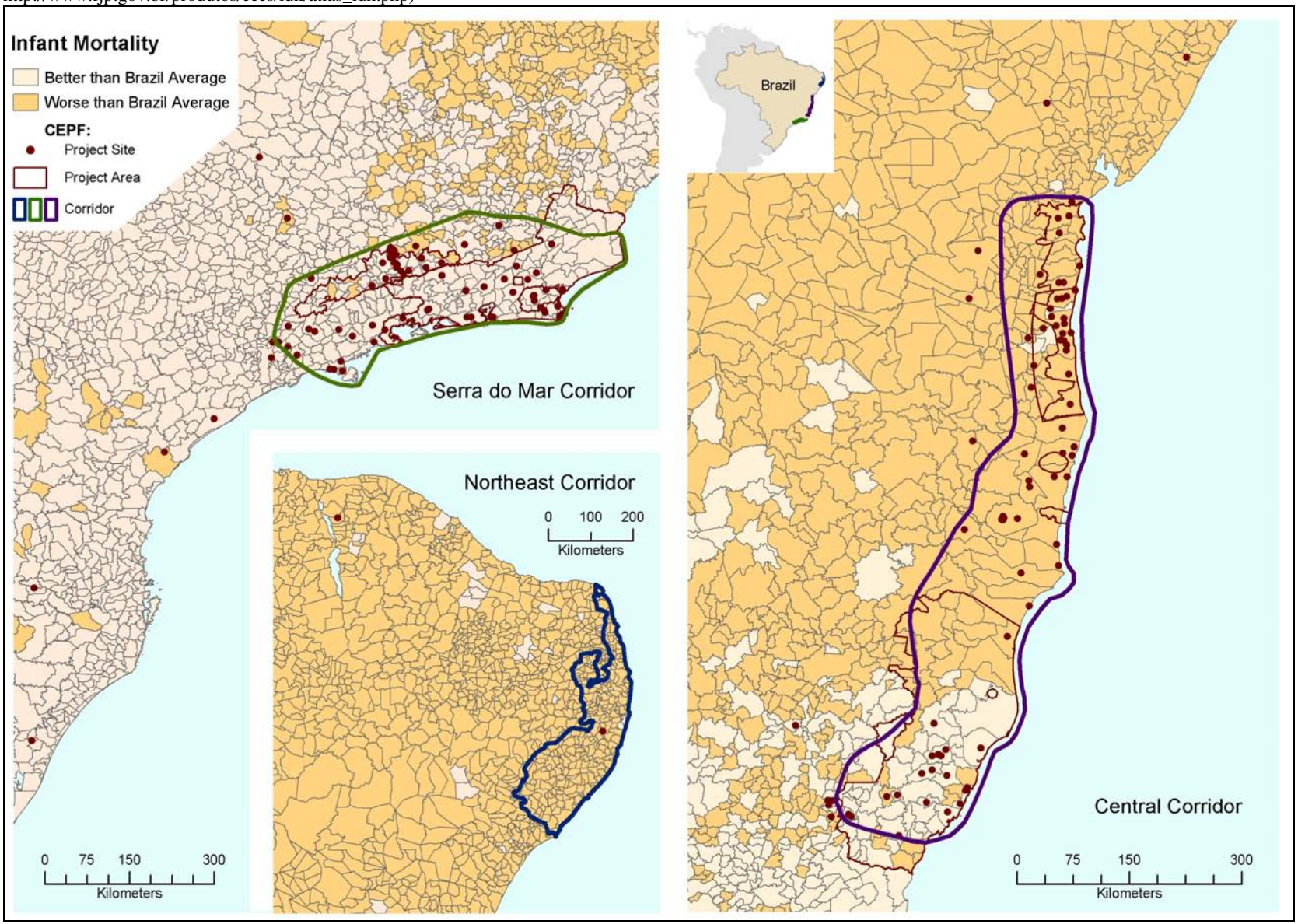


Figure 4. Map of population living in housing with plumbing and CEPF corridors, project sites, and project areas (Data source: Atlas do Desenvolvimento Humano no Brasil (IDH-M) 1991-2000, http://www.fjp.gov.br/produtos/cees/idh/atlas_idh.php)

