

**CEPF and Poverty Reduction:
A Review of the CEPF Portfolio in the Mountains of Southwest China Hotspot**

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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.

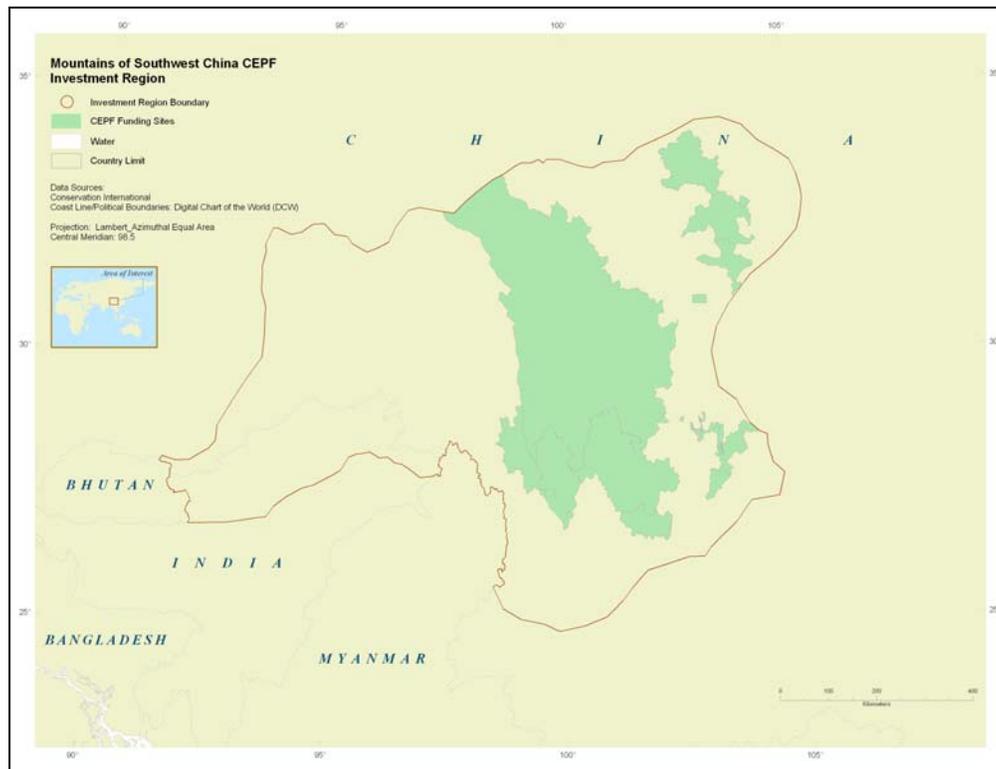
This analysis includes a socioeconomic study across the CEPF geographic funding area and a project- and portfolio-specific study performed through administering questionnaires to grantees. The socioeconomic information provides CEPF with more detailed information about the priority areas where it invests, and can be layered with existing biodiversity data to present a more comprehensive picture of these 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.

The approach has so far been completed in 13 regions: Atlantic Forest, Cape Floristic Region, Caucasus, Eastern Arc Mountains and Coastal Forests of Tanzania and Kenya, Guinean Forests of West Africa, Madagascar and Indian Ocean Islands, Mountains of Southwest China, Philippines, Southern Mesoamerica, Succulent Karoo, Sundaland, Tropical Andes, and Tumbes-Chocó-Magdalena. The following report presents the results from a study of the Mountains of Southwest China biodiversity hotspot.

The Mountains of Southwest China Hotspot occurs primarily in southwestern China, with small portions of the region extending into India and Myanmar. The orientation of CEPF investments in the hotspot are based on results of a process headed by the Provincial Planning Committee of Sichuan Province, The Nature Conservancy, World Wide Fund for Nature, and Conservation International to assess conservation needs of the Upper Yangtze region. An additional 87 individuals from 34 central and regional government agencies, county-level officials, nature reserve staff, local business, university environmental groups, local communities, local and international nongovernmental organizations, bilateral and multilateral aid agencies, and other conservation experts participated in this process. CEPF's strategic investments in the Mountains of Southwest China Hotspot focus on complementing efforts of the Chinese government to protect and restore forest—emphasizing the development of civil society and its ability to implement small, local projects and helping to develop leaders who will integrate biodiversity conservation with development projects. This investment strategy takes the form of projects in the central and northeastern portion of the funding region, with all of these projects occurring within China (Figure 1).

