

**CEPF and Poverty Reduction:
A Review of the CEPF Sundaland Portfolio**

December 2006

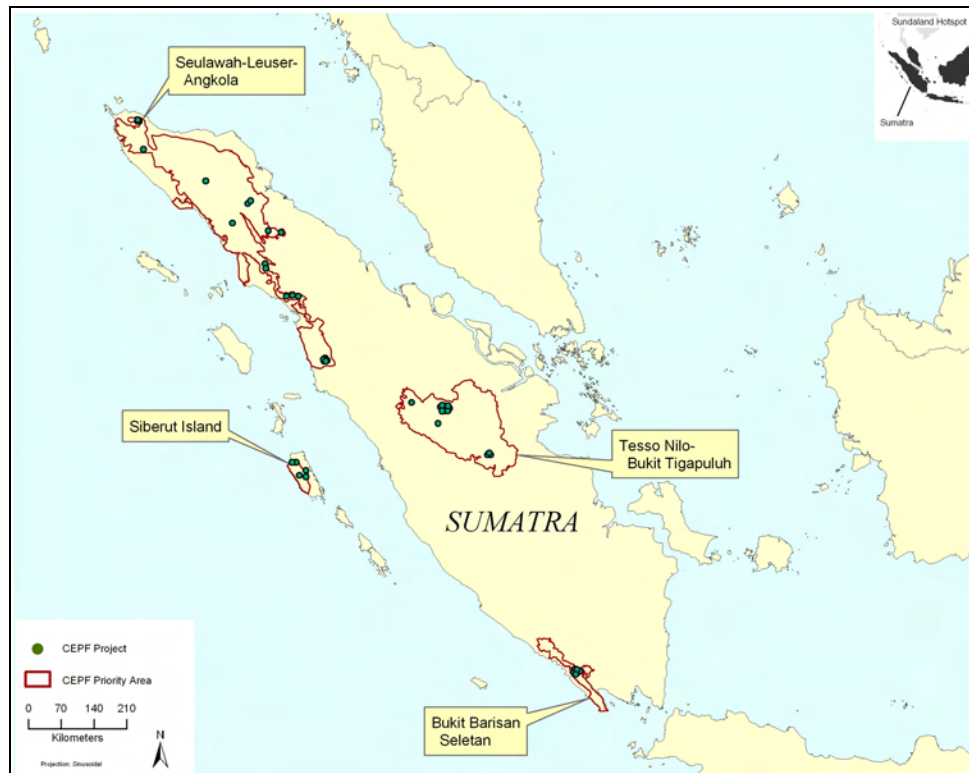
The benefits from intact habitats and healthy ecosystems extend well beyond biodiversity. This report is part of an ongoing effort by the Critical Ecosystem Partnership Fund (CEPF) to analyze the relationship between the projects it supports and poverty reduction.

This analysis includes a socioeconomic study across the CEPF geographic funding area and a project- and portfolio-specific study performed through administering questionnaires to grantees. The socioeconomic information provides 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 agreed upon by the CEPF donor partners. In addition, this report incorporates narrative examples of how CEPF-supported conservation projects contribute to poverty reduction.

The project-level information is presented in a standard format agreed upon with the CEPF donor partners that is then globally aggregated as a part of the regular quarterly reporting to the partners. This approach has so far been completed in ten regions: Atlantic Forest, Cape Floristic Region, Guinean Forests of West Africa, Madagascar and Indian Ocean Islands, Philippines, Southern Mesoamerica, Succulent Karoo, Sundaland, Tropical Andes, and Tumbes-Chocó-Magdalena. The following report presents the results from the Sundaland biodiversity hotspot, emphasizing the four biodiversity conservation corridors comprising forested ecosystems on the island of Sumatra.

CEPF designed conservation investments in Sumatra to address a biodiversity emergency—namely the prediction in 2001 that by 2005 Sumatra’s lowland forest would be gone. CEPF embarked on a strategy to channel investments, focusing on four geographic areas selected on the basis of their remaining plant and animal diversity: Tesso Nilo/Bukit Tigapuluh (central Sumatra), Bukit Barisan Seletan National Park (southern tip of Sumatra), Seulawah-Leuser-Angkola (lying in the two northernmost provinces of Sumatra), and Siberut Island (in the Mentawai chain off western Sumatra) (Figure 1). The emphasis of CEPF funding in these priority corridors is to focus on projects that aim to conserve forest through enhancing local stewardship of remaining forests and building alliances among conservation-minded individuals.