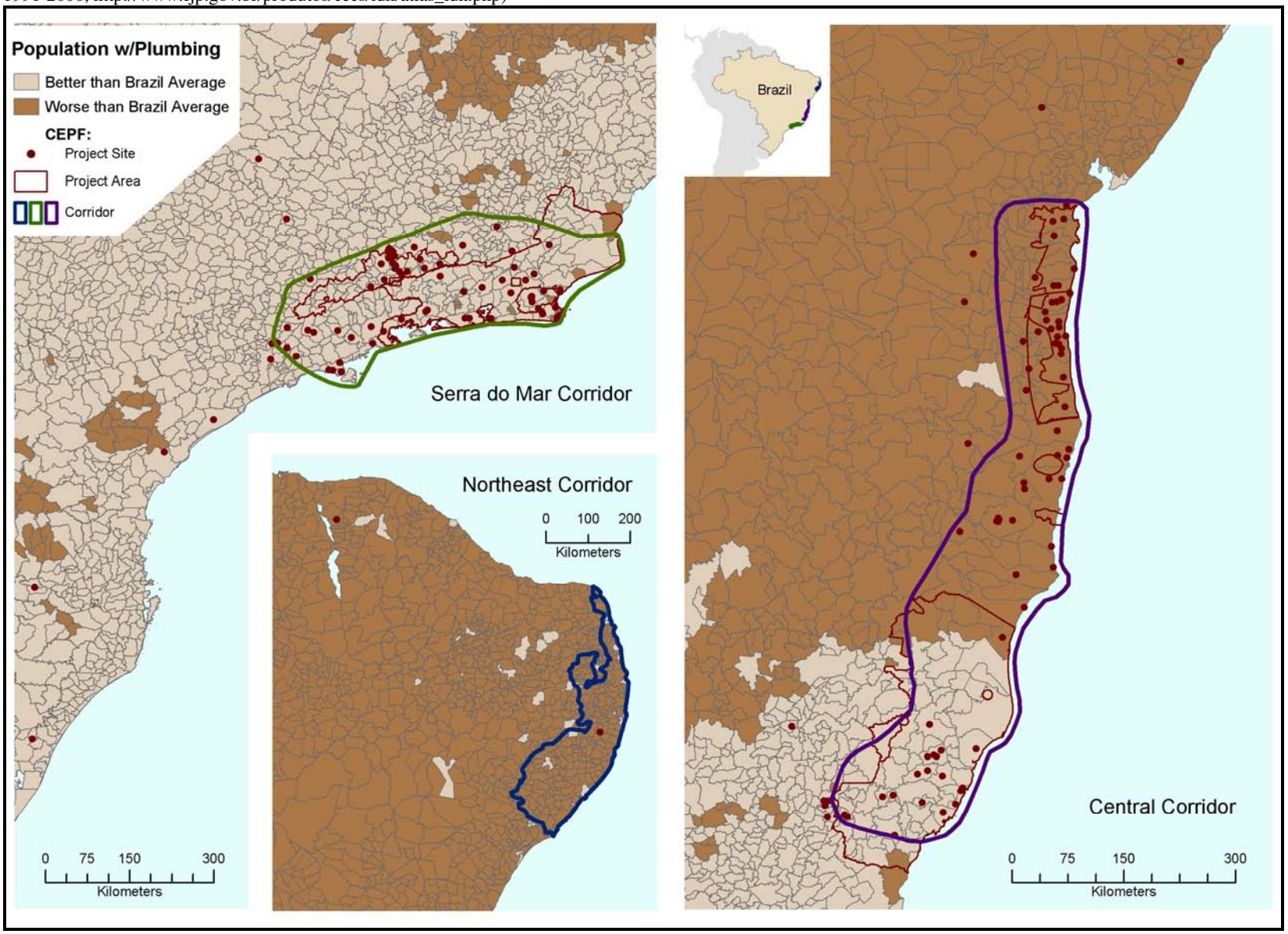


Table 1 summarizes data for selected socioeconomic indicators for the Serra do Mar and Central CEPF corridors in the Atlantic Forest. Statistics in this table are consistent with patterns in the above maps. Better human conditions tend to be found in municipalities in the Serra do Mar Corridor with a CEPF project site or area, though neither income nor the development index in those municipalities tends to be better than Brazil as a whole. In contrast, municipalities in the Central Corridor tend to be worse off than Brazil as a whole for nearly all poverty indicators. Although Table 1 does not include statistics for the Northeast Corridor because only two municipalities have a CEPF presence, Figures 2, 3, and 4 indicate that this portion of Brazil tends to contain high levels of poverty compared to the entire country.