Figure 1. Map of Key Conservation Areas for CEPF Investments in the Mountains of Southwest China Hotspot



Data from various, complementary sources were used for the analyses presented in this report. For the entire region and each priority area, we compiled and examined available socioeconomic data from China; we did not include India and Myanmar as CEPF investments in the funding region do not occur in either of these countries. For individual projects, we collected and analyzed data from CEPF grant recipients. This report summarizes the data analysis at a regional scale, at a corridor scale, and for individual projects.

Regional Level

The conservation challenges in the Mountains of Southwest China Hotspot are due in part to the large human population in China and the environmental impacts that have accompanied it, and in part to the rapid development that has occurred in China over the past two decades. The recent economic development in China has helped to improve human conditions in this nation. Standard measures of socioeconomic conditions such as the Human Development Index and the Poverty Index indicate moderate levels of poverty (Table 1). In 2003 roughly one in seven Chinese survived on less than \$1 per day, with nearly 47 percent living on less than \$2 per day. As shown in the next section, geographically poverty tends to be variably distributed, and the residents of the largely rural Mountains of Southwest China tend to be relatively poor.

Portfolio Level

To explore the socioeconomic context of CEPF priority areas in the Mountains of Southwest China, this study examined a variety of poverty indicators. These indicators can be mapped for individual counties that occur within the hotspot, enabling one to examine the geographic distribution of different indicators at various levels.

Table 1. National Development and Poverty Levels for China

	<i>China</i>
Human Development Index: value (rank ^a)	0.755 (#85)
Human Poverty Index: value (rank ^a)	12.3 (#27)
% population living on less than \$2 per day ^b	46.7
% population living on less than \$1 per day ^b	16.6

a: Rank among less developed countries globally; values given are for 2003

b: Figures for 1990-2003

Source: United Nations Development Programme-Human Development

Reports online: <http://hdr.undp.org/statistics/data>

Mapping infant mortality for 2000 indicates relatively high levels of death among young people in parts of the funding region (Figure 2a). In the vast majority of the region, infant mortality is 20 or less, indicating that 2 percent of the infants born in 1999 died in 2000. However, in two counties infant mortality was 100 or greater, indicating that 10 percent or more of the infants born in 1999 died in the first year of life, and a relatively large portion of the region had infant mortality rates between 80 and 100 (8-10 percent dying in the first year of life). Mapping illiteracy, in contrast, indicates relatively low percentages of people living in the funding region in the year 2000 aged 15 years or more who cannot read (Figure 2b). Small pockets of higher illiteracy occur, such as along the border with India and Myanmar, but for most of the region literacy is well in excess of 95 percent. Areas of higher illiteracy rarely correspond to areas of higher infant mortality.

Mapping selected housing characteristics in the Mountains of Southwest China Hotspot provides a different view of poverty in this area. Probably in large part due to the rural nature of this part of China, most of the counties lying partially or completely in the funding region lack lavatories in 60 percent or more of the housing units (Figure 3a). Higher percentages of houses with no lavatory occur toward the western part of the region. Mapping housing units lacking access to tap water reveals a similar geographic pattern. Once again, likely due to its rural nature, this region largely consisted of counties where most housing lacked this basic amenity (Figure 3b). Higher percentages of houses lacking tap water tend to occur in the western and northern portions of the funding region, though low percentages occur throughout. A rough correspondence between limited presence of lavatories and tap water occurs.

Figure 2. Maps of (a) Infant Mortality Rate; and (b) Illiteracy in the Mountains of Southwest China Hotspot, 2000 (data source: University of Michigan China Data Center, www.chinadatacenter.org, 2004)