Figure 1. Map of CEPF Priority Areas in Sumatra within the Sundaland Hotspot



Data from various complementary sources were used for the analyses presented in this report. For the entire region and each corridor, we compiled and examined available socioeconomic data from Indonesia in general and Sumatra in particular. For individual projects, we collected and analyzed data from CEPF grantees. This report summarizes the data analysis at a regional scale, at a corridor scale, and for individual projects.

Initiative-Wide (Regional) Level

The Sundaland Hotspot occurs in Indonesia, a densely populated island nation in Southeast Asia. Indonesia is one of the poorest in Southeast Asia, a claim borne out by standard development indicators such as the Human Development Index and the Human Poverty Index (Table 1). These indicators reveal slightly mixed results in terms of the level of national poverty. For instance, the Human Poverty Index rank does not indicate human conditions in Indonesia that are as bad as those depicted by the Human Development Index. Although less than 8 percent of the population lives on \$1 per day, more than 52 percent lives on \$2 per day.

Table 1. National development and poverty levels for Indonesia

| <i>Indonesia</i> | |
|---|--------------|
| Human Development Index: value (rank ^a) | 0.697 (#110) |
| Human Poverty Index: value (rank ^a) | 17.8 (#41) |
| % population living on less than \$2 per day ^b | 52.4 |
| % population living on less than \$1 per day ^b | 7.5 |

a: Rank among less developed countries globally, 2003

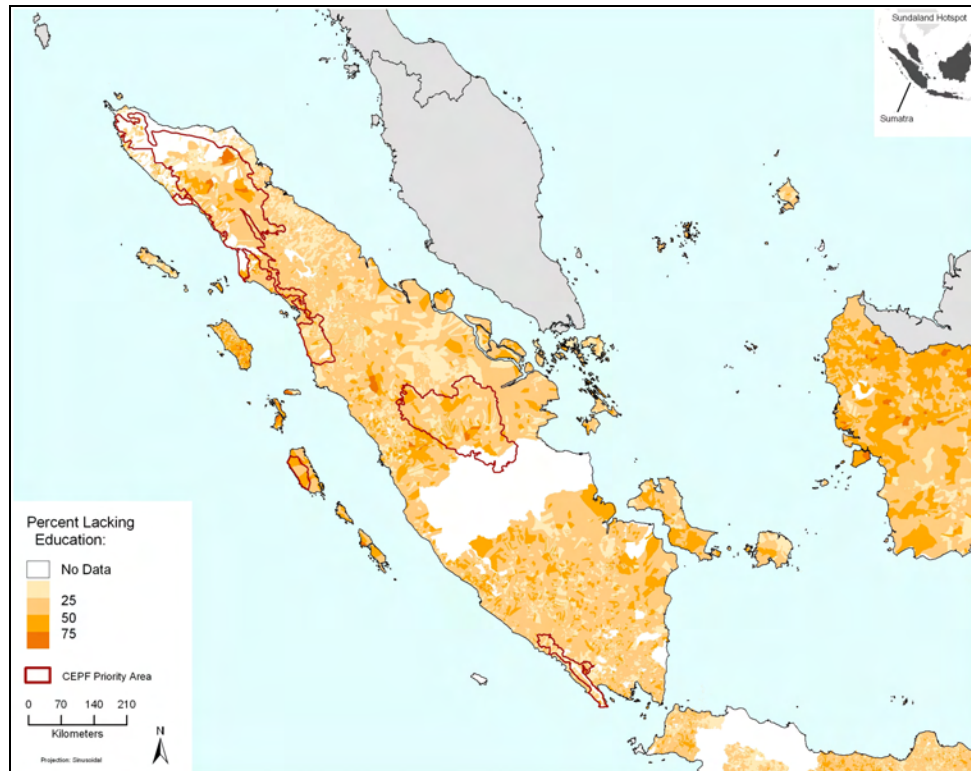
b: Average, 1990-2003

Source: United Nations Development Programme-Human Development Reports online: <http://www.undp.org/reports/>

Corridor Level

To explore the socioeconomic context of CEPF priority corridors in the Sundaland Hotspot, this study examined measures of poverty available for Indonesia. We considered three different poverty indicators—lack of education, infant mortality, and underweight children—and present each in map form to enable a comparison between the corridor areas and surrounding parts of Sumatra. A map of percent of population in small geographic units called *sub-districts* indicates relatively high proportions of the population lacking education in 2000 throughout Sumatra (Figure 2). Certain sub-districts in the corridors show particularly high percentages of population with no formal education, particularly in Seulawah-Leuser-Angkola and on Siberut Island.