Table 1. Selected poverty indicators for municipios containing CEPF sites or project areas in the three Atlantic Forest conservation corridors, compared to national averages, 2000 (Data source: Atlas do Desenvolvimento Humano no Brasil (IDH-M) 1991-2000, http://www.fjp.gov.br/produtos/cees/idh/atlas_idh.php)

		Percent Municipios Worse than National Average	
Indicator	National Average	Serra do Mar Corridor	Central Corridor
Pop. below poverty level	32.8 [a]	32.8	98.8
Income	297.2 [b]	80.4	97.6
Life expectancy	68.6 [c]	28.0	61.4
Infant mortality	30.6 [d]	7.4	59.0
Development index	0.7 [e]	66.7	48.2
Households with electricity	93.5 [a]	11.1	38.0
Households with plumbing	80.1 [a]	3.7	42.8
Pop. in subnormal housing	21.1 [a]	5.8	97.6

a: Percent
b: Riais per capita per year
c: Years
d: Deaths in the first year of life per 1,000 live births.
e: Composite index based on measures of longevity, education, and income

Individual Project Level

To examine how CEPF projects contribute to poverty reduction, CEPF grantees were surveyed to gather data for the Atlantic Forest project portfolio. To date, surveys have had an excellent response rate: 78% of the 27 region-specific projects in the portfolio have responded (Table 2). There are some complexities to the Atlantic Forest portfolio that deserve comment, however. Due to the way in which the Atlantic Forest portfolio was designed, particularly to include funding to small grants programs, some of the data collected at the project grantee level does not reflect the full scope of involvement with local communities made possible through CEPF funding. The CEPF portfolio supports four small grants programs that fund other non-governmental organizations (NGOs) in the Central and Serra do Mar corridors of the Atlantic Forest. Based on studies of other CEPF impacts, the projects under these small grants programs likely extend CEPF's socioeconomic impact, and in the case of the relatively poor Central Corridor likely contribute to poverty reduction.

A key finding of this study is that CEPF grantees report both direct and indirect contributions to poverty reduction. Direct contributions include job creation and training. Indirect contributions to poverty reduction include the creation or strengthening of local organizations. Several indirect contributions are difficult to summarize statistically. For example, the Instituto de Estudos Sócio-Ambientais do Sul da Bahia distributes small grants to local community groups used to create cooperatives for local organic farmers, and provide training and equipment for local forest fire brigades. Other indirect effects, such as indirect job creation or economic multiplier effects, were beyond the scope of this study.

Table 2. Summary from CEPF questionnaire responses, Atlantic Forest - Brazil Region

Indicator	Strategic Direction				
	Civil society landscape mgmt initiatives	Improve public PA mgmt through civil society efforts	Increase # of private PAs through civil society efforts	Creation of Action Fund for identification, mgmt of critical areas	Total
Number Projects Reporting[a]	14	4	1	2	21
CEPF Funding [b]	3,180,724	365,817	674,318	750,000	4,970,859
Workshops Offered	26	9	1	4	40
Jobs Created	139	34	35	6	214
Persons Trained	250	115	0	275	640
Organizations Created or Strengthened	64	7	5	33	109
Network or Alliance Organizations	43	24	0	63	130

a: Based on responses received for 21 out of 27 projects
b: US dollars

Given the complexity of rural poverty, there are no quick fixes to this widespread problem. However, a class of actions was viewed as "imperatives" in reducing poverty, as articulated in the World Bank's *World Development Report 2000/2001*. Three broad categories of imperatives for action were defined in this report. In November 2004 CEPF presented a paper to the Donor Council, *The Critical Ecosystem Partnership Fund and Poverty Reduction: An Overview* (http://www.cepf.net/ImageCache/cepf/content/pdfs/cepfandpovertyreduction_5foverview_2epdf/v1/cepfandpovertyreduction_5foverview.pdf), which discussed the issue of conservation and poverty reduction, and presented these imperatives for action as a framework for CEPF to measure its contribution to poverty reduction. The imperatives are summarized under the following headings: Building Income or Assets for the Poor, Facilitating Empowerment of the Poor, and Reducing Vulnerability and/or Enhancing Poor People's Security. Linking these imperatives more narrowly to biodiversity conservation and rural poverty brings to light particular areas where interventions are most significant and can be most effective.

The three imperatives in reducing poverty shaped the development of the questionnaire and the categories by which the data obtained from individual CEPF grantees is presented and analyzed. Selected results from the questionnaires are presented below.