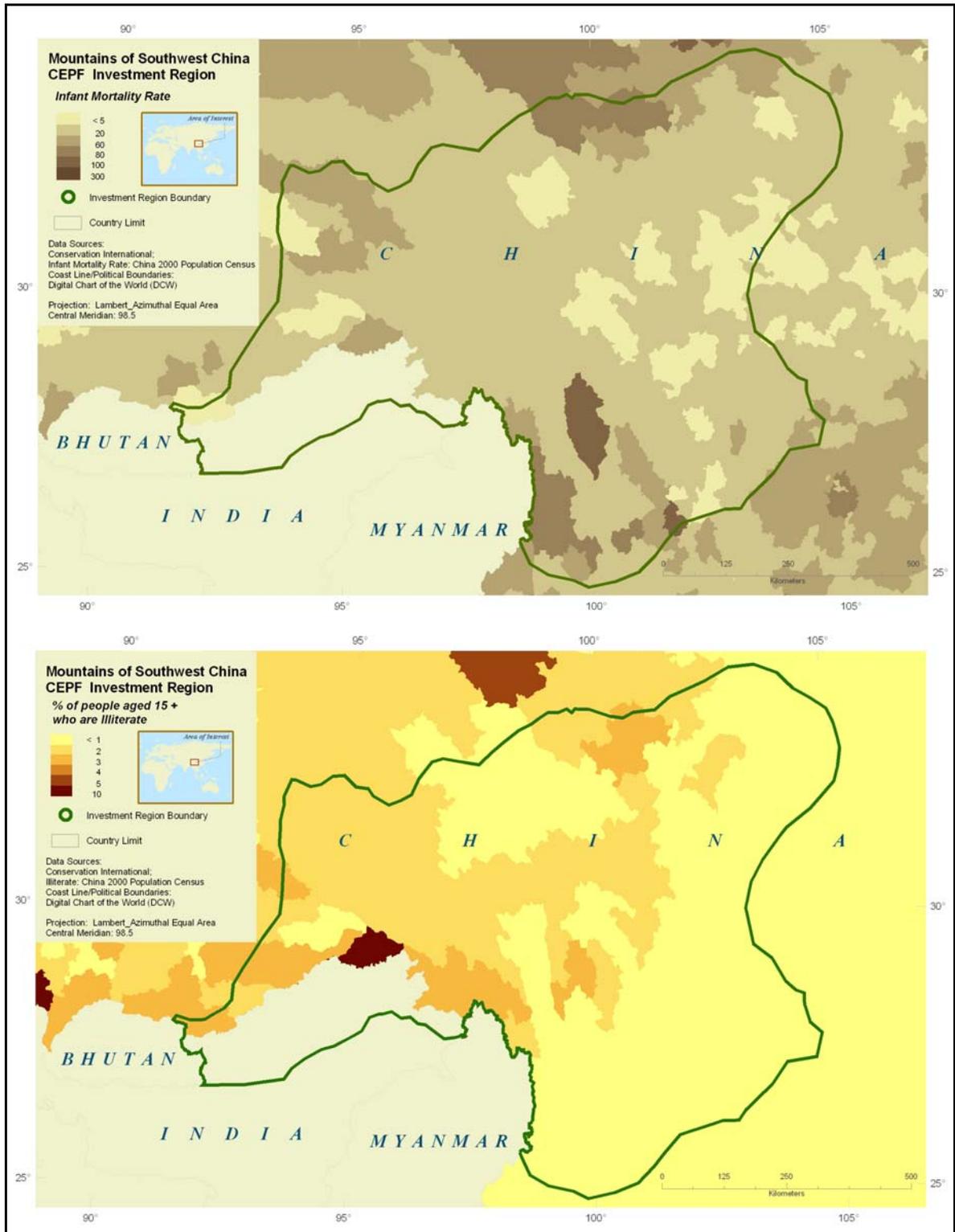
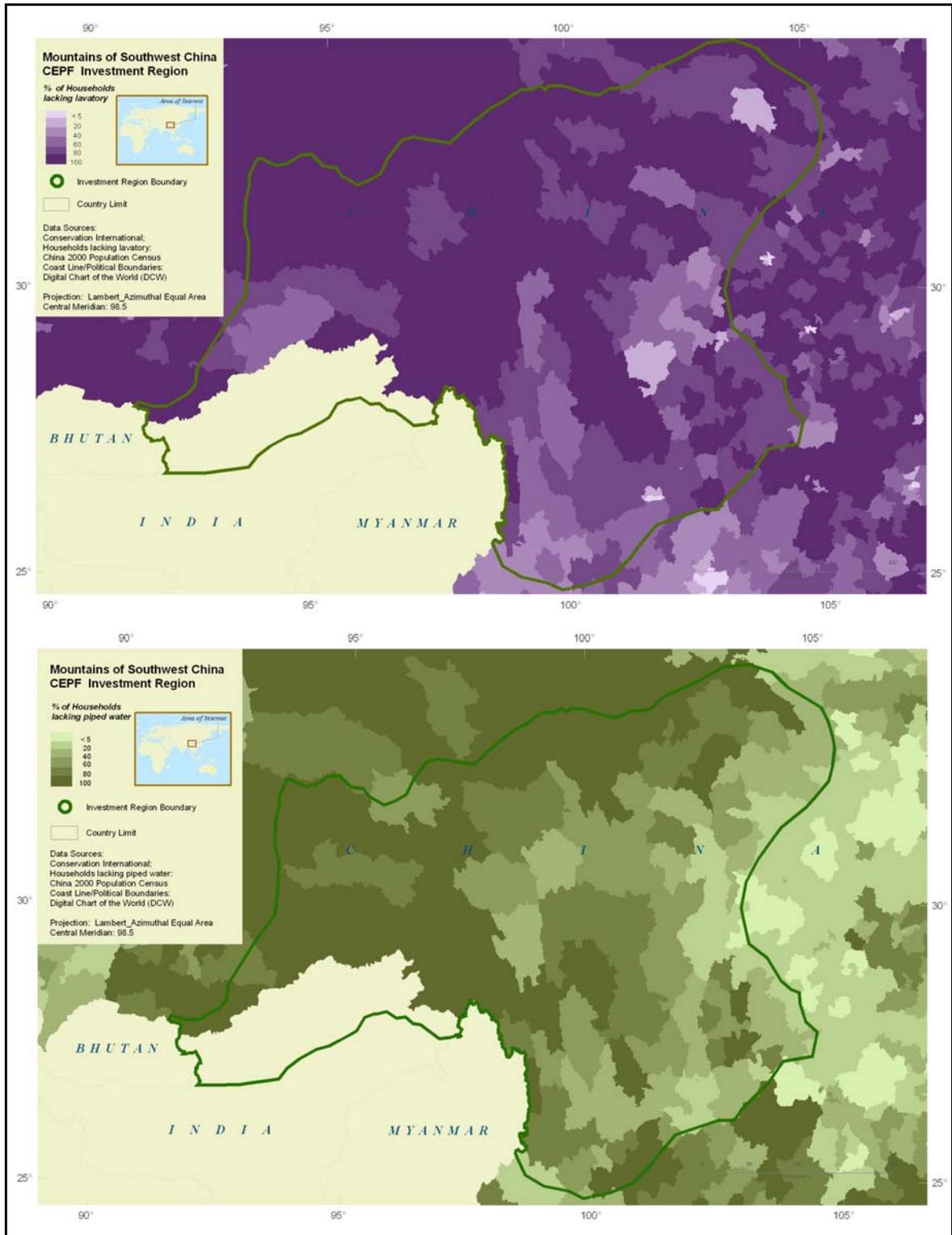