Figure 2. Percentage of Sub-district Population on Sumatra Lacking Education, 2000 (Data source: 2000 Census of Population and Housing, Statistics Indonesia, <http://www.bps.go.id>)



In contrast, mapping infant mortality rate in 2000 (defined as the number of deaths in the first year of life per 1,000 live births) indicates slightly better conditions within the priority corridors than elsewhere on Sumatra (and neighboring parts of Indonesia) (Figure 3). Although once again there are localities within corridors that indicate poor conditions, as revealed by higher infant mortality, these are relatively few and most of the corridors feature an infant mortality rate of 10 or less. Finally, mapping the percentage of children aged five years or less who are underweight shows a geographic pattern generally similar to that found in the map showing lack of education (Figure 4). Throughout much of Sumatra, 24 percent or more of children were underweight in 2000. With respect to this measure of human well-being, a few locations with lower percentages of children underweight occur in the corridors and beyond, but no clear geographic tendencies are evident. It is worth noting, however, that higher percentages of children underweight tend to occur on Sumatra (and on neighboring Java, to the southeast) than elsewhere in Indonesia, suggesting worse human conditions than elsewhere in that country.

Figure 3. Infant Mortality Rate Sumatra, 2000 (Data source: http://www.ciesin.columbia.edu/povmap/ds_global.htm)

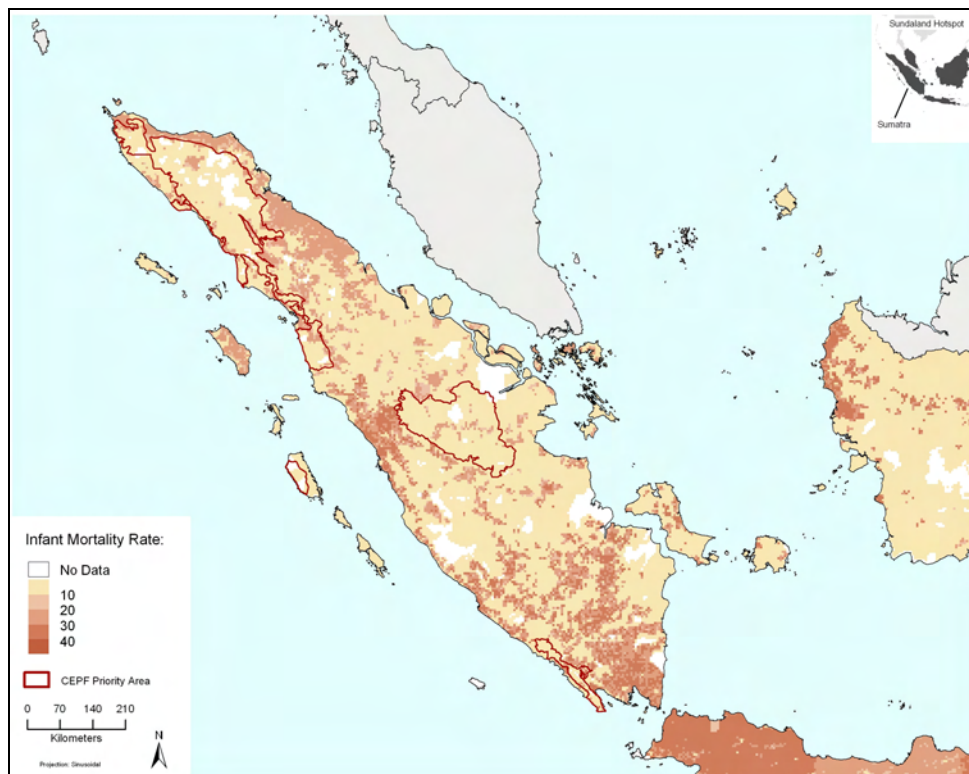
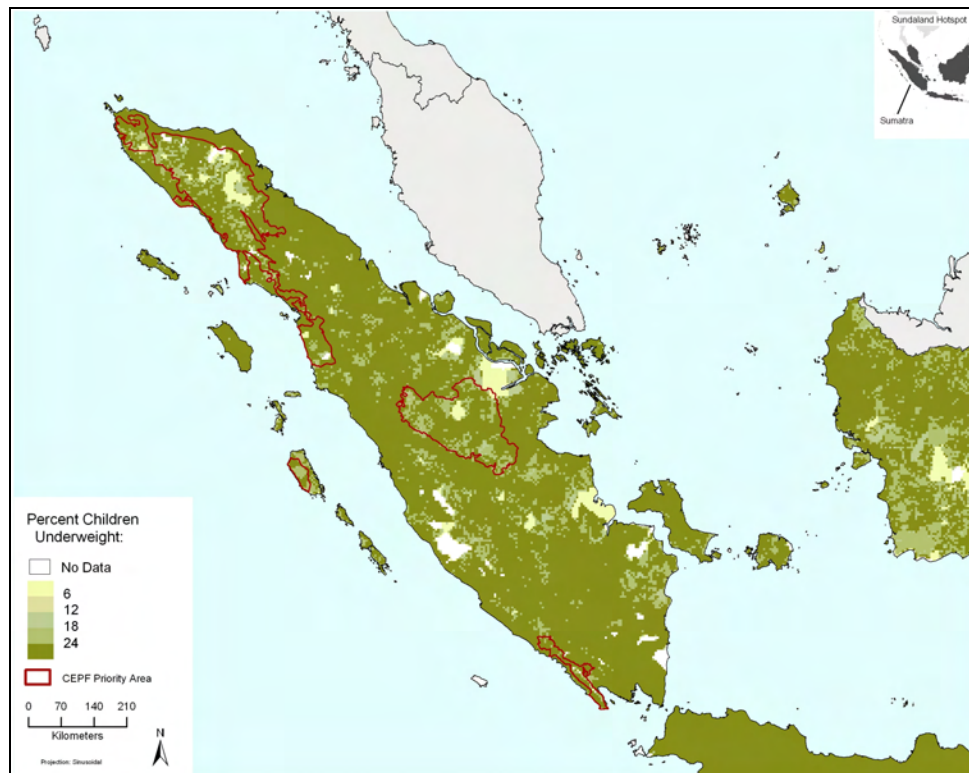


