

**CEPF and Poverty Reduction:
A Review of the CEPF Portfolio in the Caucasus Hotspot**

January 2008

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.

This 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 Caucasus biodiversity hotspot.

The Caucasus Hotspot occurs in portions of six different nations located in the mountains between the Black and Caspian seas in Eurasia: Armenia, Azerbaijan, Georgia, Iran, Russia, and Turkey. The CEPF strategy for regional-scale conservation investments emerged from a process that solicited data from more than 130 experts from these six countries, with a focus on how CEPF could best add value to the conservation needs of this region. The result of this process was the definition of five priority conservation corridors within which all CEPF investments occur: the Caspian Corridor, East Lesser Caucasus Corridor, Greater Caucasus Corridor, Hyrcan Corridor, and West Lesser Caucasus Corridor (Figure 1). The regional experts identified CEPF's niche in biodiversity conservation in the region as supporting increased transboundary cooperation, improving protected area management, strengthening the implementation of international conservation protocols, improving regulation of natural resource extraction, and increasing the commitment of decisionmakers to support conservation.

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 the six countries that occur in the Caucasus Hotspot. For individual projects, we collected

Figure 1. Map of Priority Conservation Corridors for CEPF Investments in the Caucasus Hotspot



and analyzed data from CEPF grantees. This report summarizes the data analysis at a regional scale, at a corridor scale, and for individual projects.

Regional Level

Although the six countries in the Caucasus Hotspot are quite different, human wellbeing at the country level tends to be broadly similar across the region. Standard measures of socioeconomic conditions such as the human development index and the poverty index indicate moderate levels of poverty (Table 1). In 2004, 6.5 percent or less of the population in each country survived on less than \$1 per day, with all but Georgia registering 3.4 percent or less for this indicator. A broader range survived on \$2 per day or less the same year, from a minimum of 7.3 percent for Iran to a maximum of 31.1 percent for Armenia. Most of the hotspot consists of rural mountainous areas, where poverty tends to be higher than in the various nations as a whole.

Corridor Level

To explore the socioeconomic context of CEPF corridors in the Caucasus Hotspot, this study examined measures of poverty available for the six countries that occur in this region. Reliable, recent statistical data that would serve as poverty indicators in general are not widely available for this portion of Eurasia, at least for small geographic units that would enable the mapping and examination of the spatial arrangement of poverty. For the six countries in the Caucasus Hotspot, we mapped infant mortality rate and percent of children underweight as indicators of the amount of poverty occurring in various parts of each country.

Table 1. National Development and Poverty Levels for Countries in the Caucasus Hotspot

	<i>Armenia</i>	<i>Azerbaijan</i>	<i>Georgia</i>	<i>Iran</i>	<i>Russia</i>	<i>Turkey</i>
Human Development Index: value (rank ^a)	0.768 (#80)	0.736 (#99)	0.743 (#97)	0.746 (#96)	0.797 (#65)	0.757 (#92)
Human Poverty Index: value (rank ^a)	NA	NA	NA	16.4 (#35)	NA	9.8 (#21)
% population living on less than \$2 per day ^b	31.1	NA	25.3	7.3	12.1	18.7
% population living on less than \$1 per day ^b	2.0	2.0	6.5	2.0	2.0	3.4