Figure 3. Maps of (a) Housing Units Lacking Tap (Piped) Water; and (b) Housing Units Lacking Lavatories, in the Mountains of Southwest China Hotspot, 2000 (data source: University of Michigan China Data Center, www.chinadatacenter.org, 2004)



To place the analysis of socioeconomic variables in national context, we compared the values of the indicators mapped for each CEPF project location. All sites occur in the priority areas shown above in Figure 1. However, because of the geographic complexity of these sites—many overlapping with one or more other sites, partially or completely—we do not show individual sites in that figure. Table 2 shows the percentage of counties worse than the national average for China in 2000 for each of the four poverty indicators discussed above. With one exception—infant mortality summed for projects with specified areas (as opposed to region-wide projects)—the majority of counties covered at least in part by the entire funding region or specific projects register worse conditions than the national average for all four poverty indicators considered.

Table 2. Selected Poverty Indicators for Counties in China that Occur at Least Partially in CEPF-funded Project Areas, Compared to National Averages: 1993 (Data source: University of Michigan China Data Center, www.chinadatacenter.org, 2004)

Area	Total Counties	Worse than National Average (% of Counties)			
		Illiterate	Infant Mortality	Lack Tap Water	Lack Lavatory
Specific Projects ^a	291	92.1	38.8	84.5	74.2
Region-Wide	174	84.5	58.0	79.9	66.7

a: Summed for all projects covering specified areas, as occur in priority funding areas shown in Figure 1; some counties may be counted more than once if they overlap with more than one project area.

Individual Project Level

To examine how CEPF projects contribute to poverty reduction in the Mountains of Southwest China Hotspot, we surveyed CEPF grantees to gather project-level data. To date, 19 percent of the 81 projects funded by CEPF in the Mountains of Southwest China completed questionnaires (Table 3). The data in the table below represent the information collected from the 15 projects that responded to the questionnaire.