Figure 4. Percent of Children Aged 5 Years and Less Underweight, Sumatra, 2000 (Data source: http://www.ciesin.columbia.edu/povmap/ds_global.htm)



To place the analysis of socioeconomic variables in context, we calculated figures for the priority corridors to compare with reference values. Table 2 presents the results of this analysis for individuals lacking education, comparing percent of population lacking education in the sub-districts partially or completely within corridors to the national average (28 percent). Results indicated that all sub-districts in priority areas contained larger proportions of their population without formal education than the national mean. For the other two poverty indicators considered, we calculated a value for each conservation priority area (Table 3). Although none of these values are worse than the Indonesian national average, with more than one-fourth of the children living in the priority conservation areas underweight in 2000, considerable poverty appears to be present.

Table 2. Percent of Population Lacking Education Partially or Completely within Priority Areas, Compared to Indonesian National Average: 2000 (based on data from 2000 Census of Population and Housing, Statistics Indonesia, <http://www.bps.go.id>)

| Conservation Priority Area | Total Sub-Districts | Worse than National Average |
|----------------------------|---------------------|-----------------------------|
| Bukit Barisan Seletan | 163 ^a | 58.3% |
| Seulawah-Leuser-Angkota | 1,529 ^b | 58.9% |
| Siberut Island | 10 | 100% |
| Tesso Nilo-Bukit Tigapuluh | 535 ^c | 69.9% |
| All Corridors | 2,237 | 61.7% |

a: Excludes four sub-districts for which no data were available

b: Excludes 888 sub-districts for which no data were available

c: Excludes 36 sub-districts for which no data were available

Table 3. Infant Mortality Rate and Percent of Children Under Weight by Conservation Priority Area: 2000
(Based on data from http://www.ciesin.columbia.edu/povmap/ds_global.htm)

| Conservation Priority Area | Infant Mortality Rate | Percent of Children Under Weight |
|----------------------------|-----------------------|----------------------------------|
| Bukit Barisan Seletan | 12.5 | 26.0 |
| Seulawah-Leuser-Angkota | 14.6 | 26.0 |
| Siberut Island | 12.5 | 22.8 |
| Tesso Nilo-Bukit Tigapuluh | 8.6 | 25.8 |
| All Priority Areas | 12.8 | 25.9 |

Individual Project Level

To examine how CEPF projects contribute to poverty reduction in Sundaland, we surveyed CEPF grantees to gather project level data. To date, 19 percent of the 67 region-specific projects in the portfolio have completed questionnaires (Table 4). The data in the table below represent the information collected from the 13 projects that responded to the questionnaire.

