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ECONOMIC SUSTAINABILITY WITHIN BIODIVERSITY CONSERVATION PROGRAMS IN ECUADOR (1990 - 2010)

FINAL REPORT

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ACRONYMS AND ABBREVIATIONS

BD	Biodiversity
CAIMAN	Biodiversity Conservation in Indigenous Areas Project
CARE	Cooperative for American Relief Everywhere
CBR	Condor Bioreserve
CI	Conservation International
CRP	Consejo Regional de Palenques
ECOCIENCIA	Ecuadorian Foundation of Ecological Studies
ECOLEX	Management and Environmental Rights Corporation
EMAAP-Q	Empresa Metropolitana de Alcantarillado y Agua Potable de Quito
FAN	National Environment Fund
FER	Rumicocha Ecological Foundation
FONAG	Quito Water Fund
FONAPA	Fondo del Agua para la Conservación de la Cuenca del Río Paute
FSC	Cofan Survival Foundation
FUNAN	Fundación Antisana
GTZ	German Agency for Technical Cooperation
ICAA	Initiative for Conservation in the Andean Amazon
IMIL	Integrated Management of Indigenous Lands
IUCN	The International Union for Conservation of Nature
JatunSacha	Ecuadorian NGO
MAE	Ministry of Environment
MP	Management Plan
NGO, NGOs	Non-governmental Organization/Organizations
PAs	Protected Areas
PIP	Parks in Peril
REA	Ecological Reserve Antisana
RECAY	Ecological Reserve Cayambe - Coca
RECC	Cotacachi - Cayapas Ecological Reserve
SFC	Sustainable Forests and Coasts Project
SUBIR	Sustainable Use of Biological Resources Project
TNC	The Nature Conservancy
ToR	Terms of Reference
UONNE	Unión de Organizaciones Negras del Norte del Ecuador
USAID	United States Agency for International Development
WCS	Wildlife Conservation Society
WP	Watershed Protection
YNP	Yasuni National Park

1 Executive summary

The “Improved Natural Resources Management, Trade and Competitiveness” strategic objective of the 2007-2012 USAID/Ecuador’s Country Development Cooperation Strategy has given priority to activities promoting environmental conservation simultaneously with sustainable economic growth. In order to review the results and impacts achieved as well as to feed the new Country Development Cooperation Strategy, USAID undertook an “*Environment & Economic Growth Sustainability Assessment*” focusing on the following three topics:

- (a) The long-term impacts and activities resulting from Sustainable Use of Biological Resources (SUBIR) and Parks in Peril (PIP) projects,
 - Social, economic, environmental, institutional/capacity building
- (b) The sustainability of productive activities supported by current environment projects
 - Sustainable Forests and Coasts (SFC),
 - Protecting Water Sources to Conserve Biodiversity
 - Integrated Management of Indigenous Lands (IMIL)
- (c) The sustainability of the Quito Water Fund (FONAG) financial model.
 - Determine tools & criteria to use
 - Do time and scale analysis

This consultancy presents the challenge to evaluate USAID interventions that occurred in three different time frames. On one hand, we evaluated projects that ended almost a decade ago, as the case of SUBIR, and three years ago, as the case of PIP. Both projects offer enormous potential for evaluating lessons and verifying current impacts of past interventions. On the other hand, we will look at current activities under implementation in the environmental portfolio. All together, these projects provide USAID with 20 years of experiences and lessons learned to promote economic growth and financial sustainability associated with biodiversity conservation.

Finally, the Quito Water Fund is a mature initiative, whose long-term sustainability was included since the very early stages of planning and design. With almost 13 years of existence and fully operational, this case offers key lessons for replication and challenges to look ahead for the coming 20 years.

After analyzing projects from the current and past portfolio the team found extraordinary achievements over the past two decades. Probably, most of them would not have been possible if the original goals and expectations had not been that high, they pointed to the stars and yet were able to reach the moon. The major weaknesses and challenges found by the team might be derived from the ambitious goals set, but they provide a valuable lesson in terms of designing sustainability recognizing scale and impact constraints. USAID’s work is valuable and proved to complement and add value to national efforts towards biodiversity conservation.

2 Introduction

Ecuador is considered one of the 17 richest countries in diversity of species and ecosystems around the world, being classified as a megadiverse country. The wide range of physical and environmental conditions results in an impressive diversity of natural ecosystems (i.e. wet and dry inter-andean vegetation, rain forest, dry forest, mangroves, wetlands, dry heathland, etc.). Different species and varieties of plants and animals have adapted to these ecosystems and environmental conditions, resulting in a high degree of endemism. It holds 387 mammal species, 1,592 bird species, 422 reptile species, 467 amphibian species (MAE, 2009), and approximately 16,087 native vascular plants of which 4,173 are endemic equivalent to 27% of native flora providing environmental goods and services to humans (Jørgensen and León-Yáñez, 1999). Ecuador's Amazon region alone has registered 4,857 plant species, and 307 tree species found in a single hectare of forest in the Cuyabeno Reserve. Highlands and the Andean slopes have dramatically different but equally rich plant and animal life.

Ecuador is part of the South American countries with the greatest proportion of protected areas (PAs), with 45 protected areas among which 11 are National Parks, 4 are Biological Reserves, 9 are Ecological Reserves, 1 is a Geo Botanical Reserve, 4 are Fauna Production Reserves, 10 are Wildlife Refuges, 2 are Marine Reserves, and 4 are National Recreation Areas. These areas represent an important tool to protect the natural heritage of the country and some of the services needed to achieve environmental and human development, such as watershed protection, power generation, food provision, agricultural heritage, and tourism development.

Ecuador is an important centre of origin and diversity of genetic resources. The Andean region in particular is one of the main centers of domestication of crop plants worldwide (Mujica, Jacobsen, & Ortiz, 2003). Currently, at least 45 species cultivated (i.e. wild tomatoes, potatoes, cacao, cassava, groundnuts) are considered of regional or global significance, representing—if regulated with the proper mechanisms—a potential opportunity for the country to rely on more sustainable economic growth.

The national economy is based mainly on oil extraction, natural gas and mining, which contribute to 26.8% of the national Gross Domestic Product (GDP). Commercialization of agricultural products (including fisheries) is another important source of economic income, representing 6.3% of the GDP (US Department of State, 2009).

However, the current economic development model has been based on unsustainable use of natural resources, resulting in depletion and degradation of natural resources and therefore increasing the vulnerability of national development. Impoverished, marginalized communities living in rural areas composed of indigenous people, afro-descendants or farmers are especially affected. Limited access to basic services, infrastructure, communication and transport is common in these areas. This combination increases pressures on the natural environment, the main source of livelihood for these populations.

3 Methodology

A team consisting of two experts in economic growth and natural resource management and one researcher, conducted the assessment during 30 days in January and February 2011, in accordance with the Terms of Reference provided by USAID/Ecuador (Exhibit 1).

The assessment was based on a conceptual framework that defines sustainability in the context of USAID interventions. This initial exercise defined key sustainability elements and variables such as the existence of enabling legal and institutional frameworks, human capacities, business planning, private sector involvement, as well as tools for effective management and revenue generation.

This broader scope aims at facilitating an integral approach towards sustainability and complements the guiding questions presented in the terms of reference. The team placed special attention on the different project phases and its contribution towards sustainability, to identify whether failure or success correlates to a specific phase, such as planning and design, implementation, or follow-up. The team pursued a reasonable balance between assessing national and local impact, considering also integration with national policies.

Giving the short timeframe the team collected data from available reports, interviews with project partners, technicians and former staff involved in the projects implementation and field visits. Four field visits covered the following projects and destinations: SUBIR productive activities in San Miguel and Playa de Oro in Esmeraldas; Parks in Peril (PIP) in Cayambe Coca and Antisana; Water Funds in Quito, Cuenca and Riobamba; USAID Costas y Bosques in the Gulf of Guayaquil. Analysis is mostly based on perceptions and testimonies, providing a qualified perspective towards the questions and major concerns formulated in the ToR. For this, a set of qualified informants was approached to conduct in-depth and semi-structured interviews (Exhibit 2).

3.1 Limitations

Information: In the case of productive activities from SUBIR, PIP and current portfolio there is no financial information regarding initial investments, flows of benefits, return on investment, etc. In addition, there are no environmental quality indicators available to compare environmental conditions before and after any intervention.

Additionally, with the information available it's not possible to isolate the impacts achieved by a specific USAID project, when other projects are conducted at the same time or when projects are also financed and supported by other donors and cooperation actors.

Extent: In the case where technical information such as environmental indicators would not be available to the team, the assessment would be based upon perceptions and testimonies from qualified informants.

Time: Since we only have one month to carry out this work, we will use sampling. Additionally the team envisions no time to conduct workshops or related validation spaces with actors outside USAID.

4 Sustainability in the context of USAID environmental investments

During the past decade, several structured processes concluded that sustainability goes way beyond the availability of stable and long term funding. In order for protected areas and related indigenous territories to be viable in the long term, sustainability needs to be achieved from different viewpoints:

- Ecologically (through linkages in the landscape),
- Socially (through local and national support),
- Institutionally (through articulation with national policy, training and capacity building), and
- Financially (covering recurrent operational costs).

Sustainable financing of protected areas remains a fundamental challenge to achieving conservation goals in Ecuador and worldwide. Addressing the fact of which areas should be priorities to be sustained or expanded requires the application of systematic conservation planning procedures (Margules & Pressey, 2000).

Funds allocated to PAs have not always resulted in long-term sustainable conservation outcomes. A major reason for this is that much PA finance has been short term and focused on capital investment with very limited support for sustaining PA structures and institutions over time (Emerton, Bishop, & Thomas, 2006).

The sustainability level of a project can be measured by the percentage of goods and services that started with the project that are still produced for a specific period after the conclusion of donor's resources, the continuation of the local activities stimulated by the project, and the generation of services and successor initiatives as a result of the capacity created by the project.

According to the Sustainable Development Strategies: Resource Book, (2000) the following are the key areas to be observed when analyzing sustainability; hence, we used them to analyze the sustainability of USAID environmental investments.

- 1 Strategic management: (environmental, economic, social)
- 2 Communication and awareness-raising mechanisms
- 3 Financial resources, mobilization and allocation
- 4 Information systems: tracking trends, issues, needs; research and analysis
- 5 Monitoring and accountability mechanisms
- 6 Negotiation and conflict management
- 7 Participation mechanisms
- 8 Prioritization, planning and decision making mechanisms
- 9 Change management mechanisms including pilot activities

5 Element 1: Long-term impacts and activities resulting from SUBIR and Parks in Peril

5.1 Background

In order to provide a context for SUBIR and PiP, this chapter presents a brief characterization about the state of biodiversity conservation in Ecuador during the nineties. The following lines describe the most important trends and challenges faced during this period. (Exhibit 3 presents a summary of the impacts of each component of SUBIR and PiP and Exhibit 4 a summary of project's components).