One 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. Our analysis of indirect impacts on poverty almost certainly is conservative. 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.

Table 3. Summary from CEPF Questionnaire Responses, Mountains of Southwest China

Indicator	Strategic Direction ^a					Total
	1	2	3	4	5	
No. Projects Reporting	1	9	2	-	1	15
CEPF Funding ^b	167,904	762,256	252,858	-	200,000	1,383,018
No. Projects Offering Training	1	3	2	-	1	7
Workshops Offered	3	14	-	-	4	21
Jobs Created	8	66	11	-	-	85
Persons Trained	30	3,055	191	-	80	3,356
Organizations Created or Strengthened	-	1	-	-	-	1
Network or Alliance Organizations	47	25	-	-	30	102

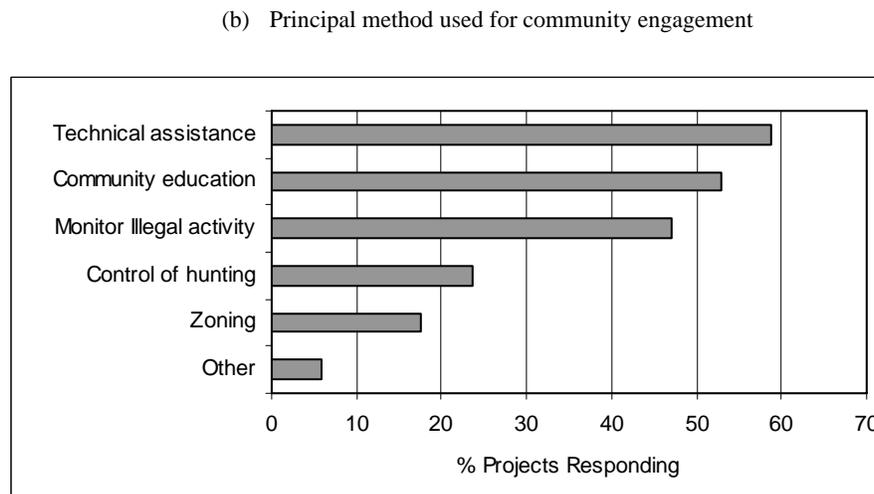
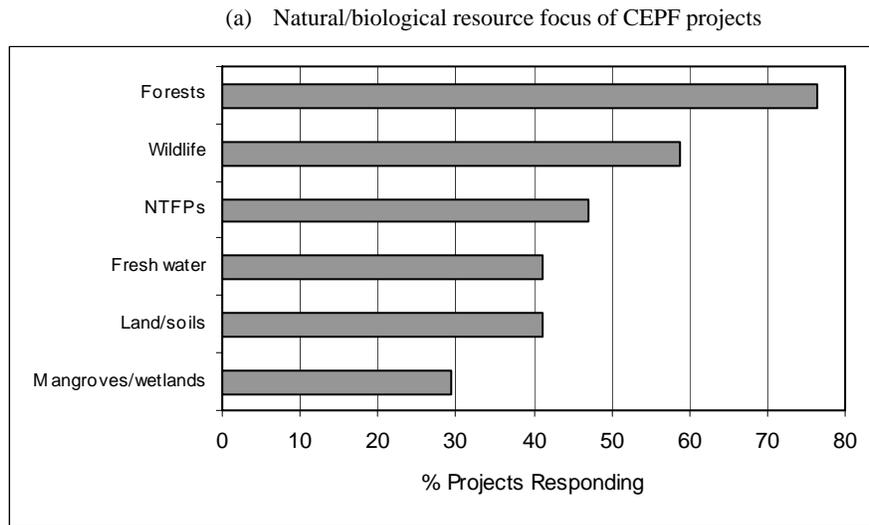
a: Strategic directions for the Mountains of Southwest China:

1. Develop and operationalize hotspot-wide monitoring and evaluation projects
2. Support site-related projects led by civil society to mitigate key threats to natural areas and species populations
3. Build capacity of civil society to implement conservation efforts at a site and regional level
4. Integrate biodiversity conservation concerns and benefits into the implementation of policies and programs at local, regional, and national levels.
5. Develop and operationalize a small grants program focusing on conservation capacity-building and research projects

b: US dollars

In the Mountains of Southwest China portfolio, project support to improve resource management mainly focused on forests, with slightly fewer projects dealing with wildlife-related issues (Figure 5a). Nearly half the projects that responded to the survey also reported focusing on non-timber forest products (NTFPs). Such projects are consistent with conservation demands in a region where resource extraction from forests—notably logging, illegal hunting, and unsustainable harvest of wildlife—are a serious problem, and reflect conservation foci of the Chinese government. Projects used a variety of methods to engage communities in resource management, with more than half of the projects that responded reporting use of technical assistance to improve conservation and management and community education to inform people about consequences of wise and unwise 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. Particularly in the case of the Mountains of Southwest China, where unsustainable resource use continues to be a major challenge, much of the attention of CEPF investments was on what remains of the forests that once covered much of the region, and on a means of maintaining remaining forests and the wildlife that resides within them.

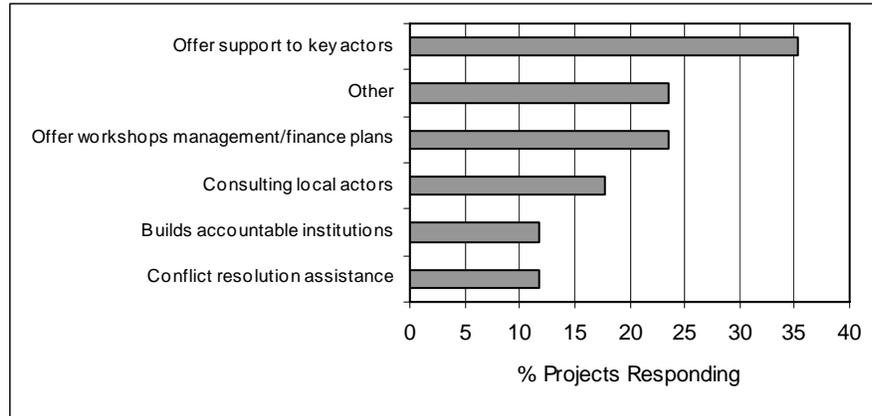
Figure 5. CEPF Projects and the Management of Natural and Biological Resource Assets in the Mountains of Southwest China Hotspot



The focus of most grantees in this portfolio is on developing civil society to help introduce conservation components to a number of large areas in the central portion of the investment region. Funded conservation actions broadly include a range of approaches to support such strategies, including the improvement of key stakeholder understanding of the consequences of natural resource loss, and offering workshops on management and financial planning (Figure 5c).

Finally, CEPF projects in the Mountains of Southwest China Hotspot contributed to secure management at both the household and community levels by creating or strengthening one local organization and building alliances between 102 organizations and 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.

(c) Ways projects aid civil society or build alliances



One project that helped build income or assets for the poor involved the use of important woodland resources in Tibet. The Kawagebo Culture Society successfully concluded an initiative drawing together government officials, schools, and religious leaders to counter new threats posed by tourists and pilgrims to the woodlands surrounding one of the most sacred Tibetan mountains. The result of an influx of nearly 200,000 people annually was the unsustainable use of the incense cedar tree (*Platycladus orientalis*) found in the area in Buddhist ceremonies, reducing the number of trees to around 10 percent of earlier levels. Although sustainable land use and religious practice have gone hand-in-hand for centuries in this region, recent increases in accessibility has led to a demand for cedar for ceremonies that far outstrips supply. One vital part of the project included two Buddhist leaders using services and blessings as an opportunity to dissuade pilgrims from harvesting incense cedar and to suggest alternatives such as the more common pine or oak.