Table 4. Summary from CEPF questionnaire responses, Sundaland

| Indicator | Strategic Direction ^a | | | | Total |
|--|----------------------------------|-----------|--------|---------|-----------|
| | 1 | 2 | 3 | 4 | |
| No. Projects Reporting | 5 | 5 | 1 | 1 | 13 |
| CEPF Funding ^b | 246,598 | 1,992,952 | 15,000 | 300,000 | 2,554,550 |
| No. Projects Offering Training Workshops | | | | | |
| Offered | 1 | 4 | 0 | 0 | 5 |
| Jobs Created | 4 | 52 | 2 | 0 | 58 |
| Persons Trained | 16 | 203 | 0 | 0 | 219 |
| Organizations Created or Strengthened | 120 | 455 | 0 | 0 | 575 |
| Network or Alliance Organizations | 26 | 10 | 0 | 0 | 36 |
| Organizations | 37 | 107 | 10 | 0 | 154 |

a: Strategic directions the Sundaland Hotspot:

1. Enhance resource stewardship
2. Empower civil society to organize
3. Alliance building, NGOs and private sector
4. Impact assessment of interventions

b: US dollars

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. Other indirect effects, such as indirect job creation or economic multiplier effects, were beyond the scope of this study.

We used the three-heading framework on the links between biodiversity conservation and poverty reduction, presented to the 7th Meeting of the Donor Council in November 2004, as the basis for information-gathering from individual projects. Selected results of analyzing the questionnaire data appear below under those same headings: Building Income or Assets for the Poor, Facilitating Empowerment of the Poor, and Reducing Vulnerability and/or Enhancing Poor People's Security.

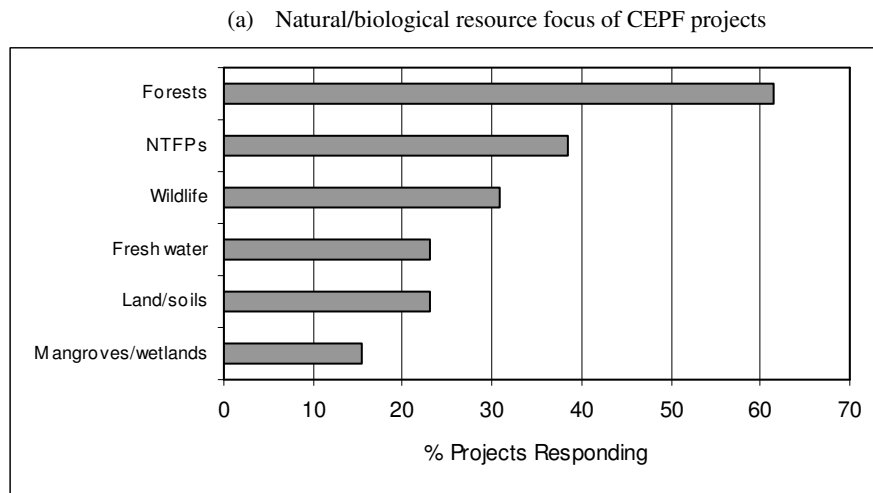
Building Income or Assets for the Poor

To obtain information from CEPF projects on building income or assets for the poor, the questionnaire focused on the following issues:

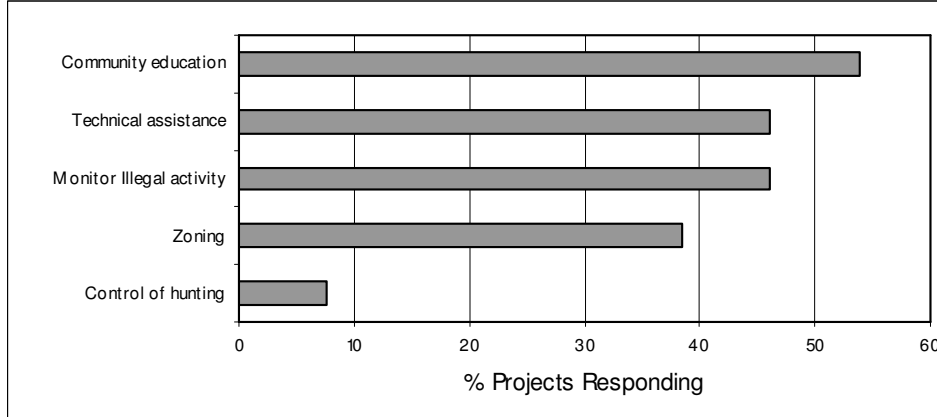
- biological and natural resource assets;
- human resource assets;
- conditions for secure management: household or community; and
- conditions for secure management: civil society.

In the Sundaland portfolio, project support to improve resource management focused most frequently on forests and wildlife, with more than 60 percent of the projects responding identifying this resource as a target of their activities (Figure 5a). Other resources received the attention of far fewer projects, the second most frequently found (nontimber forest products, or NTFPs) involving slightly more than 40 percent of the responding projects. These emphases are consistent with the overall CEPF focus for Sumatra on the conservation of forest. 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, and on technical assistance to promote sustainable development for improved conservation and resource management (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. CEPF projects in the Sundaland Hotspot focused on forests and forest-related topics, emphasizing education and technical assistance to help improve management of these resources.