Building Income or Assets for the Poor

Rural poverty differs substantially from urban poverty, with the face of rural poverty often varying within a country, such as Brazil. Researchers studying rural poverty and the environment have categorized the assets that the poor have or use (T. Reardon, S. Vosti, *World Development* 23:1495-1506), including:

- management of biological and natural resource assets;
- improved human resource assets;
- conditions for secure management: household or community;
- conditions for secure management: civil society.

Although many poor possess or have access to different kinds of assets, in many cases biological and natural resource assets are the foundation for their survival. Strong support of environmental stewardship is therefore an essential component of poverty reduction, particularly within the rural context. Geographic targeting within ecosystems can be of particular importance in supporting the management of the biological and natural resources upon which the rural poor rely.

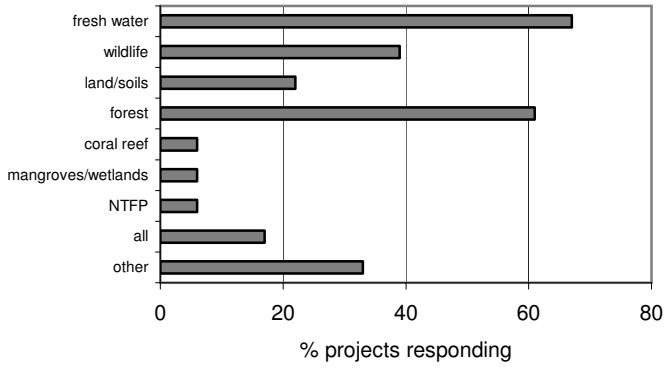
Actions that support human resource assets have a clear connection to poverty reduction. This includes a wide category of investment, though actions that contribute to education or livelihood options (such as job creation and ecotourism) particularly help promote opportunities for the rural poor. Conservation actions also can be linked to creating the conditions for management capacity, both for households and at broader civil scales. These actions also help to safeguard and support the asset base of the poor.

In the Atlantic Forest portfolio, project support to improve resource management mainly focused on freshwater, forest, land/soil, and wildlife conservation (Figure 5a). CEPF projects also supported the management of non-timber forest products (NTFPs), mangroves and wetlands, coral reefs, and combinations of resources. Projects used a variety of methods to engage communities in resource management, with an emphasis on community education about the consequences of wise and unwise management, zoning, and technical assistance (Figure 5b). Management of natural and biological resources is extremely important for poor rural communities that depend on the products of healthy ecosystems for much of their food, fuel, clothing, medicine, and shelter.

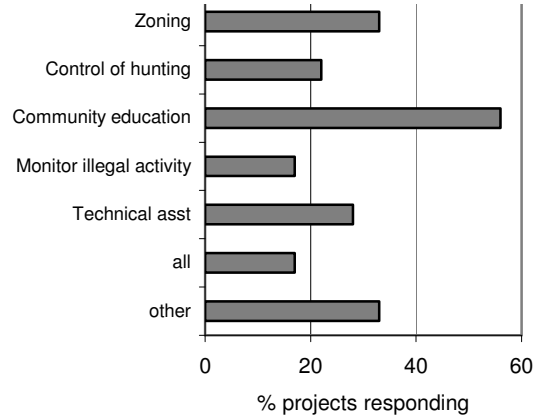
The overwhelming focus of most grantees in this portfolio is on strengthening civil society organizations. Similar to the Southern Mesoamerica analysis, grantees work with local community organizations or promote multi-actor networks that assemble different stakeholders, supporting activities that improve resource management (Figure 5c). CEPF projects have provided training in management and finance planning, along with direct support to help these groups become successful and independent. This is particularly relevant when considering the four small grants programs within this portfolio and the ripple effect created through CEPF's support: local groups and grantees of the small grants programs with the capacity for sound resource, project, and financial management can apply these skills to actions supporting poverty reduction.

