

# The Community Park Ranger Program in the Cayambe-Coca Ecological Reserve

## Analyzing the Effectiveness of a Wilderness Protection Strategy in Ecuador

By William H. Ulfelder

**Abstract:** Ecuadorian conservation organizations are vigorously pursuing strategies of local participation in protected areas management. One such initiative, The Community Park Ranger Program, was begun in 1993 in the Cayambe-Coca Ecological Reserve, Ecuador. This article describes the initiative and provides recommendations for its improvements. Specifically, it is suggested that the method of local participation be varied, an adaptive management program be implemented, objective evaluations be incorporated, and greater financial continuity be provided.

**M**ORE THAN TWO-THIRDS of Ecuador's protected areas are directly affected by communities that depend on them for water, timber, wildlife, fibers, grazing lands, and fuel wood (Natura Foundation 1992). The Cayambe-Coca Ecological Reserve, located on the eastern slope of the Andes in northern Ecuador, is no exception. Though there are only two villages located inside the Reserve's boundaries, totaling fewer than 600 residents, there are more than 85,000 people who live in the Reserve's buffer zone.

Traditionally, these local communities have been excluded from participating in the Reserve's management. The Ecuadorian Institute of Wildlife and Natural Areas (INEFAN) managed the Reserve and viewed local communities as the principal threat to the area. However, due to the increased strength of the Ecuadorian conservation movement in the 1980s, INEFAN began at least to consider other interests and involve conservation oriented nongovernmental organizations (NGOs) in management decisions. Local communities were not asked to participate until near the end of the decade, when both INEFAN and conservation NGOs began to adopt a paradigm that included local participation in small, community-based conservation projects. These projects were often oriented toward producing economic benefits believed to help offset the local need to enter protected areas to extract natural resources (Wells and Brandon 1992; West and Brechin 1991).

### Community Park Rangers

The Sustainable Use of Biological Resources (SUBIR) Project, with support from The Nature Conservancy (Conservancy), the U.S. Agency for International Development (USAID), the Cooperative for American Relief Everywhere (CARE), and INEFAN initiated the Community Park Ranger (Ranger) Program in the Cayambe-Coca Ecological Reserve in 1993. At the time, Cayambe-Coca's management staff was small, with only a handful of park managers and technicians assigned to protect this one million-acre (400,000 hectares) protected area. SUBIR staff believed that the Rangers would improve management of the Reserve by increasing staff, improving historically poor relations between INEFAN and local communities, and possibly providing leadership for rural villages,

Today the program is run by the Antisana Foundation, an in-country Conservancy partner, in coordination with INEFAN.



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Community Park guard and his family of the entrance to Coyombe-Coca Ecological Reserve near the town of Juan Montalvo. Photo by *William Ulfelder*.

There are currently 13 Rangers in Cayambe-Coca, representing 10 communities in and around the Reserve. In seven communities one ranger works half-time, and in three communities two rangers work quarter time. The community ranger's role is to "Be the facilitators of a medium and long-term process of community transformation, with the support and coordination of the public and private sectors, toward self-sufficiency through collective initiative and work" (Natura Foundation 1995).

## The Cayambe-Coca Ecological Reserve

The Cayambe-Coca Ecological Reserve was created in November 1970 by executive decree. The Reserve is bordered on the south by the Antisana Ecological Reserve and to the east by Gran Sumaco National Park. The Reserve contains nearly a dozen life zones—lowland rainforest; premontane rainforest; premontane wet forest; lower montane rainforest; lower montane wet forest; montane rainforest; montane wet forest; montane moist forest; alpine; paramo; and nival. Cayambe-Coca protects some of the last areas of wilderness habitat for such species as the spectacled bear (*Tremarctos ornatus*), Andean condor (*Vultur gryphus*),

mountain tapir (*Tapirus pinchaque*), and Andean paper tree (*Polylepis* spp.). According to the original management plan, Cayambe-Coca's principal objective is "The protection of natural ecosystems, the conservation of ecological diversity and the regulation of the environment and other items related to scientific research, environmental education and the conservation of genetic resources ." (Paucar and Reinoso 1978).

## Evaluation of the Community Park Ranger Initiative

Was the community park ranger initiative explicitly linked to protected area threats?