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

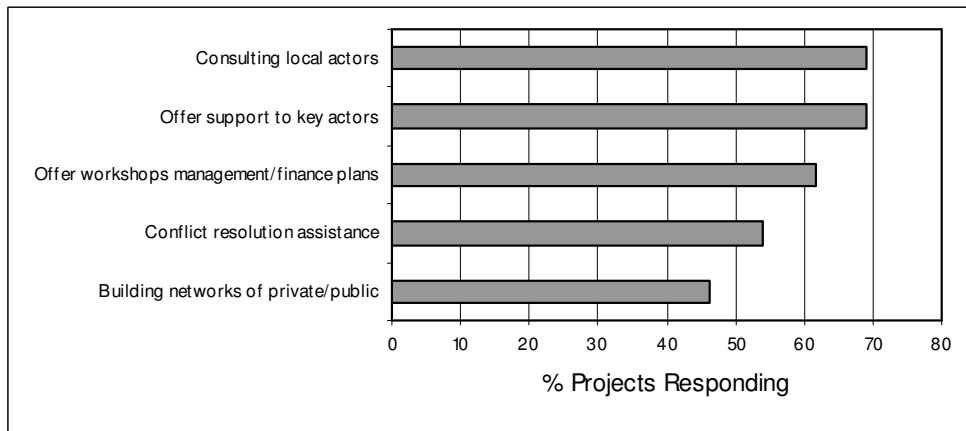


(b) Principle method used for community engagement



Many of CEPF’s investments for biodiversity conservation in Sundaland work through civil society—engaging key stakeholders and hosting workshops to build alliances among nongovernmental organizations. More than two-thirds of the projects responding worked through selected organizations on Sumatra, consulting key actors and supporting people and organizations important to conservation (Figure 5c). More than half the projects responding reported holding workshops and helping to resolve conflicts over land tenure and resource use. All of these steps support other organizations’ efforts to improve communication and coordination in biodiversity conservation, or promote multi-actor networks that assemble different stakeholders in activities that improve resource management.

(c) Ways projects aid civil society or build alliances



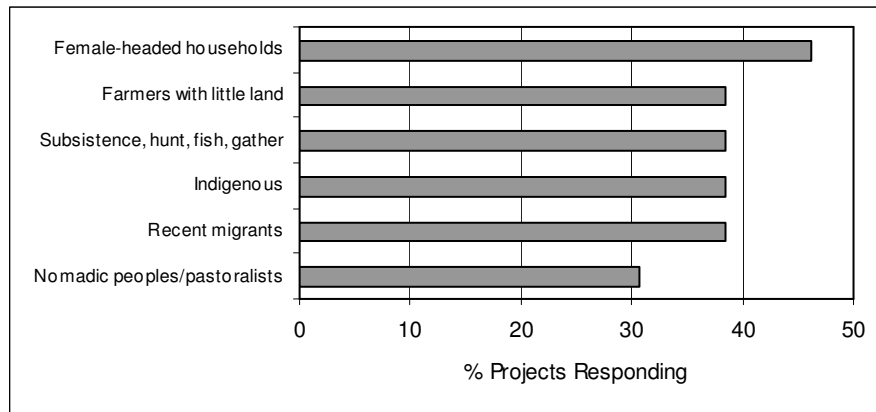
Finally, CEPF projects in the Sundaland Hotspot contributed to secure management at both the household and community levels. Questionnaire responses indicated the creation or strengthening of 36 local organizations and the building of alliances between these organizations and 154 other institutions. 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.

One project funded by CEPF that strengthened existing institutions, improved management of natural resources, and helped local communities through providing jobs and training is an effort managed by Yayasan Rumpun Bambu Indonesia (YRBI) in the Sumatran province of Aceh. YRBI is piloting a sustainable forest management system using traditional Islamic practices of land tenure. That organization worked with local community leaders to map communally owned land and draw up regulations that address not only forest management issues but also other natural resource concerns such as water access, grazing, and fishing rights. Three small communities have taken up the scheme promoted by the YRBI project, extending it across 12,000 hectares and helping local citizens protect their natural resources from the very strong demand for timber as the area recovers from the 2004 tsunami. YRBI is working with local government officials to extend the scheme over the whole province of Aceh and has also helped establish an agroforestry business that so far employs 50 people.

Facilitating Empowerment of the Poor

CEPF investments in biodiversity conservation often help empower the poor, and many of these are associated with specific categories of people often lacking income and access to resources. The questionnaire collected data on certain types of poor people engaged by CEPF projects. Results indicate that no single group dominated the attention of CEPF grantees (Figure 6). Female-headed households, farmers with limited land, subsistence practitioners, indigenous peoples, and recent migrants all were involved in CEPF projects, though no group was listed by more than half the questionnaire respondents.