Figure 5. CEPF projects and the management of natural and biological resource assets

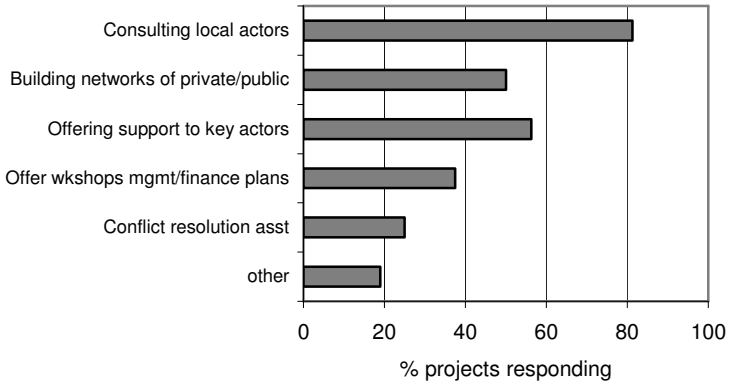
(a) Natural/biological resource focus of CEPF projects



(b) Principle method used for community engagement



(c) Ways projects aid civil society or build alliances



Finally, CEPF projects contributed to secure management at both the household and community levels by creating or strengthening more than 100 local organizations and building alliances between these organizations and 130 other institutions. Of the four CEPF strategic directions, the one most actively creating or strengthening local organizations was Strategic Direction 1: Stimulate landscape management initiatives led by civil society in Central and Serra do Mar corridors, reporting work with 64 organizations; followed by Strategic Direction 4: Create an Action Fund to improve civil society identification and management of critical areas of habitat , which led the number of networks or alliances built or strengthened. All of these efforts to create or strengthen local organizations and networks help empower local rural communities by increasing the information flowing to them and their capacity to respond to markets, government, projects, the legal system, or other sources of change. Effective local institutions have been shown to use such capabilities to help reduce poverty in the communities where they work.

Facilitating Empowerment of the Poor

The CEPF approach is particularly suited to empowering the poor. Many CEPF investments directly support civil society efforts to help communities and local people participate in and benefit from conservation efforts.

The questionnaire collected data on the categories of poor people engaged by CEPF projects. Unfortunately, relatively few projects were able to quantify the types of local residents engaged. This low response was in part due to the large number of projects uncompleted at the time of survey, leaving respondents reluctant to quantify the people with whom they work. Five of the projects responding quantified their engagement with poor residents of the Atlantic Forest, with three of these identifying small landholders. Three projects that responded fund small grants programs, extending CEPF's reach well beyond current means of measurement, to all the programs assisted by these small grants. Given the socioeconomic conditions of the two northern corridors, any local engagement likely would involve poor people.

Given the number of small grants programs that CEPF funds in all hotspots, the goal is to improve the questionnaire and measurement process in the future, to more accurately reflect the impact beyond CEPF's immediate grantees.

Reducing Vulnerability and/or Enhancing Poor People's Security

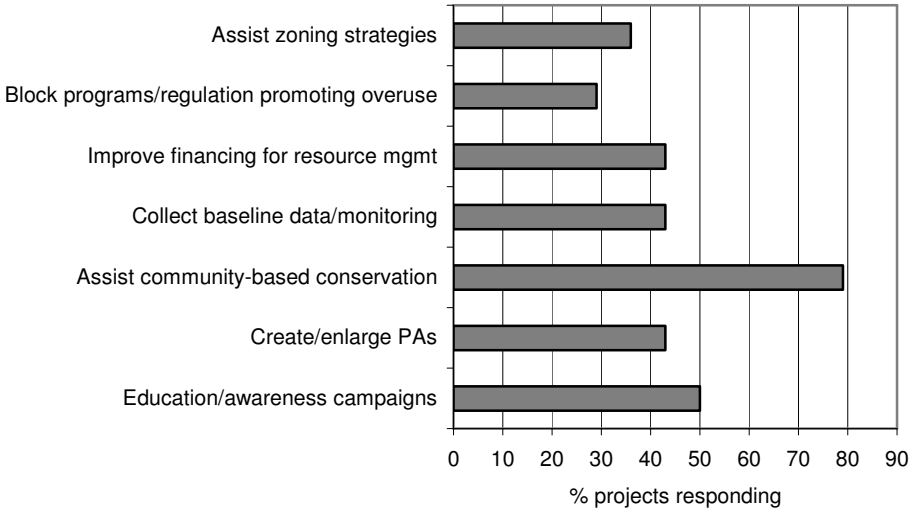
The ecosystems in the CEPF regions are highly vulnerable because the demands placed on them are higher than what they can support. Although affluence in developed countries has freed people from direct dependence on local ecosystem services and buffered them from the consequences of ecological change, the rural poor have no buffers or substitutes. The poor and most marginal are vulnerable to three kinds of changes: depletion, degradation, and shocks or natural disasters. Depletion occurs when the resources the poor depend upon go extinct or give out, which can happen from natural causes such as disease, or human-induced causes such as overharvesting. Degradation affects the rural poor when the quality of the resources they depend upon are seriously affected so that they no longer perform their ecosystem function or support human welfare. Shocks or disasters particularly affect the poor, and occur when ecological conditions drastically change, often linked to weather.