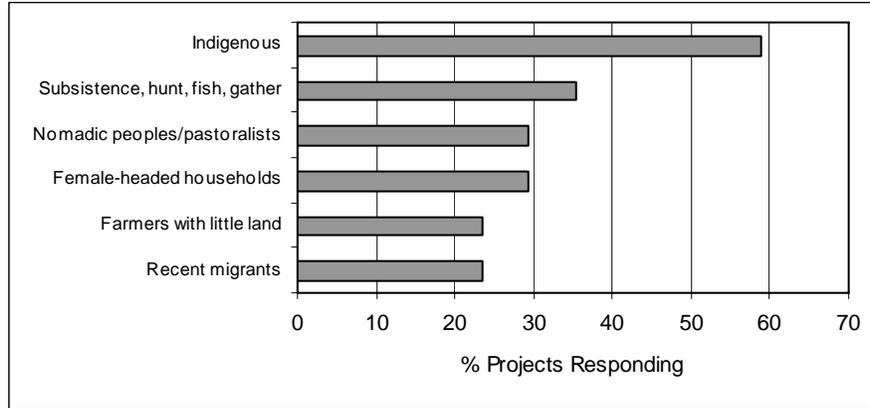
Facilitating Empowerment of the Poor

CEPF investments in biodiversity conservation often help empower the poor. Many CEPF investments directly support civil society efforts to help communities and local people participate in and benefit from conservation efforts. In a region such as the Mountains of Southwest China, where so much of the population is rural people of limited means, projects inevitably affect the poor. However, certain CEPF investments focus specifically on sub-groups traditionally lacking resources that conservation projects involved. Nearly 60 percent of the projects that responded engaged indigenous people in the Mountains of Southwest China; other projects in the investment region worked with a range of poor sectors of society including subsistence practitioners, nomadic peoples and pastoralists, and female-headed households (Figure 6).

One project that helped empower the poor was an effort by communities and nature reserve officials working together in an important partnership to protect Endangered Yunnan snub-nosed monkeys (*Rhinopithecus bieti*) throughout its range in the Yunling Mountains of Yunnan and adjacent Tibet. Widespread deforestation during the 1990s reduced the monkeys' food supply and fragmented the natural habitat so that some populations were genetically isolated. Over the last three years, CEPF supported efforts by The Nature Conservancy to learn more about the monkey, identify threats, and coordinate a long-term plan to ensure its survival. As an integral part of the overall approach, the Conservancy's Alternative Energy Program installed biogas pits, energy-efficient stoves or fireplaces, or solar water heaters in 2,000 households. These items provided the

poor with cooking facilities, heat, and hot water while greatly reducing the need for fuel wood collection, bringing benefits to people while also helping to protect the forests for the long term.

Figure 6. Categories of Poor Families Engaged by CEPF-supported Projects in the Mountains of Southwest China Hotspot

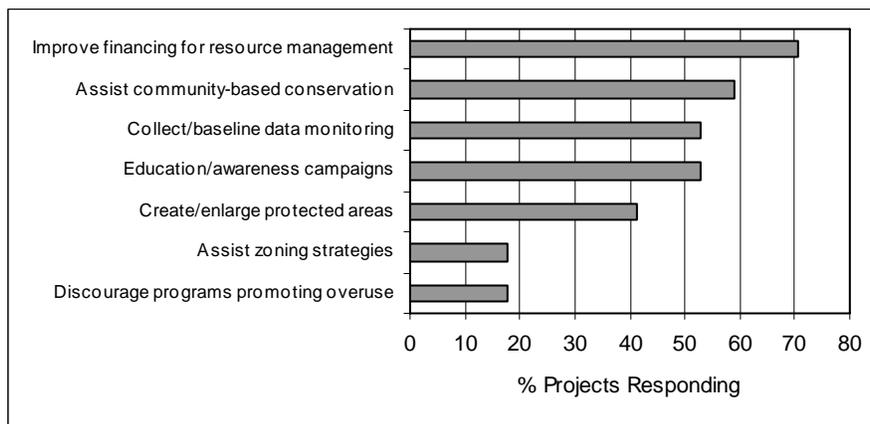


Reducing Vulnerability and/or Enhancing Poor People’s Security

The questionnaire obtained information on reducing resource depletion, resource degradation, and the effects of shocks and disasters. More than 70 percent of respondents reported that their projects provided financing for enforcing the safeguarding of resources (Figure 7a). More than half the projects that responded to the questionnaire assisted in community-based conservation, collected baseline data and helped monitor resources, and engaged in education and awareness campaigns. These and other types of projects help local people use natural resources more wisely, as well as help to maintain natural habitat for the resources and ecosystem services it provides to local communities.