A multi-institutional threats analysis performed in 1996 made it clear that Cayambe-Coca is threatened on many fronts by construction of infrastructure (roads, dams, oil and water pipelines, etc.), colonization, deforestation to open pastures and agricultural plots, overhunting, overfishing, mining, burning of the paramo, inappropriate trash disposal, and fishing with dynamite. Though a threats analysis had never been performed for the entire Reserve, the directors were aware of many of these damaging activities. At the same time, the

directors knew that these threats were compounded by the fact that they had poor relations with the inhabitants of nearby communities. No dialogue existed on how the threats might be reduced. The response of the INEFAN park directors and the Conservancy was to create a conservation initiative to organize, train, and equip a group of local residents to protect the area against locally and externally generated threats and improve relations between INEFAN and local communities.

Many of the Rangers work in what the park directors called "conflict zones"—areas where resource use is in conflict with management objectives, where there have been poor relations between INEFAN and communities, and/or in areas where communities have been poorly organized. The Rangers provided INEFAN management staff with an on-the-ground presence and additional eyes and ears to help report activities in the field. Many of the communities with Rangers are in remote areas, rarely visited by management staff. In the higher elevation portion of the Reserve, the Rangers were given the right to confiscate illegal firearms, fishing supplies, and other equipment. In the lower zone, Rangers were told to report prohibited activities so that full-time federal park rangers could make the necessary confiscation.

What was the planned relationship between expected socioeconomic results of the initiative and conservation objectives?

The Rangers were expected to fill leadership roles in their communities and to become catalysts in areas of community development, organization, and health services, among others. However, for most Rangers, this role is very difficult. The time they dedicate to management activities reduces the time they have to work on the family farm. All 13 Rangers are subsistence farmers. Earnings of up to \$125 per month from the program provides a good source of income in a country where the average annual income is approximately 81,400 (CEPAR 1995), but it is not enough for them to cease farming and dedicate themselves full time to patrols and community outreach. Also, they are often expected to pay their own

travel and food costs when attending meetings outside the village. Because subsistence agriculture must come first, the Rangers have little time to wear the other hats of park ranger and community leader. As one ranger explained, "Often-times I am supposed to be on patrol when the community is meeting. How can I be in two places at once?"

Another problem Rangers face is differences with other community residents. Because the Rangers report illegal activities of Reserve and buffer zone residents, they are not always held in high esteem among neighbors. While most are genuinely liked by the community (that is why they were elected to their posts), there are cases where local residents do not get along with the Ranger-further hindering their ability to lead the socioeconomic transformation described in the initiatives goal,

**Were means to measure the conservation effectiveness, equity, and efficiency of the initiative developed?**

The Ranger initiative, like most participatory conservation initiatives (Brown and Wyckoff-Baird 1992), has not been systematically studied to determine its impacts on biodiversity conservation and participating communities. While the rangers are expected to submit monthly reports to park directors, many stated that they do not do this, and that when they do the reports are often not read. This requirement is somewhat hindered by low literacy levels among some of the program participants. A few of the Rangers continue to provide these reports, detailing the number, type, and place of confiscations made and general information they gathered during the week. But they are the exception to the rule. The information provided by the Rangers has not been used to evaluate the program's progress, geographic coverage, impact on illegal activities, changes in attitude among local residents, or success in gathering information on wildlife they may have seen while on patrol. A more consistent monitoring program is needed to determine if the program is having the anticipated biological and socioeconomic effects.

**What type of local participation existed and what were its advantages and disadvantages in relation to conservation results?**

When the Ranger program began, participation was "consultative." The idea for the program was generated externally by SUBIR technical staff and later presented to the communities as a way to reduce threats and improve relations with INEFAN. The communities simply decided whether or not to participate and who to nominate for Ranger positions. The communities elected Rangers in community assemblies. However, during the implementation stage, the program became more of a "contractual" type of participation. Communities have received little information from those in charge of the program's implementation, and they have few opportunities to contribute their own ideas and suggestions to influence decisions. The Rangers provide services to INEFAN. They and their communities do not have the opportunity to influence the program's implementation,

**Were the scale and type of participatory initiative appropriate to the threat's scale, type, and priority?**

According to the Rangers, in order for them to have an impact on the threats they confront, their rights and responsibilities must be clarified. Confronting a poacher from outside the Reserve is very different from finding a community member deforesting in a prohibited area, or an international construction company dumping fill into the Reserve's waterways. Most of the Rangers have confined themselves to handling smaller threats, such as illegal hunters and fishers, and reporting others to the director. The Rangers believe clear policies should be in place to guide their actions in the field. These guidelines should be built into their training and provide the Rangers themselves with the chance to develop standard operating procedures.