An institutional vacuum marked the beginning of the decade; environmental competences were spread across multiple agencies and ministries with weak articulation. Biodiversity conservation was mostly limited to national parks and protected areas management under the Ministry of Agriculture. The first structured attempt to institutionalize the sector was done in 1993, right after Rio, with the creation of the Environmental Advisory Commission to the Presidency. Three years later the Ministry of Environment was created and inherited direct responsibility over protected areas and forestry sector.

Between 1936 and 1990 15 Protected Areas (PAs) were created in Ecuador totalizing almost 14% of the national surface. By 1976 the National PAs System was consolidated with 9 PAs, in 1989 a System with 24 PAs was envisioned and guided the creation of new PAs for the following decade (Josse, 2000). During the nineties 11 additional PAs were created expanding the PA system to cover 17% of the national surface. Most of these PAs remained as paper parks for years without in situ conservation management plans or direct budgetary allocations. By the end of the decade 24% of the PAs system was intervened by atrophic activities, and private owners still owned 29% of the land.

PAs were created without participative and consultation processes with stakeholders and communities, leading to important conflicts whose consequences are still visible nowadays. Most of these areas were and still are inhabited by people, whose needs and concerns were not incorporated into PAs management. The management approach then followed a strict protection policy and prioritized activities within PAs boundaries. Although the PAs System considered different management categories somehow linked to IUCN's classification system, there is no differentiated management between categories even today. Sustainable use of natural resources, access to biodiversity benefits and community participation were alien concepts for authorities and PAs managers prior to 1990.

Human and institutional capacities were inherited from the Ministry of Agriculture, large part of the staff possessed forest engineering background and limited skills and knowledge to ensure effective in-situ conservation. Maps and information systems were at a very early stage and only few attempts existed to document and generate the first biodiversity and ecosystems baselines.

The nineties marked the foundation and consolidation of national Non-Governmental Organizations (NGOs) such as Natura, Ecociencia, JatunSacha, mostly fuelled by international cooperation and donor funding. These NGOs became a fundamental source of technical capacities that developed into a strategic partner to the national authorities to implement conservation programs and projects. Both SUBIR & PIP became the pioneer projects that set the stage for a change in Ecuador.

5.2 Analysis of Long Term Impacts

Several of the SUBIR and PIP impacts have endured over time mainly because activities conducted afterwards, built upon these experiences. Lessons from SUBIR and PIP are being put in practice in new projects mostly due to the institutional and human capacities created. Moreover, the impacts of these projects were not only local but they also made substantial contributions to national level policies involving protected areas, land tenure, and forestry.

In terms of long lasting impacts both projects are recognized as fundamental contributors towards a paradigm shift in biodiversity conservation in Ecuador:

- In the case of SUBIR it positioned the notion of conservation beyond PAs boundaries, incorporating communities and other key stakeholders into the governance and management of PAs. Even nowadays communities targeted by SUBIR are less likely to engage in deforestation practices than other similar neighboring communities. The inclusion of community park rangers (selected through community assemblies) has proven to be an effective tool to mitigate some historic threats such as illegal hunting, paramo burning practices, and expansion of the agricultural frontier.
- SUBIR was responsible for the integration and political recognition of the rights of the Afro-Ecuadorian people. The project was determinant in rescuing Afro-Ecuadorian culture; it managed to achieve constitutional recognition as ancestral peoples, which allowed them access to land property rights.
- PiP introduced advanced methodologies and analysis tools such as ecosystem and landscape planning and PAs business plans that were later, transferred to other PAs. PiP positioned the concept of environmental services and left as a legacy the first long-term financial mechanism for watershed conservation in the country that has benefitted a number of PAs.
- The capacities created both in terms of technical profiles that conducted the projects as well as the communities and grass roots organizations that benefited from them, are probably the most important impacts out of USAID investments. While some profiles are still involved with USAID's portfolio, many others are currently in important leadership positions both at national and local levels.

5.2.1 Strategic management

Both projects were conceived and conducted in a strategic way, integrating environmental, economic, cultural and social, and institutional factors and not seeing conservation and development as conflicting goals. For example, SUBIR's Phase III shifted attention to an identified lack of sustainable economic alternatives for local communities and aimed to raise capacity for managing economic initiatives.

Institutional strengthening was carried out at different levels (NGOs, local organizations, communities). The support provided by USAID was essential for the consolidation and creation of NGOs that to this day have a leading role in the national environmental scenario (Ecolex, Ecociencia, and JatunSacha). While Ecolex managed to diversify its funding sources by selling services, Ecociencia and JatunSacha's financial sustainability was spoiled after the end of the project.

Environmental leadership and capacity building are among the lasting impacts of SUBIR and PIP projects. A whole generation of conservation practitioners was born out of these projects and most of them are still working in the field.

Capacity building through networking, best practices, hands on experience and training in operational, technical and legal (through certification of paralegals) issues provided important sustainability tools to key players.

The strengthening of grassroots/local organizations was less successful; although some have established their legal status and continued to exist. The disappearance of some organizations after project termination, suggests the need for longer periods of coaching and training.

SUBIR focused its policy and legal issues strategy in three main areas: formation of community paralegals, land tenure, and support for the development of a forestry policy.

Probably one of the major obstacles identified throughout the project was land tenure rights. Moreover, this is still considered a big challenge all across the PAs system. The process is complex, long, and expensive, and these barriers have reduced the opportunity for communities to access their land titling. As there was no easy procedure and no capacities to address these issues in land tenure, threats and pressures over the areas were increased. A major strategy of the project to address this issue was a training and certification program to generate community paralegals. This result has endured over time; other projects have benefited from and reproduced the paralegal training program. Community paralegals have also supported communities to solve other conflicts not directly related to the protected areas and have gained recognition within the community. In terms of long term impacts, this initiative is now been followed up by Ecolex through the National Paralegals Network. Thanks to these efforts key areas such as the Gran Chachi Reserve and the buffer zones from Cotacachi Cayapas were later able to access subsidies from Socio Bosque with support from USAID's project SFC.

Box 1.

Paralegals were trained to help with land tenure issues. At present, it is a strong initiative that continues the creation of capacities and contributes in solving legal matters.

Community park rangers are one of the most successful and sustainable activities out of SUBIR and PiP portfolio. This also contributed to maintain a direct contact with the community and not working isolated as was the early practice. In Cayambe Coca National Park these rangers are now financed by the Ministry of Environment, FONAG and EMAAP-Q. Both FONAG and EMAAP-Q are also covering salaries in Cotopaxi and Antisana. FONAG currently funds 11 Condor Bioreserve park rangers, but it plans to expand this assistance to reach 20 park rangers by the year 2011.

In the lower zone of Cayambe Coca community rangers are now financed by Fundación para la Supervivencia Cofan (FSC). This foundation manages a community rangers program that serves three PAs in the Amazon basin, mostly financed by American donors such as MacArthur

Foundation, Chicago Field Museum of Natural History, Gordon and Betty Moore Foundation, The Nature Conservancy and Conservation International. FSC has been trying to set up a trust fund to ensure its financial sustainability but has encountered difficulties in attracting seed capital. Three major reasons could be argued with this regard: (a) the effect of the global economic crisis on key donors; (b) the demand for this kind of resources exceeds the supply by several orders of magnitude, demanding global competitiveness; and (c) endowment funds require clear financial and administrative standards than the existing ones from the beginning in its constitution.

Finally, SUBIR technicians supported the Ministry of Environment in the drafting of standards for forest management, which constitute a SUBIR legacy since they remain in effect to date. A proposal for the national forestry law was drafted; however, this proposal was not adopted. In a more government-aligned strategy, USAID SFC is currently working with the Ministry of Environment to outline the new version of the national forestry law.

5.2.1.1 Ecotourism

Ecotourism activities were prioritized by SUBIR and PiP as a means to promote sustainable and alternative uses to biodiversity. Just one, out of four initiatives assessed (Oyacachi Hot Springs), is still operational and financially sustainable. Oyacachi received support from SUBIR and almost a decade later from PiP and the GSTA (Global Sustainable Tourism Alliance, another USAID-funded project). Although still fully operational but poorly maintained, it attracts a stable flow of low-income visitors mainly from neighbor communities. Despite a well-designed infrastructure and several business plans, marketing strategies, and training, the community

never accessed a higher end market. This contrasts with what happened to Termas de Papallacta, a privately own resort not far from Oyacachi. It is worth mentioning that after visiting the Oyacachi community one does not have the impression of a place that highly benefited from such important investments over time. For example, infrastructure at the Hot Springs is still unfinished; there is no visitor's or environmental education material available; very few signs show the way to and from the Hot Springs; there is no particular tourism planning visible; and, few (if any) tourism services have flourished.

Box 2.

Although Oyacachi Hot Springs is currently operating, it is mostly attracting local and not foreign tourism; hence, the capacity to generate profits diminishes due to the niche's very low income.

Other tourism projects that failed include Sinangue, Playa de Oro, and the two pathways managed by Fundación Antisana (a national NGO). All have a few things in common:

- (a) Projects were product-driven and not demand-driven
- (b) No business plans or financial tools were used either to guide or implement investments.
- (c) Infrastructure was usually built first, before knowing what kind of visitors or markets the project was trying to reach.

(d) No strong partnerships with private tour operators were reached.

(e) Projects were quickly transferred to the beneficiaries, who were unable to fully gain appropriation of the projects

A general trend in all these cases is that activities were mostly supply driven and prioritized infrastructure development and training. No useful feasibility study or business plans have been conducted for these projects. A particular weakness exists in terms of commercialization and access to markets. Communities were not given various options to choose from; on the contrary, in all cases projects were enforced from the outside following a “take it or leave it” approach.

In contrast, a more recent USAID-funded project (CAIMAN Project), presents a case where the investment in the Huaorani Ecolodge is thriving due to a well thought mechanism of partnership between a group of communities in the Huaorani territory and an Ecuadorian private enterprise.

5.2.1.2 Other activities

The team found two different kinds of projects whose design approach and expectations should be differentiated. In one hand, we have low scale self-subsistence projects whose goal is to generate an alternative source of income for poor rural livelihoods while promoting sustainable practices and environmental education. It is likely that the vast majority of productive projects fall under this category, although it is unknown for the team if this is also reflected in the level of USAID investments. Due to scale and accessibility constrains, these initiatives are not likely to succeed in terms of traditional market-based sustainability. Moreover, given the population’s limited education and poverty level in places where these initiatives are undertaken, a reasonable impact would be to ensure that practices are maintained over time in order to benefit the population from avoided expenses and increased protein consumption. Sustainability in this context demands longer follow-up periods and personal assistance. An agronomist that was involved in SUBIR recognizes around 5% of success in agro-forest activities 10 years after SUBIR ended.

Box 3.

Illegal logging is considerably lower in communities benefited by SUBIR in comparison with others in the same areas.

On the other hand, we have productive activities that involve greater investments and its sustainability depends on the existence or creation of a market and a reasonable level of business skills. Only few initiatives could be mentioned with these characteristics, and probably just one or two have achieved sustainability. A common element in past and current productive activities within projects lies in the absence of financial analysis and market based tools for project screening and decision-making that ensures long term financial success for those participating and improves community’s welfare by enhancing economic conditions. Although

environmental NGOs partners of USAID are currently more aware of the need to follow a business approach, they still lack the expertise and capacity to design and run a successful business. Cultural constraints, particularly in indigenous communities, place an important challenge and barrier to promoting entrepreneurial skills and business like practices. No formal link or joint venture with the private sector was found, which could perhaps make an important difference in how these kinds of projects are approached.