a: Rank among less developed countries globally; values given are for 2004

b: Figures for 1990-2004

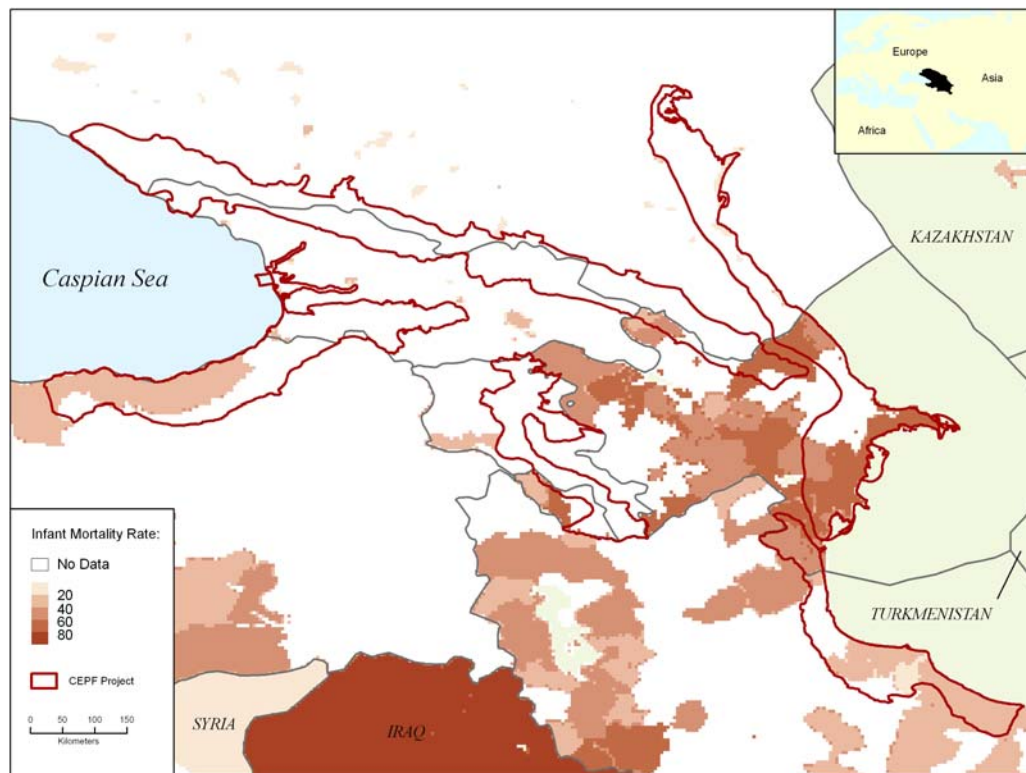
Source: United Nations Development Programme-Human Development Reports online:

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

Figure 2 shows the geographic distribution of infant mortality rate, defined as the number of infants who died in the first year of life per 1,000 live births, for the year 2000. Large parts of the region lack data in infant mortality, constraining what one can say about the level of human well-being in certain corridors. Portions of the Caspian and Greater Caucasus corridors show evidence of relatively high rates of infant mortality. Levels of this indicator are much lower in those parts of the Hyrcan and West Lesser Caucasus corridors for which data exist, on the order of 4 percent or less of children dying in the first year of life.

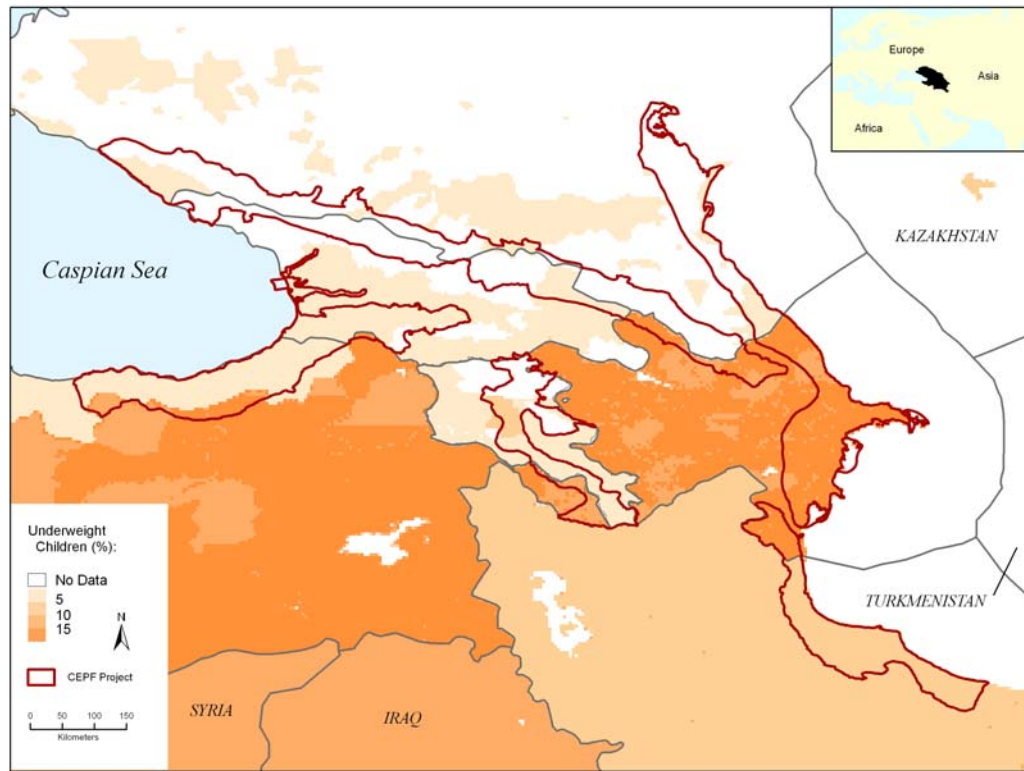
Figure 2. Infant Mortality Rate, Caucasus Hotspot, 2000 (Data source:

www.ciesin.columbia.edu/povmap/ds_global.htm)



Mapping the percentage of children aged 5 years or less that are underweight provides broader geographic coverage for the five Caucasus corridors, indicating that large portions of these priority conservation regions occur in areas with difficult human conditions (Figure 3). Portions of the Caspian, Greater Caucasus, Hyrcan (northern part) and West Lesser Caucasus (southern edge) corridors all feature relatively high percentages of hungry children. That stated, large amounts of these corridors as well as much of the East Lesser Caucasus Corridor have low percentages of hungry children, on the order of 5 percent or fewer.

Figure 3. Percent of Children Underweight, Caucasus Hotspot, 2000 (Data source: www.ciesin.columbia.edu/povmap/ds_global.htm)



To place the analysis of socioeconomic variables in context, we tabulated statistics for underweight children in the six countries that occur at least partially within the Caucasus Hotspot. For each country, we compared the value for every administrative unit (county level and smaller) occurring at least partially within a CEPF priority corridor with the national rate for the country that contains it, identifying all administrative units with worse conditions than the country where they occur. Results appear in Table 2. Note that we did not conduct a similar analysis for infant mortality rate because of the large areas lacking data, and we excluded Iran from our analysis because we had no sub-national information on children underweight. In all five countries for which we had data, child hunger is worse in many of the administrative units associated with CEPF than the respective national averages—characterizing more than one-third of administrative units for which comparisons could be made. In interpreting these results, it is important to recognize that although national averages for Armenia, Georgia, and Russia are relatively low (2.6, 2.9, and 2.5 percent of all children aged 5 years or less, respectively), averages for Azerbaijan and Turkey are relatively higher—17.1 and 7.6 percent—suggesting, particularly in the last two countries, that exceeding the national average indicates quite poor human conditions.

Table 2. Percentage of Children Underweight in Political Administrative Units Occurring within CEPF Priority Corridors in the Caucasus Hotspot, 2000 (based on data from www.ciesin.columbia.edu/povmap/ds_global.htm)

Country	Administrative Units ^a	Worse than National Average	
		Pct. Children Underweight ^b	
Armenia	10	60.0	
Azerbaijan	42	50.0	
Georgia	11	45.5	
Iran	5	NA	
Russia	55	0.0	
Turkey	8	37.5	
Total	131	34.3	

a: Political administrative units, equivalent to counties or smaller, that occur at least partially within a CEPF priority corridor

b: Data unavailable for two administrative units in Armenia, two in Georgia, and 25 in Russia.

Individual Project Level

To examine how CEPF projects contribute to poverty reduction in the Caucasus, we surveyed CEPF grant recipients to gather project-level data. To date, 37 percent of the 35 region-specific projects in the portfolio completed questionnaires (Table 3). The data in the table below represent the information collected from the 13 projects that responded to the questionnaire.