The questionnaire obtained information on reducing resource depletion, resource degradation, and effects of shocks and disasters. All respondents reported that their projects addressed resource depletion. The primary means of achieving this goal was through community-based conservation, though many also addressed resource depletion through educational and awareness campaigns, improved financing for resource management, and creating or enlarging protected areas (Figure 7a).

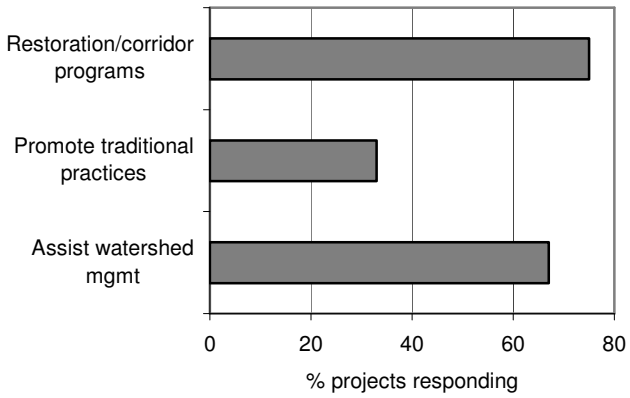
Given the large amount of habitat conversion that characterizes the Atlantic Forest, it is not surprising that the most common method of reducing resource degradation was through restoration and corridor management programs (Figure 7b). Projects also sought to reduce resource degradation by improving watershed management and promoting traditional land use practices. Once again, actions that improve local resource management are vital to the poor, as these resources often are essential to the survival of rural people with limited means.

Figure 7. CEPF projects and reducing vulnerability

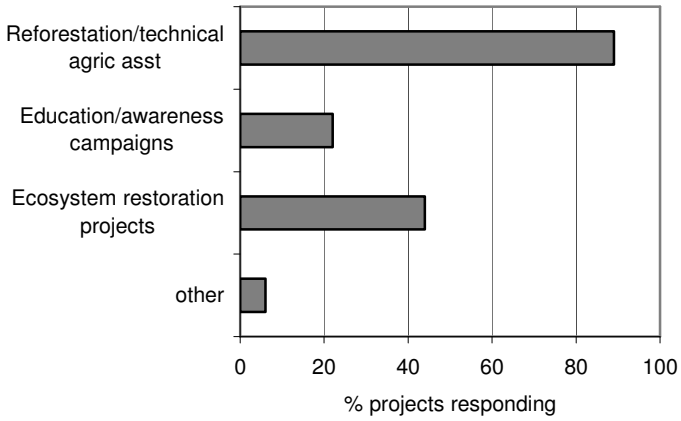
(a) Methods used to reduce resource depletion



(b) Methods used to reduce resource degradation



(c) Methods used to reduce vulnerability to shocks and natural disasters



Several CEPF grantees reported that their projects helped to reduce community vulnerability to shocks and natural disasters. Projects reduced vulnerability through technical assistance in reforestation and agriculture, thereby creating (or conserving) habitat that reduces the impacts of large storms and other severe events (Figure 7c). Nearly half the projects reporting also used ecosystem restoration to reduce vulnerablility to shocks and disasters. Such measures are important in areas where the challenge of meeting basic human needs can lead people towards activities that increase their vulnerability to severe events—such as broad deforestation that increases susceptibility to impacts from storms—and where other types of protection from shocks and disasters, and assistance following such events, are unavailable.

Conclusion

Available socioeconomic data indicate that CEPF-supported projects in the Atlantic Forest often occur in areas of rural poverty in Brazil, especially in the Central Corridor. CEPF projects directly and indirectly contribute to poverty reduction and improve human conditions in these regions while achieving their primary objective of biodiversity conservation. Direct impacts include creating jobs and providing training to local peoples. Indirect impacts include creating local organizations, strengthening civil societies, and other activities that maintain and restore the ecosystems on which many poor people in eastern Brazil rely. Of particular note is the emphasis of the CEPF Atlantic Forest portfolio on civil society, with four small grants projects enabling local NGOs to pass funds to other local organizations. Ultimately, the analysis presented in this report, and data and analyses for other regions, will enable CEPF to report against standard indicators on its contribution to poverty reduction.

- November 2005