Historically, the linking of communities with private industry has taken the form of concessions where the outsiders control and the community only receives a small fee for their resource. This is a paradigm that conservation groups must address in their projects. How to address that capacity gap equitably is a big part of the design and that needs to be recognized. In addition, the point of having a realistic timetable for its goals is a point that should be considered in all programs—AID should program to the need of the project and not expect every project to be the same.

5.2.2 Communication and awareness-raising mechanisms

One of the strongest achievements has been environmental awareness. As a result of multiple campaigns and training programs, many communities understood the value of biodiversity conservation and the direct impact to their livelihoods. In the case of SUBIR the awareness raised together with the social fabric facilitated by the project mobilized Chachi and Afro communities towards defending their natural resources. As a result, illegal logging activities were intensely reduced and mining activities were stopped several years after the end of the project. This helped to set up the foundation needed for USAID SFC to facilitate access to the Socio Bosque Program to Chachi and Afroecuadorian communities. USAID SFC has also extensively worked in environmental awareness through field schools, linking the benefits of conservation to higher income –or higher savings.

The idea with the campaigns conducted has been to stimulate behavioral changes, promote conservation practices, and motivate community participation in the conservation of the natural resources. The level of knowledge and involvement today is undeniably superior to what existed prior to the projects despite the fact that productive projects were not continued after the completion of projects, such as the case of the eco-tourism project in Playa de Oro. We personally perceived that communities still maintain the interest and awareness towards conservation in a visit done to the area. In some cases sustainability was probably achieved but the project lacked the information or tools to track and communicate it.

Nevertheless, one discontent about SUBIR was the absence of a robust strategy to communicate the results achieved by the project in order to promote further appropriation and invite other partners to follow up key processes. Many valuable studies, maps and sources of information were not published and several years after the projects ended are not available. Conversely, PiP was more careful and managed to ensure a strategic and participative closing process, leaving among other communication tools a web page and CD with all the information, consultancies and systematization of the process.

5.2.3 Financial resources, mobilization and allocation

Financial sustainability was not a critical component for SUBIR. Although it has been mentioned in interviews to be a cross-cutting or transversal issue for the project, no concrete strategies

and/or specific activities were developed with this regard. This could have been affected by a previous paradigm that envisioned that PA financing was exclusively a governmental duty, with the complementary support from the international cooperation.

PIP and other prior projects have financed conservation and management activities within the Condor Bioreserve boundaries. As a consequence of this external funding presence, national authorities have not prioritized the Condor Bioreserve in its budgetary allocations. USAID’s contributions have been critical to the maintenance of the area.

At the beginning of PiP the project’s financial sustainability was not envisioned by project partners as one of the central element to ensure continuity in the Condor Bioreserve. However, midway PIP project incorporated financial sustainability as a concern and some measures were taken; nonetheless, time was not enough to actually implement and achieve some of the expected results.

In general, parties involved with these projects expected the funding to last forever; hence, there was very little concern for financial sustainability. Moreover, dependency on external assistance for PAs conservation has been a common practice around the world. Nevertheless, we detected an absence of clear strategies to ensure continuance and stability of processes and investments. It is important to note that PAs from the Condor Bioreserve are comparatively in better shape in comparison with the rest of the PA system.

Table 1. Comparison of budgets and assets between Condor Bioreserve PAs with the rest of the PA system

Name	Total of Park Rangers	Area per Park Ranger (Ha)	Budget USD (2004)	Assets USD (2004)
			Baseline	
Cayambe Coca	34	11,856	159,474	83,106
Antisana	17	7,058	82,662	62,712
Sumaco	13	15,788	94,709	153,905
Cotopaxi	11	3,035	72,577	14,853
Ilinisas	4	37,475	30,570	10,670
Llanganate	5	43,941	45,952	2,545
Total Bioreserve PAs	84	119,153	485,944	327,791
Average Bioreserve PAs	14	1,419	80,991	54,632
Total rest of SNAP	172	303,434	1,179,326	1,001,163
Average rest of SNAP	8	1,764	51,275	43,529

Source: Prepared by the authors.

On the other hand, just a few initiatives dealt with the financing in a proper way. For example, the Quito Water Fund (FONAG) capitalized over six years, USD 4.9 million in donations from its contributors, making it a source of long-term financing for conservation activities related to water resources and their associated ecosystems in the Condor Bioreserve. Since FONAG’s creation 15 years ago, USAID has contributed USD 2.6 million.

In addition, the Papallacta’s lake system became a source of financing for biodiversity through tourism activities in the highland zone of the Cayambe-Coca Ecological Reserve. Currently, 70% of the population works in tourism activities, which has become their major source of

income, hence reducing the pressure on the protected area. Some of the tourism projects were born with SUBIR I, and supported by latter cooperation projects.

Although PiP did not capitalize the National Environment Fund (FAN) as expected, it strengthened FAN institutionally to enhance its ability to attract additional funding. According to the fund Director, PiP contributed in other manners to the capitalization of the Environment Fund, such as supporting the process towards the financial sustainability of the Ecuadorian PA system that generated funding targets and specific national level financial strategies. Nevertheless, the scientific information generated by PiP together with the increased awareness about the importance of PiP's protected areas generated a solid ground for other donors such as the German Cooperation to prioritize Cayambe Coca and Antisana and allowed new areas to benefit with a recent capitalization of the Protected Areas Fund from other sources. Moreover, during 2011 an additional capitalization is expected to benefit six new PAs, out of which at least two are from the Condor Bioserve (Cotopaxi, Ilinizas or Llanganates are likely to be included).

The Protected Areas Fund has reached USD 20 millions in endowment funds, 50% of the expected goal. Even though national authorities recognize that FAN is doing a good job and complements the role of Government, its ability to further capitalize additional funds is seriously affected by political uncertainty. The current government does not support trust funds and similar instruments where private actors manage public funding. Nevertheless, for the past four years FAN has proved to be an effective tool capable to achieve its mandate while maintaining independence and autonomy from national authorities.

Table 2 presents all current PAs benefited by the Protected Areas Fund. PAs that were attended by USAID investments evaluated in this report account for 61% of the total PAs financed by the PA Fund. Two out of the six PAs from the Condor Bioserve are also part of the list, and two additional ones to be confirmed between Cotopaxi, Ilinizas and Llanganates are likely to join the protected areas fund during 2011.

Table 2. Budget execution report Protected Areas Fund 2010; USD

Protected Area	Approved budget
Reserva Ecológica Mache Chindul	57,557.00
Parque Nacional Machalilla	57,557.00
Reserva Ecológica Cotacachi Cayapas	57,557.00
Reserva de Producción Faunística Cuyabeno	57,557.00
Reserva de Producción Chimborazo	55,000.00
Parque Nacional Sumaco	160,871.87
Parque Nacional Sangay	58,000.00
Parque Nacional Podocarpus	57,557.00
Parque Nacional Yasuní	57,557.00
Reserva Ecológica Cayapas Mataje	57,557.00
Reserva Ecológica Manglares Churute	57,557.00
Refugio de Vida Silvestre Pambilar	30,000.00
Reserva Antisana (Aporte AGIP)	57,757.00
Totals US\$	822,084.87

Source: Prepared by the authors, with information from the National Environmental Fund.

5.2.4 Information systems: tracking trends, issues, needs; research and analysis

SUBIR and PIP gathered a large amount of biological information, in many cases for the first time, such as was the case of several species inventories and tropical forest data. Many collaboration projects with university students were undertaken to gather and analyze data; however, this information has not been systematized, hence, most of the research information is either hard to obtain or lost. Moreover a large part of these information sources were not published and therefore remained as grey literature difficult to access.

Parks in Peril developed a monitoring system for Condor Bioreserve based on Geographic Information Systems, including a website that provides public access to maps, tables and graphics showing the main indicators generated within the system. Monitoring systems were expensive to maintain and no strategy was developed to ensure its continuity after project completion. A monitoring system usually exceeds by several orders of magnitude the normal lifespan of a project, but its performance is tied to the continued availability of resources and a reliable partner that ensures a long-term commitment towards data gathering and analysis. After PIP completion, PIP partners failed to identify additional funds to maintain the system running. However it is likely that the original “Andean Bear monitoring system” was used as a basis for the current “Tapir monitoring system” currently managed by Ecociencia. The website “www.mapasbrc.org” is not operational at the moment.

In general terms both SUBIR and PiP projects achieved important milestones in terms of information systems, generating maps, socioeconomic data, and biological information. In some cases the information generated was pioneering and used state of the art technologies and methodologies. However, the absence of a national entity or long-term partner dedicated to update, manage and maintain these systems after project funding was over resulted in the breakdown of the information systems implemented. Currently, information systems mostly respond to individual initiatives; for example, we found an initiative carried out by community park rangers to record the appearance of bears, but it was conducted in a non-technical way, not systematized and was not integrated to any information system in the protected area.

Information systems proved to be the less sustainable initiative over time, mostly due to the absence of a solid national entity that systematizes updates and analyzes this kind of information, but also because the design of these activities did not sufficiently incorporate their sustainability. A university or research institute could do this, but to ensure its sustainability it would need to charge for the service and likely receive some donor and government’s support.

5.2.5 Monitoring and accountability mechanisms

Since these projects were conducted with USAID funds, all the monitoring and accountability mechanism used by the institution were in place from the very beginning. However, it could have been improved with

- (a) Public feedback mechanisms
- (b) Citizen report cards and surveys to seek communities’ feedback on services rendered
- (c) Social audits

(d) Alignment with Ecuadorian Government's programs

A major setback identified during interviews was the failure in defining a responsible entity to take over activities once the leadership provided by the project ends. Nowadays the Ministry of Environment has taken the lead on some key processes; however, necessities exceed its management and financial capabilities.

5.2.6 Negotiation and conflict management

Phase II of SUBIR added a new component, in the form of policy analysis, dialogue, and training. Through this component an ancient conflict between the Afro-Ecuadorian and Chachi communities was solved successfully. In the case of PIP a number of conflicts related to the use of natural resources were systematized and technically addressed, such as the case of Andean Bears attacking cattle and paramo burning practices.

5.2.7 Participation mechanisms

Participation is the process through which stakeholders influence and share control over priority setting, policy-making, resource allocations and access to public goods and services. Paralegals and community rangers were fundamental strategies to ensure broader participation and appropriation towards PA management. A number of grass roots organizations and local NGO's were created and strengthened by these projects, generating the seeds for sound PA governance.

With the introduction of these projects, local actors' capacities were strengthened and conservation and sustainable resource management issues were positioned on the national and local agendas. Thus a critical mass was built to support participatory decision making processes for protected areas management.