Table 3. Summary from CEPF Questionnaire Responses, Caucasus Hotspot

Indicator	Strategic Direction ^a				Total
	1	2	3	4	
No. Projects Reporting	3	5	4	1	13
CEPF Funding ^b	505,892	974,266	641,863	275,168	2,397,189
No. Projects Offering Training	2	4	4	1	11
Workshops Offered	0	2	2	0	4
Jobs Created	33	59	14	5	111
Persons Trained	16	104	110	37	267
Organizations Created or Strengthened	4	24	2	0	30
Network or Alliance Organizations	0	3	25	0	28

a: Strategic directions for the Caucasus Hotspot:

1. Support civil society efforts to promote transboundary cooperation and improve protected area systems in five target corridors.
2. Strengthen mechanisms to conserve biodiversity of the Caucasus hotspot with emphasis on species, site, and corridor outcomes
3. Implement models demonstrating sustainable resource use in five target corridors
4. Increase the awareness and commitment of decisionmakers to biodiversity conservation in five target corridors

b: US dollars

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.

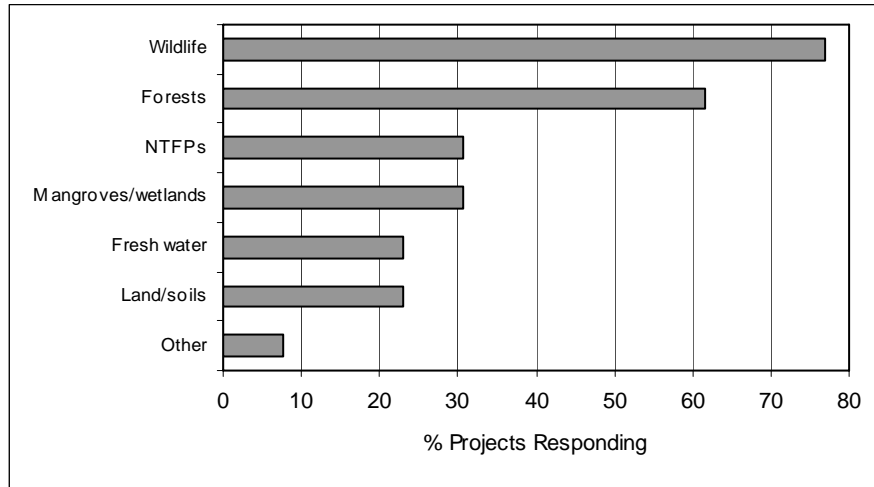
In CEPF's Caucasus portfolio, project support to improve resource management mainly focused on wildlife, with the majority of projects that responded also dealing with forests (Figure 4a). In a region with so much animal and plant diversity, directing attention to these resources is consistent with the most important conservation needs in the region. Nearly one-third of the projects responding worked with non-timber forest products (NTFPs) and wetlands. Projects used a variety of methods to engage communities in resource management, with more than two-thirds of respondents providing technical assistance to improve resource management and conservation (Figure 4b). Several other projects helped educate communities on the consequences of wise and unwise natural resource management, and supported monitoring of illegal activity. 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 Caucasus, where so much land has been transformed by human activity, investments that target key animal species and what remains of the forests that once covered much of the region are essential to the maintenance of what remains of regional biodiversity and the ecosystem services that it provides.

The focus of most grantees in the Caucasus portfolio is on improving conservation at a corridor scale through identifying and focusing on key conservation and geographic priorities. Funded conservation actions broadly include capacity building, education, and training for civil society organizations on corridor-level conservation that often involves two or more countries. CEPF investments included consulting local actors to engage civil society, and helping key stakeholders understand the consequences of destroying natural resources (Figure 4c).