Figure 6. Categories of poor families engaged by CEPF-funded projects in the Sundaland Hotspot



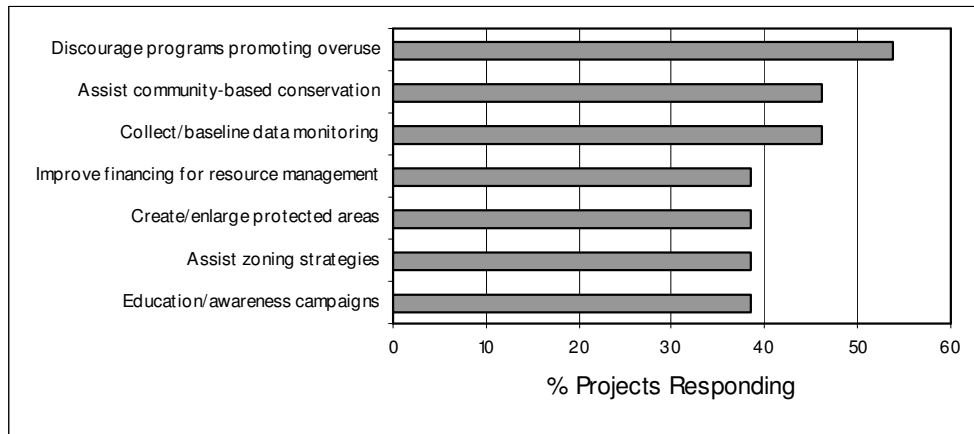
One project funded by CEPF in the Sundaland Hotspot that worked with indigenous people to reduce the depletion and degradation of natural resources was implemented in central Sumatra by the Alam Sumatera Foundation. The foundation worked with local communities and representatives from the Talang Mamak, a forest-dwelling indigenous people, to persuade the Indragiri Hulu district chief to withdraw potential logging permits in the northwest of Bukit Tigapuluh National Park. The area in question connects the national park with two other protected forests, covering more than 20,000 hectares of undisturbed lowland rain forest on whose natural resources the Talang Mamak rely for food, medicine, and construction. The foundation helped provide the community with an understanding of industrial timber plantations and their environmental impact by arranging study visits to nearby areas, where large-scale industrial timber operations are already well established. The district chief also suspended operations of an oil palm plantation company reportedly encroaching on Talang Mamak lands and declared that permits of other companies with land development plans affecting the Bukit Tigapuluh National Park buffer zone would be reviewed. He has since cancelled two other tentative permits to log 26,500 hectares. The foundation is now helping to promote the right of the Talang Mamak to participate fully in managing their forests and lands.

Reducing Vulnerability and/or Enhancing Poor People’s Security

The questionnaire administered to CEPF grantees obtained information on reducing resource depletion, resource degradation, and effects of shocks and disasters. More than half of the respondents reported that their projects worked towards discouraging overuse of resources, while nearly half of the respondents cited their activities in assisting community-based conservation and in promoting baseline data collection and monitoring of resource use (Figure 7a).

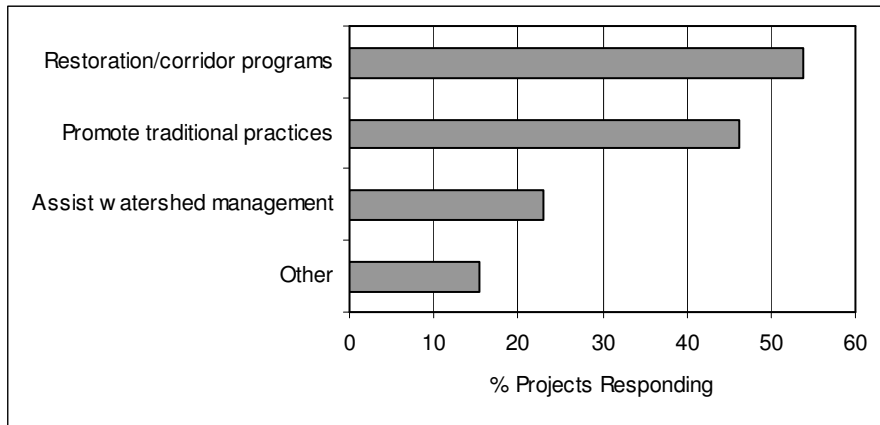
Figure 7. CEPF projects and reducing vulnerability in the Sundaland Hotspot