5.2.8 Prioritization, planning and decision making mechanisms

Both projects devoted resources to promote sound land use management. Moreover, SUBIR sought to develop a regional land use strategy that incorporated land tenure, sustainable forestry plans, green certification for wood products, and institutional strengthening into a legal and planning framework that would contribute to biodiversity conservation both inside and outside protected areas.

PiP developed PAs management plans (MP) utilizing valuable information on the cultural dynamics of communities. In many cases PiP partners worked with communities to complete management plans based on these diagnostics. Initially communities did not fully understand the use of this tool. Several additional tools were developed by PIP partners, such as guidelines to prepare MP, guidelines to implement MP, and training programs to empower key actors in the implementation of management plans.

Many of the MPs were implemented through MP Committees formed by key actors of each area. Due to local and regional political instability, participation of key stakeholders (communities, landowners, local governments, associations, etc.) was fundamental.

MPs were the basis for the continuation of activities after the end of PIP. In the case of the Condor Bioreserve it should be noted that while The Nature Conservancy (TNC) and implementing partners were able to give continuity to various activities with other funds, each

institution gave priority to the area where it worked. The goal of keeping the connectivity between protected areas was not maintained.

Cayambe Coca National Park recently updated its MP. The Cofan community under ICAA project has shown interest in updating its MP. However, there is not sufficient information at this point to determine if all MPs have been fully implemented after PIP termination, nor if they have been updated.

5.2.9 Change management mechanisms including pilot activities

The perception is that some activities promoted under these projects were more imposed than selected through a participatory mechanism. Hence, when a pilot project was conducted, no change management techniques were used; therefore, it increased the probability of being rejected by the community.

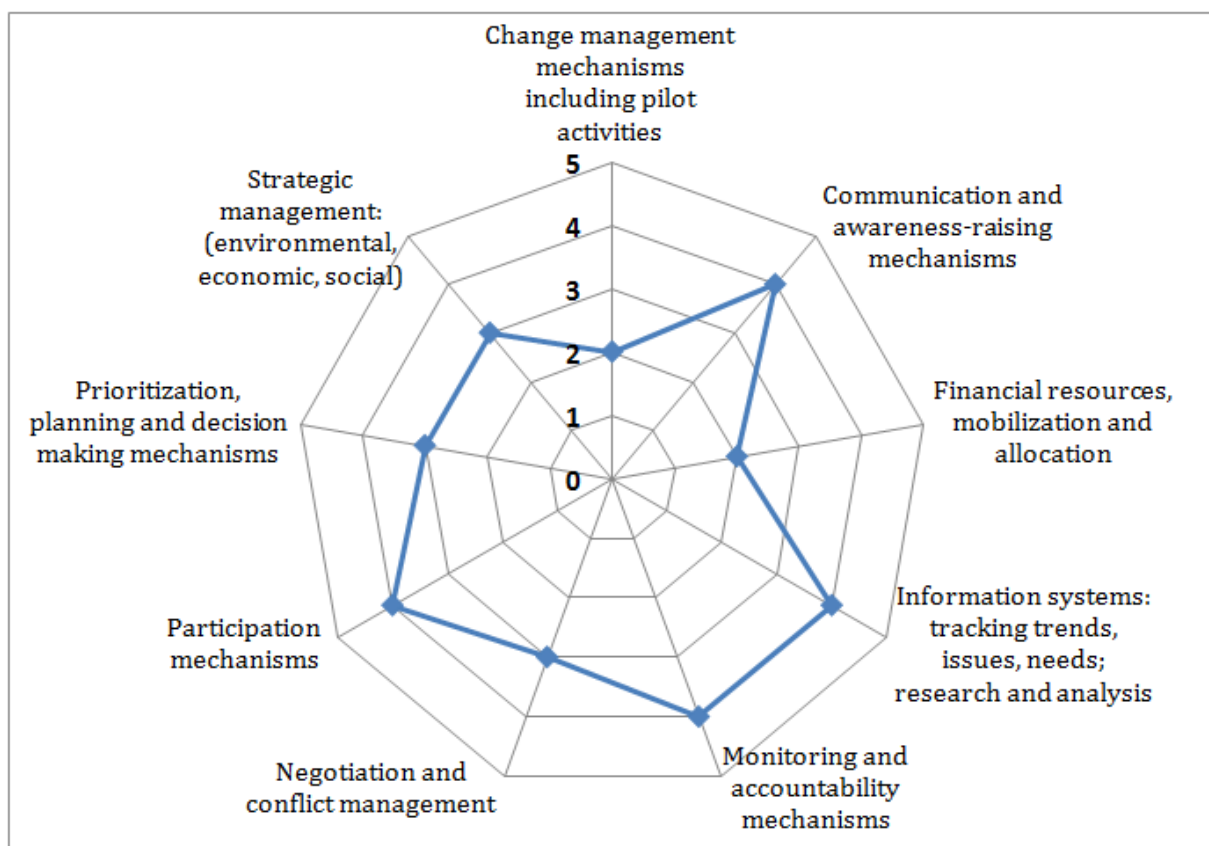
In addition, the change from pure conservation projects to sustainable conservation projects was conducted in a vague way. Basically, activities were undertaken with the conservation objective in mind, not with a clear understanding of financial sustainability. Usually activities were supply driven and not sufficiently articulated to the demand. Moreover, most of them lack a business plan that includes a comprehensive market study and commercialization plan professionally done. One of the reasons why these market tools were not used might be due to the scientific and/or environmental background of the implementing partners. Nevertheless, some projects are still working, such as the artisan market in Oyacachi.

Activities undertaken to improve land use management focused on the improvement of current land use and productive practices. This is because the goal for these projects is conservation; hence, they often address the problems being caused by existing practices on the basis of their conservation goal rather than any economic one. In addition, the capacity for the community to participate actively is a factor driving the development of known activities rather than new ones. Most of the training programs were aimed towards the optimization of these practices (best practices training) focusing on improving existing activities and creating demonstrative farms. Financial sustainability and profitability were not the main focus given scale constrains and the fact that existing activities were oriented towards subsistence economies. The implicit assumption was that undertaking best practices was going to benefit the protected area (i.e. less soil erosion).

- Figure 1, presents a summary of the sustainability evaluation of SUBIR and PiP projects. For example, for SUBIR and PiP we reviewed if the following was conducted: Developing and reviewing sustainability indicators, baselines, standards and codes of practice.
- Adequate processes of debate, agreement, learning and ultimately behavior change.
- Analyze trade-offs; transparency in the decision-making process; and the mobilization of alternative support to reduce the possibility of compromising long-term objectives.

For a complete rubric on how to evaluate each sustainability criteria please see Exhibit 5.

Figure 1. Sustainability



5.3 Lessons Learned

In general, one may conclude that both SUBIR and PiP, projects conducted by USAID, have been very valuable and proved to complement and add value to national efforts towards biodiversity conservation. They created the foundations needed when governmental efforts were incipient. Part of the success of both USAID projects comes from the following:

- (a) Project identification: Although, they were not identified based on an explicit environmental or conservation strategy, they were selected based on threats and biological significance.
- (b) Project design: They went through a project design process that has helped to achieve some of their objectives, for example, one requisite accomplished was clear understanding of the national context¹.

¹ As observed in the projects' documents studied.

- (c) Project implementation: In general, the role of the implementing actors was clearly defined and the political support obtained was key in implementing the projects.

Nevertheless, some impacts were not long-lasting. Interviews suggested some of the reasons why impacts have not endured after project completion. Most of them are related to the absence of concrete tools and guidelines to incorporate sustainability into planning, implementation and decision-making. In general terms:

- (a) The absence of a clear definition of a project's timeline introduced uncertainty to the different stakeholders.
- (b) The continuation of leadership was not ensured. Project teams did not identify a responsible entity to take the lead after project funding was over.
- (c) The perception is that project targets were too ambitious considering that the lifetime of the projects was around three to four years and there was great uncertainty regarding new phases or extensions. Since projects were conducted in the short run, there was no time to ensure sustainability in the long run (myopia).
- (d) Tourism investments were mostly supply driven, meaning that the project placed more energy and resources to organize and generate the destination rather than to ensure a flow of visitors. Partnerships with private enterprises have shown to be more sustainable in the long-term.
- (e) Projects were implemented and managed mostly by partners from the environmental and development sector without business or tourism expertise.
- (f) Eco tourism projects were established without a real involvement and ownership from the community, such as was the case in Sinangoe.
- (g) Initial planning and project conceptualization did not incorporate enough government and community actors, resulting in weak articulation with the national development agenda and environmental policy.
- (h) Productive projects were a response to the assumption that pressures to biodiversity were based on the absence of economic alternatives, but were not able to prove that increased income would lead to more sustainable uses of natural resources
- (i) Little attention was placed on the risk to monetize and incorporate rural and indigenous communities towards market economy. Business skills, knowledge, attitudes and values were promoted without sufficient attention to cultural and social risks.

6 Element 2: Sustainability of productive activities supported by current biodiversity projects

In each project, biodiversity conservation activities (e.g., training in natural resource management, scientific studies, maps of environmental threats) are combined with “productive” activities (e.g., training in ways to harvest red crab without harming the mangroves they live in, providing training in handicrafts, or providing equipment to small communities, etc.) that seek to

boost incomes and/or employment. The purpose of these activities is to achieve biodiversity conservation; hence, productive activities are the means to an end. USAID believes that residents of sensitive and bio-diverse areas must have consistent and sufficient income from environmentally, economically, and socially sustainable practices. Such income reduces the incentive to use natural resources in ways that offer short-term economic gains while eroding the long-term health and productivity of the lands and watersheds. Beyond this logic, the “productive” activities approach facilitates the project’s entrance to communities and provides political support to undertake other activities. Nevertheless, USAID SFC approach is to reduce treats to biodiversity avoiding false expectations from communities involved.

These productive activities and other mechanisms, like the Cofán Park Guards model, are often offered up as an essential element of the sustainability of the environment portfolio—despite their small share of project budgets and activities—given that they create sources of revenue that may endure beyond the infusion of USAID resources. If we consider that just one out of ten businesses survive in Ecuador after a three-year period, we have an indication of the probability of success of activities that are undertaken in poor rural communities with limited accessibility and capacity constraints.

However these kinds of activities demand a long-term commitment and a very careful approach, since they imply introducing rural insolated communities into market and business practices. Cultural and governance considerations are often the major barriers to success and suggest the need for structured change management processes that could take longer periods of time than the normal lifespan of a USAID project. The short-term implementation periods found in the current portfolio do not seem compatible with the communities’ demand for longer planning periods where productive activities are the result of a participative selection where communities are given the chance to choose among different choices.

Positively, sustainable productive projects have made inhabitants aware of the need for a sustainable livelihood, which is encouraging them to carry out activities in a more sustainable way. Poverty conditions of communities can cause them to take on extractive activities in their territories; however, there is a perception that they may prefer sustainable activities that allow them to retain their identity and ownership of their land.

Regarding communication and awareness-raising mechanisms, USAID SFC uploaded all technical documents to MAE’s webpage and shares them to Government’s authorities. In addition, USAID SFC focuses on increasing technical and institutional capacity to protected areas’ managers as well as to regional governments and municipalities.