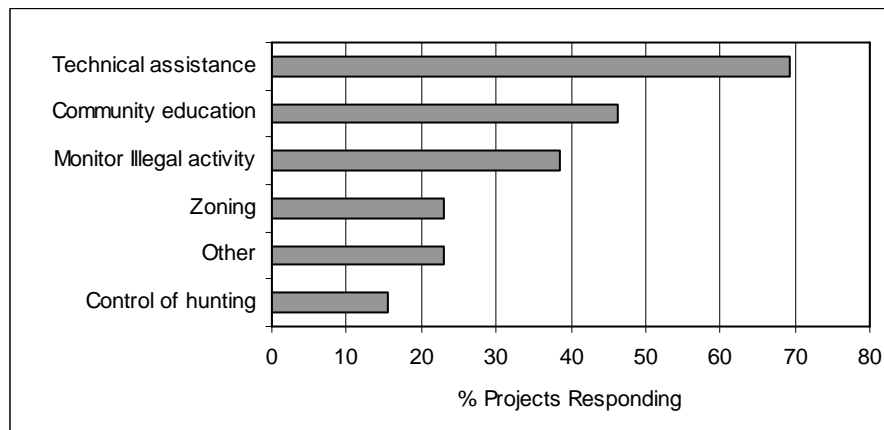
Finally, CEPF projects in the Caucasus Hotspot contributed to secure management at both the household and community levels by creating or strengthening approximately 30 local organizations and building alliances between these organizations and 28 other institutions. All of these efforts to create or 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.

Figure 4. CEPF Projects and the Management of Natural and Biological Resource Assets in the Caucasus Hotspot

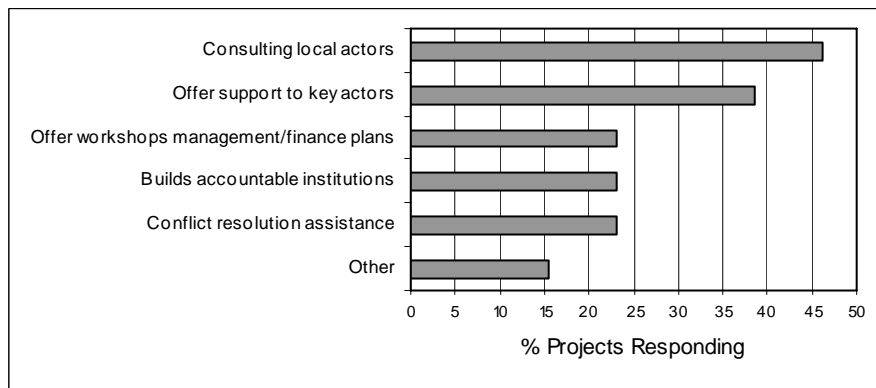
(a) Natural/biological resource focus of CEPF projects



(b) Principal method used for community engagement



(c) Ways projects aid civil society or build alliances



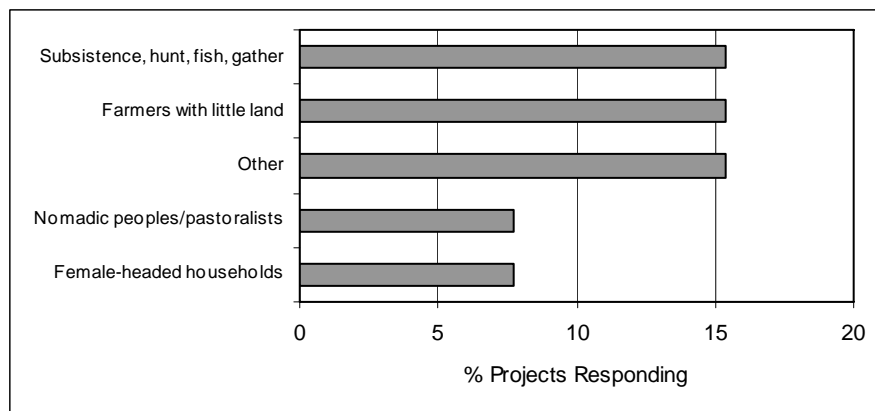
One example of a project that focused on building income or assets for the poor involved the engagement of local communities in a reforestation project in northern Armenia. With assistance from CEPF, the Armenia Tree Project (ATP) first grew and nurtured trees at state-of-the-art nurseries across the country, then supported residents to plant trees in areas that have been severely depleted of greenery. Local residents were trained and employed in forestry activities such as coppicing stumps of trees that were cut down in public areas. In addition to its reforestation work, ATP will collaborate with the Global Institute of Sustainable Forestry at Yale University to incorporate results and lessons learned into a sustainable forestry manual. The manual will include area-specific technical tools for creating a sustainable community forest, and rangeland management plans that consider the decision tradeoffs among economic development, biodiversity, and land conservation.