To date there has been little coordination with neighboring protected areas, Cayambe-Coca, as was previously mentioned, abuts two other conservation areas—the Antisana Ecological Reserve and the Gran Sumaco National Park. The

Cotacachi-Cayapas Ecological Reserve is also very close. Sumaco, Antisana, and Cotacachi-Cayapas all have Rangers working in them. However, there has been no attempt to organize the community rangers or even the federal rangers into coordinated actions such as joint patrols, training workshops, or community outreach for villages located in the protected area's buffer zones. The park rangers would like to see this type of collaboration.

**Were new threats generated or existing ones exacerbated as a result of the participatory initiative?**

No new conservation threats to the Reserve were created nor existing ones exacerbated. The threats the program produced were to the Rangers themselves. A few have had their lives threatened by poachers. Many hunters in the Reserve come from wealthy Ecuadorian families and think nothing of threatening a campesino farmer, particularly one with no uniform. The Rangers believe they need a stronger identification with INEFAN in order to receive the respect they need. They also feel that their work as Rangers has led to some divisiveness within their communities, complicating their lives as community members,

## Discussion

If the Cayambe-Coca Community Park Rangers are to have a positive impact on the management of the Reserve's resources, the communities they represent must become more involved through an "among colleagues" type of participation. It is not enough to have the community vote on who should fill the Ranger position. The communities have many ideas on how the program should be run to improve protected area management. For example, the community of Sinangüé used to have one Ranger who worked year-round, complemented by another who rotated monthly. In this way more members of the community learned about the Reserve, its management objectives, and the work of the park guards. In other communities several women have voiced interest in working as Rangers. Thus, they seem to recognize the importance of the Reserve and desire to supplement their incomes. Rather than

just reporting to INEFAN on happenings in the community, the initiative should be used as a way of opening a broader dialogue between the park agency and local villagers. Meetings would provide opportunities for both INEFAN and the communities to share information, opinions, and ideas. This would also send a clear message to the communities that INEFAN supports its Rangers and would like to collaborate with them to advance Reserve management. This has not always been the case. As one Ranger remarked, "The people do not always respect INEFAN and therefore they do not always respect us. It is important that INEFAN puts its 'belt on tight' when it comes to work."

The responsibilities and rights of the Rangers must be clarified. While the Rangers in the high elevation region of the park do confiscate firearms and illegal fishing equipment such as nets and dynamite, those in lower regions do not. This may be acceptable given the different social histories of the two regions, but a clear policy, based on Ecuadorian protected area and forestry law, should be articulated.

More effort must be put into adaptive management of the Ranger program. As described earlier, little information has been collected on the program's impacts. By not collecting data on program effectiveness, it is difficult to make decisions on what changes might be necessary in order to achieve ecological and socioeconomic objectives. The participating Rang-

ers and communities should play an active role in the analysis of data obtained and resulting management decisions.

Finally, international and national organizations supporting the initiative must do more to train and equip the rangers and ensure the program continuity. In the nearly four years that the program has been implemented, only two training events were held, both in 1996. One was a week-long course on topics such as basic wildlife biology and protected area and forestry law. The other was a visit to another protected area. All participants enjoyed the course and said they learned a lot, but they need more training on how to do their jobs well. Future training events should provide greater opportunity to learn from each other. Several Rangers now have nearly four years of experience and valuable knowledge that may improve the program. Supporting organizations should do more to ensure that the program is not halted, as it was for a year and half between phases I and II of the SUBIR Project. Such stops cause participants to lose enthusiasm and seek other employment opportunities, thus losing valuable experience. Currently, The Conservancy is working with the Ecuadorian government to establish a water-use fee on the potable water that Cayambe-Coca provides to Ecuador's capital, Quito. The fund created from this fee would provide the financial resources necessary to allow the program's implementation to be uninterrupted.

## Conclusions

International conservation organizations such as The Conservancy should continue to work with Latin American park agencies and conservation NGOs to develop Ranger programs. With a relatively small investment the number of field personnel can be increased and trained, thus improving protected area oversight, park-community relations, and community conservation efforts. While almost everyone involved in the Cayambe-Coca program had criticisms and suggestions on how it might be improved, there was nearly universal agreement that it was a good program, and that it provided a means of engaging locals more directly in the management of protected areas and the natural resources upon which their lives depend. Rather than viewing nearby communities solely as threats, the Ranger program turns those threats into conservation opportunities as locals become aware of the area's management objectives and involved in its planning and oversight. IJW

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