6.1 Current conditions for projects assessed

(a) The main objective of the projects is Conservation

- Given that these were designed as conservation projects, the main goal was to reduce or eliminate conservation threats. Financial sustainability has not been an essential criterion considered.
- Activities are usually being carried out by scientific/biologist staff with no formal business training or real experience in building a successful business.

- With few exceptions, financial, market or viability assessments have not been routinely or consistently performed.²
- No financial or economic information is collected to measure sustainability or success, both during baseline assessment and implementation. In cases like SFC it might be too soon to expect results from analyzing this data.
- Since the criterion for selecting where conservation projects are implemented is environmental, the choices of productive activities are constrained by that goal. Hence, the selection of productive activities does not directly respond to financial criteria; if they would respond first to financial criteria, they would probably be undertaken in other geographical areas that offer better opportunities. Nevertheless, in most projects being implemented today, if a productive activity is chosen within those constraints, its economic potential is not ignored and the limitations are usually recognized and discussed. In the case of indigenous populations the criteria is mainly social and institutional considering previous experience and able partners.

(b) Projects are evaluated with impact assessment criteria and not efficiency criteria, the criteria for judging a conservation project is whether the area is conserved

- Net Impact ≠ net benefits.
- Implicit assumption is that net benefits are positive leading to not even measuring them.
- Financial net benefits are not really measured in the majority of projects.³
- Current approach prioritizes adding value to mature and on-going projects and activities, rather than starting new ones. This somehow helps address the problem of short project cycles.
- Short implementation periods generate an incentive for playing safe and avoid risks

(c) It is not clear if the communities undertaking new activities being promoted are abandoning old ones or if activities are being carried out simultaneously.

(d) The link between increased income and improved use of natural resources is still weak and not measured with exceptions such as the crabs in mangrove concessions.

6.2 Selection Process

In general terms, productive activities under the current portfolio are selected based on traditional environmental and conservation criteria. Moreover, it is important to mention that since these projects are tagged under USAID's biodiversity funds, they must follow the specific criteria developed by the Agency that could be found in the following link: http://www.usaid.gov/our_work/environment/biodiversity/code.html

² Exceptions mentioned include tourism activities such as Yaku Kawsay, Secoya Lodge, handicrafts and small livestock and fisheries. USAID SFC also performed market assessments for some activities.

³ Generally some basic information about income and costs is collected, but there is limited effort to collect baseline information on household incomes in order to measure net increase.

This means that the first major filter is ecological, prioritizing sensitive ecological areas and key conservation objects based on existing pressures within them. Productive activities are chosen due to their potential to address major threats and pressures to biodiversity. Productive activities are mostly directed to the communities living in or close to the conservation objects, which conditions success given that these communities are affected by poverty, lack of education and limited accessibility. An additional challenge is that out of the potential range of profitable activities projects the ones pursued must not pose a threat to biodiversity. Also, activities tend to be chosen according to their potential to achieve results and impacts in the short-term due to the uncertainty to ensure a long-term commitment.

As opposed to previous approaches, current productive activities prioritize synergies and tend to complement other existing initiatives, in some cases following up on past USAID projects. There is a recent concern about avoiding the encouragement of new activities or promoting a radical change in existing productive patterns that was not present in the early efforts. Nowadays, the projects try to improve current farming practices of products being exploited to increase sustainability and substitute practices that are not compatible with biodiversity conservation.

USAID Sustainable Forests and Coasts stress the fact that their main objective is biodiversity conservation; hence, their project should not be look at as if it was a productive activity per se but as a means to alleviate threats to a particular area by improving living conditions. The idea, then, is to illustrate the value of biodiversity under the premise that once one person values a good or environmental service it is expected that he/she will be drawn to protect it. Instead of prioritizing new activities, the project seeks to improve current productive activities and add value through transferring best practices and linking production to markets, acting as an honest broker. The Project assumes that once business linkages between farmers—or harvesters—and buyers are created, the market forces will perpetuate trade in the long run.

The approach used by the *Integrated Management of Indigenous Lands* project has been direct coordination with communities analyzing their life plans and interests. Productive activities are assessed and prioritized in a participative manner, leaving the final decision about what activity to prioritize in the hands of the community. Several of IMIL productive activities began under other USAID funded projects (CAIMAN for instance). IMIL supports these ongoing activities with capacity building programs, purchase of equipment and supplies, and infrastructure, among others.

The *Watershed Protection* productive activities have been mostly selected for their self-subsistence potential with no intention to serve the outside market. These projects work with very poor people. Activities tend to be family businesses mainly intended for self-consumption and trade with neighbors and relatives. FONAG invests in training, technology transfer, and inputs' provision.

Box 4.

FONAPA, Cuenca's Water Fund, facilitated the cooperation between Lacteos San Antonio and a milk gathering center. The plant provides equipment and technical assistance to the small farmers, who not only have improved their production process, avoiding the use of the Paute's upper watershed, but at the same time obtain better prices for their milk.

Following a somewhat different approach, FONAPA has been working with farmers who have been doing something productive and just need some technical assistance.

The Integrated Management of Indigenous Lands (IMIL) and Watershed Protection (WP) projects have selected their productive activities according to existing practices or communities' interest, often related to the use of an area's natural resources. The approach has been to optimize these activities through capacity building, best practices, and institutional strengthening. In most of the cases, if not all, they are subsistence activities focused on avoiding costs (with the exception of eco-tourism initiatives) and aimed at alleviating threats on unique ecosystems rather than providing real economic alternatives to communities. The opportunity cost for these communities would be to work for the oil companies, in which case they gain a considerably higher level of income in comparison with the productive activities promoted by projects. It is important to note that in these cases activities have tended to be selected in a participative manner involving beneficiaries and communities.

6.2.1 *Studies Performed*

It is common to find that business feasibility studies to supports the selection of productive activities under the current portfolio are either inadequate or absent. The use of economic and financial analytical tools is not yet a common practice for environmental NGOs or in general for biodiversity conservation projects. Exceptions are analyses performed for crabs production and forest nurseries, for the USAID SFC program.

Productive activities are mostly conceptualized as means to generate alternative sources of income for poor rural livelihoods, aiming at the same time to reduce the pressure on natural resources exploitation. Conservation objectives prevail when selecting and prioritizing alternatives, leading into productive activities with no real potential to access markets or practices that could be difficult to sustain without a long term commitment to follow-up.⁴ Change management demands time and results such as a cultural change cannot be expected in one year.

FONAG mentions the existence of feasibility studies according to the scope of the activity.⁵ Examples of what they have done include:

- (a) For the “Cuy Productive Chain” project conducted in Cayambe, Chaupi and other parroquias they calculated the current per day/per capita income and possible changes with the project. Although FONAG’s personnel mainly concluded that the “cuyes” production is more for self-consumption than for commercialization, the option to create an alliance with an anchor company such as CAMARI was analyzed. Follow-up on this initiative was closely conducted and success and failure causes were determined.
- (b) A similar study was conducted for the “Organic Orchards Chain” project, concluding during the early stages that this was also a self-consumption project.

⁴ With this regard Integrated Management of Indigenous Lands mentions the existence of markets for its handicrafts, fish, meat, honey and carpentry products.

⁵ CEDET study included all type of projects including reforestation, carried out by FONAG.

The Wildlife Conservation Society (WCS) also mentioned the existence of a business plan for a visitor's and interpretation centre built in Yasuni; however, it was developed once the infrastructure was already built. Nevertheless, WCS mentions that the business plan contributed to adjust the existing arrangements and improved its operation. USAID SFC prepared a market assessment and business plan for a crab pulp production plant, but decided not to implement it due to the need to ensure longer periods of coaching and follow up since governance was the major risk for the project.

Some projects have benefited from existing productive associations or previous productive projects that have developed their business plans, as was the case of USAID SFC and IMIL.

For these projects scale is important. They are not projects that seek large markets but rather are focused on local consumption. Some experiences have sought to expand into markets such as Europe, as was the case of a cacao project under IMIL; however, due the lack of appropriate assessment and expertise to introduce the product to the market, it had little success. This type of experience, when a productive initiative whose core is conservation ventures to seek larger markets and fails, has led to community disenchantment.

6.2.2 Reaching Break-even

For all cases studied, it is not possible to determine if break-even was achieved with the information available. It is important to mention that the break-even point as well as other financial measures and analytical tools were not an important issue when activities were originally planned and contracted. This suggests that given that perception, the implementing partners did not gather and systematize this information either.

For those interviewed, the break-even point is not an appropriate tool to measure success of a productive activity within an environmental portfolio. According to their perception in the case of small scale & subsistence productive activities, they are not expecting to achieve a break-even point for the project itself or for the members of the communities benefited. Although in general activities seem to generate incomes, it is perceived that they have not recovered expenses and initial investments.

In the case of IMIL, one may conclude that it has not reached the break-even point in its productive activities; its main focus is to consolidate the organizational capacities of indigenous organizations. At this stage, the project seeks a social and environmental sustainability rather than a financial break-even point. With this regard it is worth mentioning that WCS is committed to a long term relationship and accompaniment process where indigenous partners assume responsibility for a broader range of activities over time.

In order to properly calculate financial indicators we should have at least the following information from every productive project:

- (a) Initial investment including technical assistance and project's follow up costs
- (b) Flow of income generated (or avoided costs)
- (c) Flow of operational costs assumed by beneficiaries

Exhibit 5 presents an explanation of a simple financial and economic analysis.

6.3 Sustainability of productive activities

A wide variety of interventions are tagged under “productive activities”, but in fact only very few could strictly fall under this characterization. Most of the activities deal with best practices promotion, small scale and subsistence agriculture and should probably be considered as direct subsidies. Most of the productive activities found in current and past USAID’s portfolio fall under the fields of agriculture, forestry, livestock, micro-enterprise, tourism, handicrafts, etc. However, most of the implementing partners are conservation organizations whose main competencies and staff are closer to science, with the exception of Chemonics which is a private company.

One interviewee mentioned: “This is an environmental project, neither productive nor agricultural”. By this we mean that returns on investment, enabling legal and institutional frameworks, improved livelihoods, and enhanced capacities do not measure success for this kind of projects. These dimensions of sustainability are perceived as particular means or strategies to achieve an end, but not as an end itself.

The best potential for sustainability in the medium and long term is associated with those productive activities that existed prior to the current portfolio and were somehow adopted, enhanced or strengthened through capacity building and best practices. These proved to be viable before receiving funds from the current portfolio and are more likely to survive without this support.

In contrast, smaller scale activities that started in the past two years are less likely to survive in the mid to long term without project follow-up and well structured technical and financial assistance. At the time, most projects subsidize a big portion of the investment and operative costs to keep activities running (equipment or other initial investment) without analyzing their

viability and hence making the activities financially vulnerable. Given the scale at which they work, the team finds greater potential for economic rather than financial sustainability, but this would depend on a radical shift in the way activities are planned, implemented and measured.

The main issues mentioned are:

(a) Difficulty to approach and introduce entrepreneurship and business knowledge, skills and attitudes in rural and indigenous communities.