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 Caucasus, where so many people are of limited means, projects inevitably affect the poor. However, a few CEPF investments focus specifically on sub-groups traditionally lacking resources that conservation projects involved. Roughly 15 percent of the projects that responded dealt with people who pursue a subsistence lifestyle, farmers with limited land, and other poor people of limited means (Figure 5). Many of the sub-groups often engaged by CEPF projects in other regions, such as indigenous peoples, were less of a focus in the Caucasus portfolio mainly because they exist in limited numbers in the general region, with much of the rural Caucasus consisting of poor villages of peasant farmers.

One project that is helping empower the poor is an effort by the Association for Nature Protection and Sustainable Use, or Mta-Bari, that seeks to enable people living outside the boundaries of Mtirala National Park in the Republic of Georgia to balance a potential influx of tourism with the need to sustain their natural resources. CEPF supports this project as part of its strategic direction of implementing models demonstrating sustainable resource use in five target corridors across the Caucasus Hotspot. Of the 35,000-hectare buffer zone of the park, 20,000 hectares are forests that provide a home for species such as the vulnerable Caucasian salamander (*Mertensiella caucasica*) and the endemic Caucasian snowcock (*Tetraogallus causicus*), as well as important natural resources for communities. Mta-Bari is raising community awareness of the importance

Figure 5. Categories of Poor Families Engaged by CEPF-funded Projects in the Caucasus Hotspot



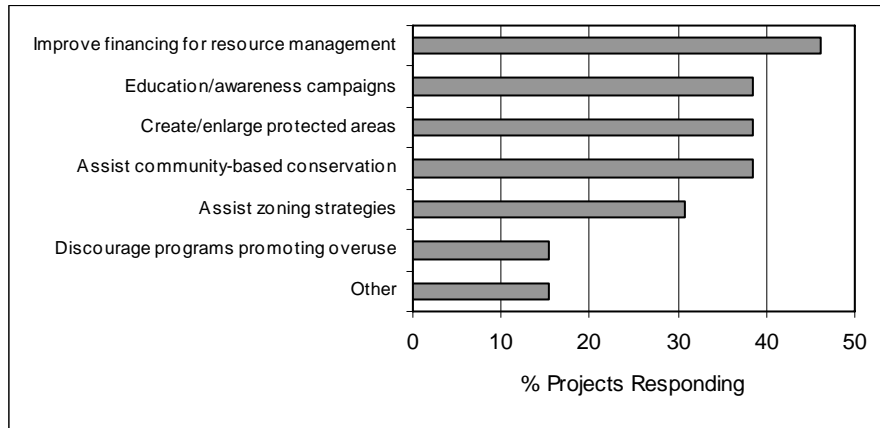
of protecting this buffer zone, and is working with communities to develop a management plan for the area around the park. Additionally, the association is working to gain legal recognition of the buffer zone. CEPF investment in the region complements the work of several partners working within the national park itself, including the Norwegian government and World Wide Fund for Nature.

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. Nearly half of respondents reported that their projects assisted in dealing with resource degradation through improving financing for resource management (Figure 6a). In addition, nearly 40 percent noted that they were involved in education or awareness campaigns, created or enlarged protected areas, or assisted in community-based conservation. These and other types of projects help local people use natural resources more wisely, as well as help to maintain the natural habitat for the resources and ecosystem services it provides to local communities.