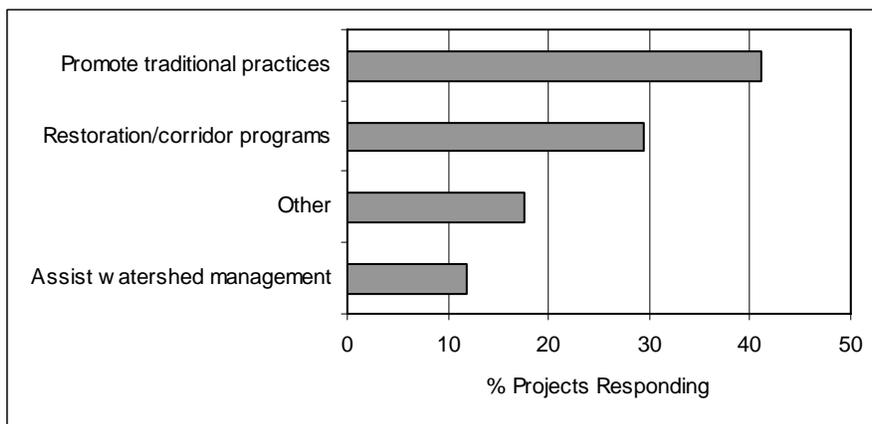
Figure 7. CEPF Projects and Reducing Vulnerability in the Mountains of Southwest China Hotspot

(a) Methods used to reduce resource depletion



CEPF investments attempted to reduce resource degradation in the Mountains of Southwest China primarily by focusing on how people adapt to their local natural environmental settings. The most frequently used approach was through encouraging the adoption of traditional resource management practices (Figure 7b). Nearly 30 percent of CEPF-funded projects that responded to

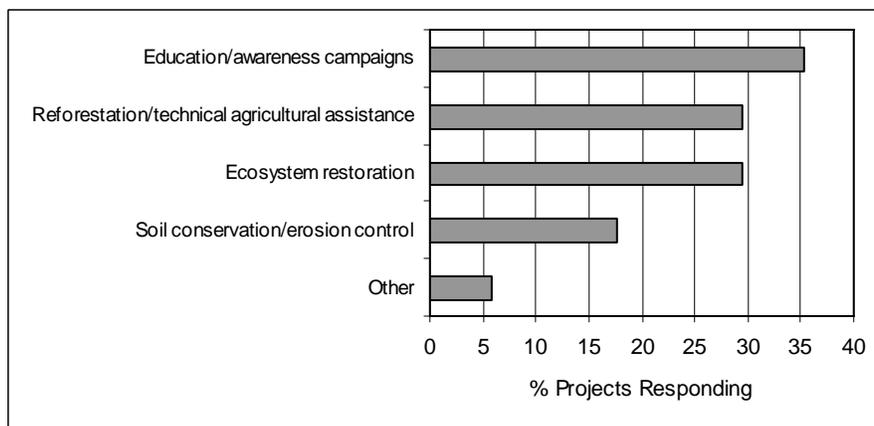
(b) Methods used to reduce resource degradation



the questionnaire also used ecological restoration, promoting refurbishment of resources and habitat consistent with activities promoted by the government of China.

Several CEPF grantees reported that their projects helped to reduce community vulnerability to shocks and natural disasters. Projects reduced vulnerability most frequently through education and awareness campaigns to help reduce human impacts on natural resources, thereby helping to maintain habitat that reduces the impacts of severe natural events (Figure 7c). Projects also reported using reforestation and technical agricultural assistance, and promoting ecosystem restoration, as means of reducing vulnerability to shocks and 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—such as broad deforestation that increases susceptibility to impacts from storms or the effects of drought—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



A project by the Center for Biodiversity and Indigenous Knowledge (CBIK) helped reduce vulnerability of the poor through helping communities in Yunnan Province prevent large-scale, tourism infrastructure plans in a key area of China's Three Parallel Rivers World Heritage Site. The goal of this project was to help mitigate threats to alpine forests and wetlands by bringing unsustainable development activities, such as unchecked tourism, under control. The project also

complemented a larger CBIK initiative to promote stronger discourse and public participation in development projects. Three hundred villagers attended workshops hosted by CBIK to equip the communities with knowledge about their basic legal rights regarding resource planning and commercial development procedure. CBIK also encouraged discussion on sustainable tourism alternatives for the area, and engaged a legal representative to assist in informing government officials dealing with the interrelated issues of resource governance, community livelihoods, and biodiversity conservation at district, provincial, and national levels.

Conclusion

Available socioeconomic data indicate that CEPF-supported projects in the Mountains of Southwest China Hotspot occur in rural areas with high levels of poverty, as measured by most of the poverty indicators considered in this study. Within these areas of poverty, CEPF grantees often involve indigenous peoples, although given the broad presence of the poor, most projects likely involved households and communities with very limited means. 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 society, and promoting activities such as reforestation and education campaigns consistent with Chinese government programs to help maintain and restore the ecosystems upon which many poor people in Southwest China rely.