(b) Areas with low productivity, not appropriate for large-scale agriculture.

(c) Projects close to or inside protected areas are limited by the management plan and national

Box 5.

USAID SFC is supporting a large scale monitoring program of the stock of the red crab conducted by the National Fisheries Institute (Instituto Nacional de Pesca) and mangrove concessionaries. This strategy contributes to long-term sustainability by empowering a national institution – responsible of the monitoring-, while creating local capacity in the local communities to perform the monitoring, which is critical to ensure sustainable harvesting in the long-term.

regulations for land use and economic activities.

- (d) Accessibility to markets and services.
- (e) Poverty and low education.
- (f) Limited expertise and competencies from implementing partners, and absence of private sector partners.
- (g) Scale constraints such as limited production volume and modest investments.
- (h) Productive activities are complementary to other economic activities and do not constitute major income sources.
- (i) Governance and gender issues, activities could shift the balance of power within a family unit or community.

6.4 Lessons Learned

- (a) The fact that these projects fall under the environmental tag does not necessarily mean that they should be implemented entirely by environmental NGOs.
 - Economic, social and political issues usually fall out of the traditional core competences and specific capacities of these organizations.
- (b) The selection of implementing partners, project staff, and final beneficiaries should be improved with attention to the different key elements and ingredients for sustainability and the need to ensure truly multidisciplinary approaches.
 - Even in those cases where non-traditional conservation tools are used, such as a business plan, final decisions on where or what to do must still be based on conservation targets and objects.
 - Decision making processes regarding productive activities should follow an integral and participative approach ensuring that the final decision is taken by beneficiaries and communities.
- (c) Timeframes should be carefully analyzed before engaging in productive activities. It takes considerable time to build capacities and generate the enabling conditions to ensure sustainability of productive activities.⁶
- (d) Conservation success is usually measured by number of hectares, information systems and site-based activities implemented and being used.
 - Although in general conservation activities have endured, productive activities have not. We believe that if projects chose to promote economic elements there should be consideration of the probability that productive activities will continue.

⁶ It is probably unrealistic to expect people who have never thought to run a business to succeed in a few years, but they could succeed in gaining skills towards being able to do that.

- (e) The fact that these projects are located in hot spots and protected areas usually tend to place additional difficulties on achieving financial sustainability such as accessibility and poverty.
 - Therefore it should not be a surprise that only few productive activities and processes remain in place after time.
- (f) Success depends largely on key people and champions leading each project. Big champions were the ones leaving an important footprint.
- (g) The role of USAID funds should be to help identify places with potential to leverage state funding, including Socio Bosque and state investments in PAs such as tourism infrastructure, and then help communities realize that benefit.
- (h) The capitalization of past experiences and lessons learned has not been a structured and analytical process but as a consequence of experienced teams that—as in the case of USAID SFC—participated in several previous USAID projects.
 - This institutional memory is fundamental to capitalize previous lessons and ensure a certain level of coherence and consistency among different interventions
- (i) Productive activities are mostly conceptualized as a means to generate alternative and complementary sources of income for poor rural livelihoods with the aim to reduce the pressure for natural resources exploitation.
 - However, the link between increased income and decreased pressures to biodiversity is weak and there are not tools to measure effectiveness.

Only one out of 10 businesses that are created in Ecuador survives. It should not come as a surprise that projects without clear sustainability goals and financial planning do not endure over time. Hence, USAID needs to be realistic about the rate of success it should expect in such projects.

In addition, USAID needs to decide which conservation projects are going to be selected based on its conservation qualities only and which are going to be selected based on the financial sustainability merits of the productive activities that are part of the conservation project.

7 Element 3: Sustainability of FONAG's financial model

When we talk about the financial sustainability of something (a program, project, or model) we analyze not only the inflows and outflows in terms of revenue generated and financial needs but also the institutional arrangements in terms of who the stakeholders are, what role each actor plays, what is the legal framework, and other additional critical questions such as the country's political stability.

Nowadays fresh water is a valuable good that is produced, sold and consumed and therefore it is necessary to invest in protecting water sources. According to the current Ecuadorian Water Law, water from rivers, lakes, ponds, streams and groundwater are national assets for public use. These assets cannot be traded and its domain is inalienable and never prescribes. The

use of water resources are assigned through operation rights granted by the National Water Authority (SENAGUA).

Ecuador has a complex institutional framework for water management and watershed protection and micro-watersheds. In this regard, since the creation in 2003 of the Organization of Institutional Arrangements for Water (*Organización del Régimen Institucional de Aguas*), the National Water Resources Council (*Consejo Nacional de Recursos Hídricos*) was designated as the entity responsible for defining national policies while execution of those policies was entrusted to autonomous entities such as regional development corporations. Nevertheless, there remains a dispersion of skills and inter-agency conflicts on water resource management that comes primarily from the participation in water governance by corporations, autonomous regional governments and ministries, each supported by the powers conferred upon them by various legal bodies.

Given this complex reality, SENAGUA was created to exercise as the national authority in the management and administration of water resources. SENAGUA is charged with the management of water resources in a comprehensive and integrated way based on a sustainable and ecosystemic vision. The first two challenges for SENAGUA are the hydrological heritage national plan and the new water law, which are instruments that are sought as major policy tools to guide this sector.

TNC and Fundación Antisana, with support from the United States Agency for International Development (USAID), worked together to create a water consumption fee to fund conservation projects and improve management of the watersheds located in the reserves. The initiative was formally launched in April 1998 as the Quito Water Conservation Fund (FONAG). The fund receives fees through the Quito water company (EMAAPQ) that go into a trust fund managed by an asset management company to ensure financial stability, and generate revenues from interest on investments. In addition to fees collected from water users the fund has additional support from national and international entities.

FONAG protects watersheds supplying the capital's 2.5 million people with 70 percent of their freshwater. It is a trust fund planned to last for 80 years shaped with the objective of creating a mechanism to ensure transparency, accountability and sustainability in the long-term. It started field operations in 2004 and is regulated in Ecuador by the Securities Market Act. The creation of this water protection fund took between three and four years. FONAG has served as a model for other water fund projects being established across the region.

7.1 Financial viability

The FONAG Water Fund has a number of factors that make it financially viable. The way in which FONAG works makes it financially viable because they commit only to undertake those activities for which they have secure funding. It means that outflows are determined by inflows, and they plan based on this budgetary constraint. Nevertheless, we may conclude that FONAG fully covers its fixed costs and has enough resources to:

- (a) Investment in watershed and biodiversity conservation;
- (b) Assist national and local governments to improve watershed management, directly benefiting up- and down-stream users;

- (c) Increase civil society and private sector participation in watershed management, especially through education programs and sustainable productive activities.

The specific results of the investments FONAG accomplished were not analyzed.

The large amount of the Trust Fund together with a monthly contribution coming from EMAAP (Empresa Metropolitana de Alcantarillado y Agua) provides them with a source of secure funding. The EMAAP contribution is secured by a municipal ordinance that obligates these allocations. This strong financial structure allows FONAG to concentrate more on designing, undertaking and monitoring activities in the watershed under their jurisdiction rather than on fund raising to secure basic need.

FONAG was created based on a strong legal framework that protects it from any political swings and at the same time provides them with the authority needed to undertake and coordinate activities conducted on the watershed. So far five different city mayors including the current one have supported and endorsed the FONAG model, proving its stability and ability to navigate under political uncertainty.

Due to political and legal considerations, starting in 2009 public funds cannot be invested in private financial entities.⁷ Therefore, new contributions coming to increase the trust fund can only be invested in public investment instruments where the interest rate obtained is approximately 3%. Seed capital that existed before the enactment of the law can be invested in private financial entities that could provide between 7% and 9% interest. Luckily for FONAG, most of the seed capital was raised before the law was enacted. There is an asset management company that was selected in a bidding process that makes all the investment decisions based on guidelines and directions from the FONAG's board.

Due to the considerable increase in FONAG's trust fund, the amount it receives as interests is currently enough to cover the fixed costs. This allows FONAG to be a competitive and attractive destination for donors funding since it can ensure 100% investment in execution without charging overhead. It is very important to keep current conditions, because any change would require that all of the Trust Fund be invested in public investment instruments and the monthly income from interest would be reduced to more than half.

Something that calls the team's attention is the fact that FONAG has decided to implement projects and programs directly and not through strategic partners, as would normally be expected for a fund whose core business should be closer to facilitating access and availability of stable and long term sources of funding. This leads into a 50 people staff implementing an important number of small scale activities. This structure could eventually be perceived as an NGO and divert the fund's core competency. However, when we inquired about this situation, FONAG's staff explained that they decided to implement projects directly after several years trying to work with partners and promote NGOs participation through competitive processes that yielded poor results; hence, they decided to secure their investment by implementing directly.

⁷ The Ecuadorian Political Constitution, which was reformed in 2008, establishes in its article 299 that public resources, have to be managed in public banks and also that public sector entities cannot invest in a foreign country, without a legal authorization.

Given the low return on investments for public funding, it is fundamental for FONAG to explore alternative and innovative investment opportunities. One idea that could be explored is the possibility of FONAG becoming a shareholder in hydroelectric projects. By being a part of the company, it could assure that the activities that the company undertakes always consider the protection of the watersheds and, at the same time, it could ensure a stable financial return. Awkwardly, it's worth mentioning that the level of private contributions to FONAG is extremely low; this is also a key challenge demanding innovation and leadership.

7.2 Model Replication

There are two ways in which a Fund can be created:

- (a) A Fund that implements projects and programs to protect the watershed itself
- (b) A Fund that facilitates activities for watershed protection.

In the first case, we assume that the fund will need a bigger initial endowment and yearly contributions, in order to cover a slightly larger staff and invest at least in: training; reforestation; education and communication; monitoring and safeguarding protected and hydrological areas; and, watershed protection. In the second case, the fixed costs are less significant but the efforts to integrate and coordinate other groups working in the same area are huge.

In both cases it is important to determine the need for a counter-part; furthermore, the fund raising activities are essential to the success of the projects promoted. In addition, the first case implies more control over activities conducted (internal risk is reduced), whereas the second case cannot guaranty a specific result due to the lack of significant control.

The consulting team prepared an Excel worksheet model that can be used to analyze the financial sustainability of the fund. This model allows the user to make changes in the initial assumptions and see the impact of those changes on the fund.⁸

Based on the model, the team found that if, for example, we have a fund that depends mostly on the interest gained on the initial endowment and that conducts projects on its own to protect at least 50,000 hectares; then we need the fund to have at least \$500,000 as seed capital in order to break even. If the fund works as facilitator, then the initial endowment goes down to \$300,000 for the same number of hectares.

In both cases we are assuming:

- (a) The fund will reach at least \$1,000,000 as seed capital in four years.
- (b) 50% of the seed capital is invested at the private market interest rate and 50% in public investment instruments.
- (c) Yearly increasing contributions to the trust fund.

If we keep assumptions b and c as they are but assume instead that the fund will reach \$1,500,000 as seed capital in four years, then the initial seed capital for an implementing fund

⁸ Please see additional file: "FONAG Scale Analysis". This file presents all the variables and assumptions considered.

would be \$58,000 and for a facilitator fund it would be less than \$5,000 to protect the same area.