(a) Methods used to reduce resource depletion



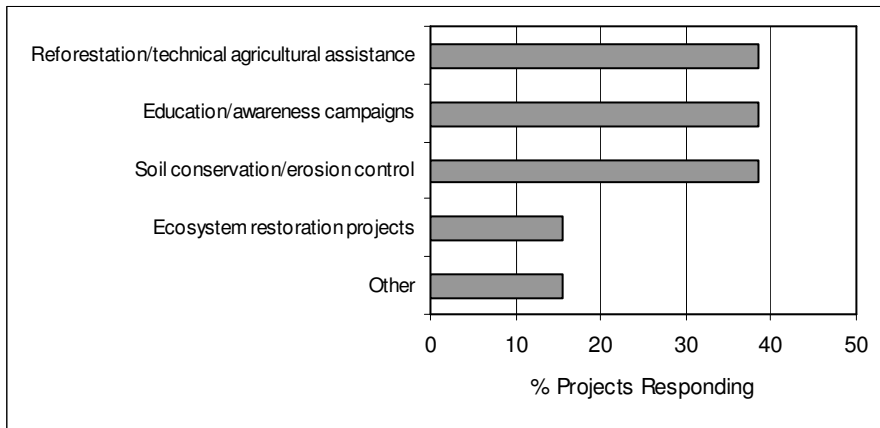
The most common method cited by CEPF grantees in Sundaland to reduce resource degradation was through implementing restoration and corridor programs, followed closely by promoting traditional practices (Figure 7b). These activities not only support better resource management in some of the most challenging conservation settings on Sumatra, namely the corridors between protected areas where land use is constrained by the presence of those protected areas. Actions that improve local resource management are vital to the poor, as maintaining the quality of these resources is essential to the survival of rural people with limited means. The focus on habitat restoration is particularly important in a setting such as Sumatra, where so much forest has been lost in recent years to commercial logging.

(b) Methods used to reduce resource degradation



Several CEPF grantees on Sumatra reported that their projects helped to reduce community vulnerability to shocks and natural disasters, but no approach was particularly dominant. Equal numbers of projects noted involvement in reforestation and technical agricultural assistance, education and awareness on the importance of maintaining habitat, and soil conservation and erosion control (Figure 7c). Again, the importance of projects associated with forests and forest conservation fit well on Sumatra, both for maintaining the key habitat type on the island and for the role that forests play in helping to buffer local peoples from shocks and natural disasters. Such measures are important in areas where the challenge of meeting basic human needs can lead people toward activities that increase their vulnerability to severe events, and where other types of protection from shocks and disasters, and assistance following such events, are unavailable.

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



With assistance from CEPF, the Sumatran organization Perkumpulan Uma Mentawai (PERUM) helped reduce the depletion and degradation of natural resources on Sumatra, notably forest. Through providing additional training to local rattan farmers on the island of Siberut, PERUM helped conserve 15,000 hectares of forest in its natural state. Moreover, the project helped to improve the business practices of Siberut rattan farmers, providing them with more stable livelihoods and an improved basis for continued conservation. As a direct result of PERUM's project, the farmers formed a new cooperative to sell their produce straight to wholesalers on the Sumatran mainland, minimizing their exposure to corrupt middlemen and significantly reducing transportation costs. PERUM worked with three communities in the north of the island, raising awareness of the importance of conservation for the long-term economic health of local communities and carrying out a study to determine the most appropriate species of rattan and areas for their cultivation. Best commercial and financial practices were also studied and discussed to ensure their future use. Working with local partners, PERUM ultimately managed to gain support from the local government to establish zoning around each village that allows for crop cultivation as well as strict conservation areas.

Conclusion

Available socioeconomic data indicate that CEPF-supported projects in the Sundaland Hotspot, focusing on four priority areas on the island of Sumatra, occur in areas of considerable poverty. Although socioeconomic data do not indicate that human conditions in these priority areas are always worse than elsewhere in the country, they tend to indicate the presence of conditions often found among the poor. Within these areas, CEPF projects directly and indirectly contribute to poverty reduction in the process of pursuing their primary objective of biodiversity conservation. Projects involve a range of peoples who often have limited means, including female-headed households, farmers with limited land, subsistence practitioners, indigenous peoples, and recent migrants. CEPF investments generate direct impacts to reduce poverty, such as creating jobs and providing training to local peoples. Investments also yield indirect impacts, such as creating local organizations, strengthening civil society, and other activities that maintain and restore the ecosystems upon which many poor people in the corridor rely. Together, CEPF investments contribute to the conservation of habitat, particularly forests, and the biological diversity it supports, in the process contributing to poverty reduction and improvement of the human condition.