Figure 6. CEPF Projects and Reducing Vulnerability in the Caucasus Hotspot

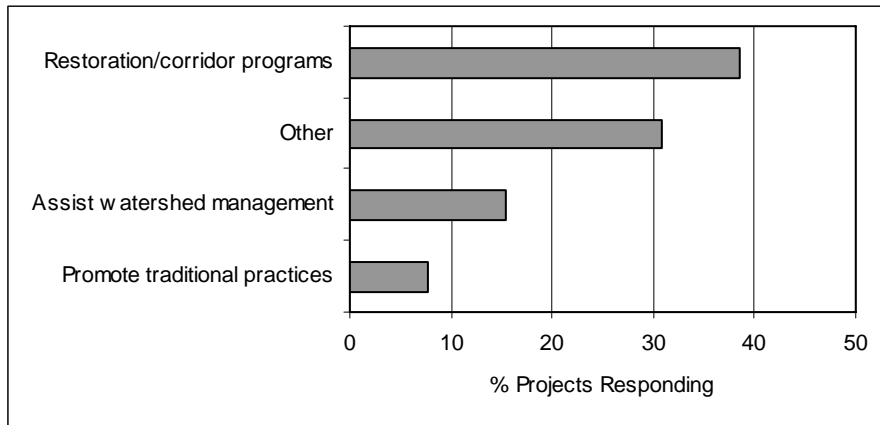
(a) Methods used to reduce resource depletion



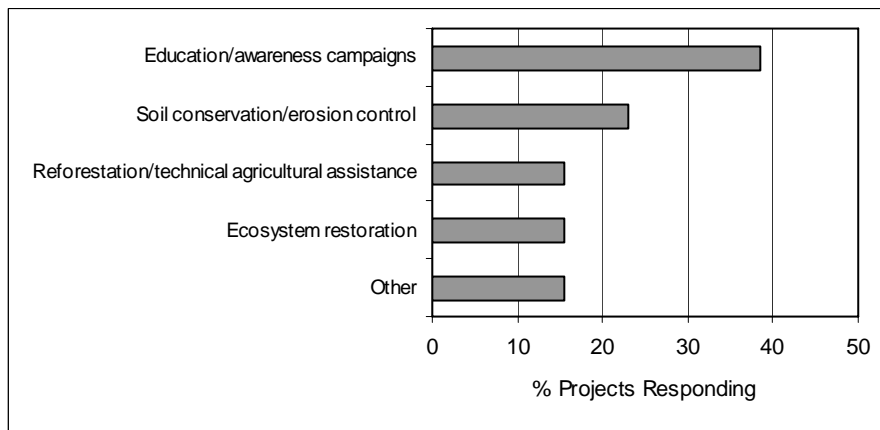
CEPF investments attempted to reduce resource degradation in the Caucasus primarily by focusing on how people adapt to their local natural environmental settings and helping to maintain key parts of those settings. The most frequently used approach was through supporting ecological restoration and landscape management in corridors (Figure 6b). Several CEPF-funded projects used a variety of other methods, such as promoting awareness campaigns for local communities and promoting conservation programs, either to reduce resource degradation or to refurbish resources and habitat that already had been degraded.

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 that discuss the impacts of severe natural events (Figure 6c). Projects also reported using soil conservation and erosion control as a 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.

(b) Methods used to reduce resource degradation



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



An example of an awareness-building campaign implemented at the regional and local level is BirdLife International’s caretaker project. Working through nongovernmental organizations in Armenia, Azerbaijan, Georgia, and Turkey, BirdLife recruited 31 local conservation heroes as caretakers at targeted sites—known as Important Bird Areas or IBAs—critical for the conservation of globally threatened or unique bird species. Although some of the caretakers are professionals with many years of experience, others, including a shepherd in the uplands of Turkey’s eastern Rize province, are new to organized conservation. BirdLife supported its regional partners in each country through fundraising and training, and these organizations have been able to pass this training on to the caretakers themselves, helping them to improve their skills and broaden their reach. For instance, through the BirdLife local training, a scientific researcher at Azerbaijan’s Gyzylagach State Reserve has now developed a wider informal network of colleagues, rangers, and schoolchildren to monitor the 80,000-hectare reserve, a seriously threatened area of lagoons and semi-desert on the coast of the Caspian Sea.

Conclusion

Available socioeconomic data indicate that CEPF-supported projects in the Caucasus Hotspot often occur in rural areas with high levels of poverty. Within these areas of poverty, CEPF grantees often focus on wildlife and forests whose conservation helps provide resources and

services to people of 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 other activities that maintain and restore the ecosystems upon which many poor people in the Caucasus portion of Eurasia rely.