7.3 Ways to finance Water Funds

The best way to finance a water fund is to secure a monthly income included in the water fees paid by water customers, particularly private companies that profit out of the extensive use of this resource. Therefore, it is important to include the private sector from the very beginning in the creation of these funds, especially those companies directly benefitting from the water resources. Also, the water utilities and hydroelectric producers are a natural partner to include in the Fund.

Once the conservation program of the Fund becomes mature and sustainable, another way to finance a water fund is providing financial assistance and technical assistance for basic water infrastructure to local governments at a competitive rate.

The alternative of including the private sector is always attractive. For example, bottling plants, breweries, or companies in the agricultural sector that use water intensively could contribute a slight percentage of their sales. In addition, the possibility of allowing companies that contribute to the fund to use the contribution as a tax shield requires further study.

Lessons Learned

- (a) Support of the Fund's creation from its early stages is critical.
- (b) Political support is a must.
- (c) It has to be a participatory fund with more than three user constituents participating. Also, it has to be evaluated what type of participation can be offered to those that are using the resource but are not directly participating in the fund.
- (d) Water or hydroelectric utilities should be involved.
- (e) Private sector participation should be promoted.
- (f) It is hard to coordinate when many political subdivisions are involved.
- (g) There needs to have a strong technical secretariat, a champion capable of:
 - Conducting the fund raising
 - Coordinating and supervising the appraisal and performance of investment options.
 - Coordinating different stakeholders.
 - Monitoring results in terms of sustainability of water resources.
- (h) There needs to be close coordination and cooperation with those responsible of managing and protecting water resources in a specific watershed (and also micro-watersheds).
- (i) Uncertainty about the allocation of resources should be reduced through local "ordenanzas" and other legally binding tools.

8 Recommendations

While most countries have a number of strategic planning processes for biodiversity conservation in existence, few, if any, have a system to effectively co-ordinate them. Developing such a coordination system will assist in integrating all the components of sustainable development into mainstream planning processes. The water funds provide a governance platform that can be used as coordination mechanisms.

Although USAID, may wish to develop a new comprehensive conservation strategy—because of problems with past approaches or to signal a fresh vision—it has to be careful about introducing a totally new initiative, as it is then all too easy to ignore existing approaches, to compete with them, and to cause confusion, if not resentment. Even if USAID decides to introduce a new initiative, it should be presented and promoted as building on what has been achieved so far – especially if this involves learning the lessons from previous failures.

Whether an ‘evolved’ or a brand new approach is adopted, it is essential from the outset to use and strengthen capacities to plan and implement on a nationwide scale. These are challenging tasks because the resultant strategy will need to address many of the main development issues that society confronts. In short, the goal is to ‘mainstream’ sustainability into administrations, sectors and livelihoods. Strategies do this through processes of debate, agreement, learning and ultimately behavior change. This can only work if stakeholders are involved in the strategy.

In addition, there has to be a balance among implementing stakeholders. On one hand, big international NGOs that have been the traditional implementing partners have knowledge, experience and international contacts that might help USAID achieve its goals. On the other hand, local NGOs have grown and matured during the past 20 years. They have local contacts and are not likely to abandon a specific region, where they are currently working. USAID might try to work with consortiums where both groups have a similar weight, providing opportunities to involve national and local partners.

Introducing economic alternatives and ensuring its financial sustainability would not always be the necessary approach for a conservation project, especially if its constrained by short implementation periods. However some of these activities may generate benefits that are not easily translated into economics such as improve management, increase safety, and help people learn basic skills. This raises a question of what the link is between economic sustainability of the small productive projects that are part of a conservation programs and the success of the overall program. USAID should analyze the role of economics as a driver for its conservation projects rather than assuming that it is always a necessary element.

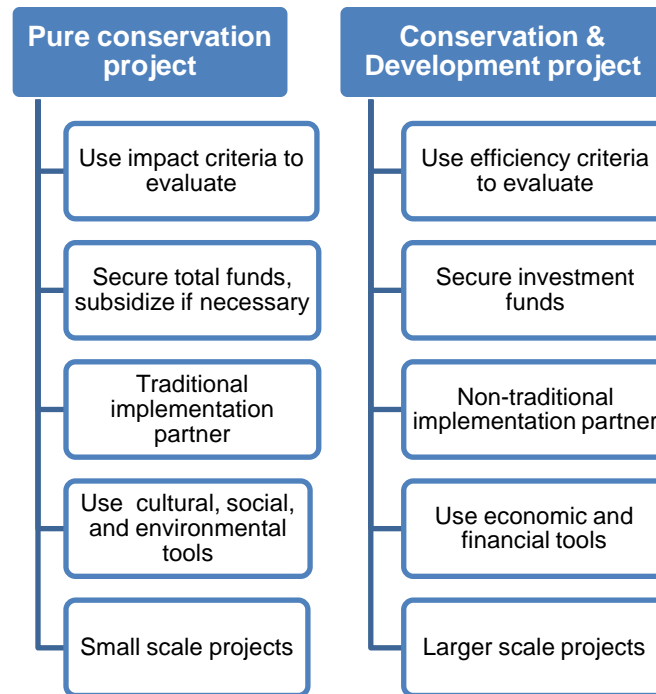
8.1 Projects and activities

- (a) Enhanced coordination and convergence between different projects and activities conducted by projects may improve results and also relieve the burden on capacity and resources. Implementing partners should seek more cooperation and not look at other projects as competitors.

- (b) Projects should be clearly articulated to the national development agenda involving national and local authorities from the early concept design and planning processes; this promotes country appropriation and shared commitment towards sustainability.
- (c) Increase projects' notoriety through planned and strategic communication tools on the progress and results of projects to promote stakeholder's involvement particularly with authorities and communities.
- (d) Sustainability is not just about securing a cash flow; there are key legal, institutional, and capacity related issues that should also be in place to ensure that project impacts endured over time.
- (e) Given the short economic life of the activities conducted, USAID should not expect financial profitability in the short-term but sustainability of conservation processes.
- (f) Start with the end in mind, one cannot ensure sustainability if one doesn't know who will take responsibility once the project is over.
 - This probably calls for longer and more sustained planning processes with major stakeholders such as communities and authorities, but could prove to be a wise investment in terms of project appropriation and long-term commitment towards the productive activities.
- (g) Project should be able to address sustainability at the earliest stage possible. This suggests that the project concept and detail planning should clearly state the following questions:
 - What would happen with the productive activities once the project ends?
 - Who will follow up and ensure the sustainability of productive activities?
 - How will the project measure success in terms of sustainability?
 - What is the lifespan of the productive activities?
- (h) When addressing sustainability, one has to look also at the sustainability of the processes.
- (i) Information needs: In order to better evaluate projects, one should have a data base of environmental and economic indicators to compare before (baseline) and after. The continuity of these measurements is vital to evaluate long-term impact.
- (j) Review if the assumptions for choosing productive activities are the right ones; in some cases education, governance and health issues might probably be more effective to reduce pressures to biodiversity than diversifying sources of income.
- (k) Prioritize areas where USAID has already invested, this might allow USAID to build on existing social fabric and could catalyze sustainability of previous interventions.

8.1.1 *Process recommended for Productive Activities Conducted as Part of a Conservation Program*

Figure 2. Project selection process for Productive Activities



Source: Prepared by the authors.

If conducting a pure conservation project, one needs the following:

- Define conservation objectives and goals clearly.
- Use a cost effectiveness methodology to evaluate: Is this the least cost way to achieve the conservation goal?
- Determine the contribution of projects to national policy and development agenda
- Conduct a participative process at every stage, including local governments, making sure activities are prioritized and select by beneficiaries.
- Funds: Secure total funds required for the projects subsidize projects when needed.
- Implementation: Use environmental NGOs with experience in conservation projects. Prefer local organizations that can be strengthened, because most of the time they continue working, once the cooperation program ends.
- Identify gender roles. Prioritize working with those actually carrying out productive activities (For example, in some cases productive activities are undertaken by woman who are usually more concerned about the family well-being).

- (h) Evaluation: Design a set of impact criteria to evaluate the project and its activities.
- (i) Monitoring: Use a community based approach
- (j) Include change management strategies.
- (k) integrate an adaptive management approach

If conducting a conservation and development project, one has to determine the following:

- (a) Define development objectives and goals clearly.
- (b) Establish the contribution of projects to conservation. Consider the conservation value and then determine if development threatens that value and how. Then determine what development goals are possible in that context. If lack of economic development is a threat, then carefully determine economic development alternatives that reduce that threat. More often, economic development is a threat and in this case we must work to identify how to adapt the economic development to reduce that threat. But, in any case, if it is a conservation project, its first step still needs to be identifying conservation priorities.
- (c) Determine the contribution of projects to national policy and development agenda
- (d) Use an efficiency methodology to evaluate:
 - Are we really improving population's well-being with these projects?
 - By how much? (Conduct a cash flow analysis—financial and economic—and determine projects' NPV). For those things that cannot be valued do an impact analysis.
 - Determine who wins and who loses (Do a distributive analysis).
 - Conduct a prefeasibility analysis.
 - If prefeasibility analysis shows positive results, then conduct a feasibility analysis that includes a complete market analysis.
 - If feasibility analysis shows positive results, then perform a business plan (Never invest before your studies are completely done).
 - Beware of excess studies. Keep in mind the principle of proportionality. The amount invested in studies should never be higher than the amount invested in the actual project.
- (e) Conduct a participative process at every stage, including local governments, making sure activities are prioritized and select by beneficiaries.
- (f) Include risks to biodiversity and ancestral traditions.
- (g) Secure investment funds (either as a grant or as a loan with subsidized interest rates).
- (h) Implementation: Use non-traditional partners with business and marketing experience and promote joint ventures when possible.

- (i) Evaluation: determine the efficiency criteria to use to evaluate the projects and their activities during and after the project's life.
- (j) Use change management strategies when needed.
- (k) Scale: carefully revise the scale of investments
 - Small-scale investments offer the opportunity to harvest results in the short term, but are not likely to endure over time due to the need of stewardship and close field follow-up.
- (l) Include change management strategies.

8.2 Operation of Water Funds

The uncertain situation related to the supply and demand for fresh water creates a significant need for investment in sustainable methods of obtaining and delivering water. Government's capacity to resolve economic, environmental, and social problems is increasingly challenged and new participants are being called to identify and address these societal problems. Through mobilizing financial, technical, and human resources, a water fund can promote sustainable development best practices while at the same time presenting a significant investment opportunity for the private sector that need to secure water availability for their operation.

This approach provides an opportunity for USAID to contribute not just in the creation and operation of water funds but also in the design and implementation of a fund raising strategy that attracts balanced public-private participation.

It is important to select a person to direct the fund that can combine knowledge in investment management and biodiversity conservation in order to secure the financial return on investment and a successful selection of projects and programs in watershed protection and conservation.

- (a) Financial sustainability should be included from the beginning:
 - Secure patrimony (initial endowment)
 - Secure yearly future funding
 - Secure legal status
 - Secure political support and leadership.
- (b) The mechanism used should ensure transparency and accountability.
- (c) The operation of the fund has to be monitored technically and financially. Define in advance the indicators to measure efficiency and effectiveness. Define the report and verification mechanisms to use.
- (d) Funds should be able to present clear impact results and demonstrate what difference they make in terms of water quality and availability.
- (e) Generate clear strategies to address political risk. Include private participation from the beginning preferably from those using water intensively.

- (f) Need to decide the Fund's specific purpose and operation methodology, explicitly choosing between pursuing a model based on partnerships (facilitator) or a model of direct implementation of conservation activities in the watersheds.

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10 Exhibits

Exhibit 1. Terms of Reference

I) Objective

The purpose of this Purchase Order is to contract one recipient organization or consulting team to conduct an assessment of: (1) the long-term impacts and activities resulting from SUBIR and Parks in Peril, (2) the sustainability of productive activities supported by current environment projects, and (3) the sustainability of FONAG's financial model.

The purpose of the assessment is three-fold, with one segment (the highest priority for USAID/Ecuador) focusing on identifying the long-term results of the SUBIR and Condor Bioserve projects, the second focusing on gauging the sustainability of productive economic activities within the current environment portfolio, and the third on assessing the sustainability of FONAG's financial model.

II) Activities

The contractor will provide answers to the following questions:

Element One: SUBIR and Parks in Peril Assessment

- 1) Have the impacts of the SUBIR and Parks in Peril projects endured? Specifically, examine the impact of the five SUBIR components and the four Parks in Peril/Biorreserve components from the perspective of conservation, sustainability, and long term human capacity building. If the impacts have not endured, why not? If they have, what are the factors that contribute to success?
- 2) Was the National Environment Fund under Parks in Peril capitalized as programmed? What is the current balance and financial sustainability of the fund?
- 3) Is the Condor Bioserve Monitoring System functional, and operational? Does it continue to be utilized? If not, what (if anything) replaced this system?
- 4) Are the eco-tourism projects supported and implemented under Parks in Peril still operational? Are these activities viable and economically sustainable? What impact did they have on the population?
- 5) Parks in Peril hired, trained, and equipped park rangers to control and patrol various sites. Did these activities continue after USAID funding ended? If not, what key factors should have been taken into consideration to sustain the park ranger activities? Have other institutions picked-up the budget costs to continue these functions? Have other alternative long-term sources of funding been developed to finance these positions?
- 6) One of the main lessons learned under the SUBIR project was that market-motivated activities and social programs need to be clearly distinguished. Economic and social programs tended to be mixed in SUBIR implementation, which may have downplayed the perceived need for economic sustainability in certain activities. Promotion of new market-based activities should not be contemplated in time horizons of less than five years, especially in zones where comparative marketing advantages are marginal. Was this lesson learned applied to the existing project under the environment portfolio? Are there other lessons learned that we should include in our existing portfolio?

Element Two: Sustainability of productive activities in the environment portfolio

- 1) What criteria were used to select the productive activities in USAID's current environment portfolio? Was there a business feasibility analysis conducted? Was there a market, operational, financial and viability assessment done for these productive activities?
- 2) Have the productive activities reached their "break-even" point, where income at least matches, if not exceeds, expenses? Are these productive activities economically viable in the medium to long term? If not, do they have the potential of becoming economically viable?
- 3) What are the major issues that positively or negatively affect the viability of the projects? What conditions or analyses should be in place before undertaking productive activities in environmental projects?

- 4) What impact have the productive activities had on the target population in terms of increased incomes and employment opportunities? Is the target population better off?
- 5) What elements/criteria should be considered in order to support sustainable productive activities under the environment portfolio in the future?

Element Three: Financial sustainability of watershed conservation trust funds

- 1) Is the FONAG Water Fund currently financially viable? If not, how long will it need to breakeven and become viable?
- 2) What are the major issues for viability in the FONAG Water Fund Model?
- 3) What are the minimum terms and conditions needed to replicate in a viable and sustainable way the FONAG Water Fund model?
- 4) Is the investment strategy of the FONAG Water Fund providing competitive returns? If not, what are the opportunities for improvement?
- 5) What other creative ways of financing could Water Funds attempt to use? Current funds are financed largely by municipal governments. Could or should the private sector be involved?

III) Team Composition

The contractor will provide up to two key personnel for this task. The team should include a Team Leader knowledgeable about economic growth, microenterprise development, entrepreneurship, market analysis, and risk analysis. The second team member should be knowledgeable about natural resource management, environmental conservation, Ecuador's system of national protected areas, and public-private cooperation on environmental issues. At least one team member should be Ecuadorian. Team members must not have a close connection to USAID's environment or economic growth programs in Ecuador.

The Team Leader should have at least 10 years of professional experience in international economic development. Knowledge of USAID programs and experience in financial and economic sustainability assessment is strongly preferred.

The team leader is responsible for the overall management of the assessment. Specific responsibilities should include: consulting with the EDGE Office Director and team members at the beginning of the assessment; coordinating and supervising team members and major assessment activities, including documentation review, interviews, analysis, and formulation of recommendations; ensuring that all the tasks required of the team are satisfactorily accomplished; and completing and submitting the final Assessment Report.

All team members should have at least 5 years experience in international economic development and a strong proficiency in both English and Spanish (at a level equal to or better than the Foreign Service Institute (FSI) rating of S3+/R3+).

In addition, the team must have the following mix of skills and experience:

- Significant experience in design, implementation, and/or evaluation of economic development and environment programs in developing countries, preferably in Latin America;
- Knowledge of knowledgeable about economic growth, microenterprise development, entrepreneurship, market analysis, and risk analysis.
- Knowledge of environmental conservation, Ecuador's system of national protected areas, and public-private cooperation on environmental issues.
- Close familiarity or knowledge of USAID, results-based approaches and programming.
- In-depth and broad-based knowledge of and experience with the Ecuadorian economic and environmental context.

USAID will make available necessary information and expects the contractor will use the following data sources (and any other relevant suggested sources):

- Relevant background documents such as projects' results frameworks and PMPs;
- USAID/Ecuador annual reports, implementing partner reports and evaluations, sector studies and assessments;
- Site visits/observations;
- National/local demographic data;
- Donors, NGOs, USAID/Ecuador staff and implementing partners; and
- Key informants with historical knowledge of USAID's environmental programming in Ecuador.

IV) Period of Services

The duration of the assessment mission should be up to four weeks. Tasks will be accomplished from January 10, 2011 through February 7, 2011 (a six-day workweek might be considered for this task).

V) Technical Direction, Relationships and Responsibilities

The Contractor will work under the technical direction of the EDGE Office Director. EDGE staff and other Mission personnel will be available as subjects of data collection and information gathering for the assessment, as well as for coordination, design, input and co-facilitation purposes for the sector studies. All coordination with the Government of Ecuador, if necessary, will be done through the EDGE Office Director. USAID will assist with identification of sites for visits, provide background documentation, and offer logistical support in making travel and lodging reservations.

VI) Deliverables

a) Progress Report. After two weeks of on-the-ground study, the consulting organization or consulting team will provide the Director of USAID/Ecuador's Office of Economic Development, Growth, and Environment (EDGE) with a verbal update and briefing on the progress of the assessment.

b) Assessment Report. The Contractor will prepare:

- A draft assessment report;
- A final assessment report in English that will include Executive Summary, Major Findings, Conclusions and Recommendations

The report should not exceed 40 pages and should explicitly address each assessment question. For element two, the report should include case studies of four to five pages each on the three productive activities.

The report should be in English and must clearly distinguish between findings, conclusions, and recommendations. Contractor will submit two (2) paper copies and an electronic copy in Microsoft Word format, with any supporting documentation in Word, Excel or other relevant software to the EDGE Office Director.

The primary audience for the assessment report will be the EDGE team, with secondary audiences including USAID/Ecuador's Mission Director, Program Office, and implementing partners.

Exhibit 2. List of interviews

Name	Project relation	Current work
Adriana Burbano	Integrated indigenous land conservation	World Conservation Society (WCS)
Andrew Noss	Integrated Management of Indigenous Lands	World Conservation Society (WCS)
Aparicio Caicedo	Beneficiarios de SUBIR comunidad Playa de Oro	Agricultores
Arnaldo Rodríguez	Sustainable Forests and Coasts	Chemonics International
Carlos Cabrera	Potential to replicate FONAG's model	FONAPA Paute
Claudio Saito	Sustainable Forests and Coasts	Chemonics International
Dani Hernández	FONAPA's partner in productive activities	Fonapa's Field Technician, Cuenca
David Ayoví	Beneficiarios de SUBIR comunidad Playa de Oro	Agricultores
Diana Vinueza	Sustainable Forests and Coasts	Chemonics International
Fausto Tituaña	PiP partner – Fundación Ecológica Rumicocha	Fundación Rumicocha
Felix Añapa	Beneficiarios de SUBIR comunidad San Miguel	Agricultores
Franco Sanchez	FONAG	FONAG
Gosia Bryja	Integrated indigenous land conservation	World Conservation Society (WCS)
Gustavo Mosquera	PiP partner Condor Bioserve	PRAS-MAE
Henry Quiroz	SUBIR - former CARE staff	Chemonics International
Isaías Arroyo	Beneficiarios de SUBIR comunidad Playa de Oro	Agricultores
José Arroyo	Beneficiarios de SUBIR comunidad Playa de Oro	Agricultores
José Medina	Beneficiarios de SUBIR comunidad Playa de Oro	Agricultores
Juan Diego Alvarado	FONAPA's partner in productive activities	Lácteos San Antonio, Cuenca
Luis Martínez	Jefe de Área Cayambe Coca (RECC)	Ministry of Environment
Luis Suárez	Former Ecociencia	Conservation International (CI)
Ma. Belén Noroña	FONAG	FONAG
Manolo Morales	Former CARE staff and SUBIR partner	ECOLEX
Marcel Orovio	Beneficiarios de SUBIR comunidad San Miguel	Agricultores
Maria Helena Jarvis	Condor Bioserve PiP partner –former Fund. Antisana staff	
Marlene Barba	Potential to replicate FONAG's model	FOPAR (Riobamba)
Martha Echavarría	FONAG & watershed project	Ecodecision
Miriam Cárdenas	FONAPA's partner in productive activities	Milk gathering Center, Cuenca
Monica Suquilanda	Integrated Management of Indigenous Lands Focal Point	USAID/Ecuador
Oswaldo Proaño	FONAG	FONAG
Pablo Lloret	FONAG	FONAG
Paola Zavala	Watershed Protection / FONAG Focal Point	USAID/Ecuador
Paulina Arroyo	Condor Bioserve Project Coordinator	TNC
Rocio Cedeño	Sustainable Forests and Coasts Focal Point	USAID/Ecuador
Samuel Sanguesa	Parks in Peril	National Environment Fund (FAN)
Sergio Cimarrón	Beneficiarios de SUBIR comunidad San Miguel	Agricultores
Silvia Benitez	Condor Bioserve Conservation Projects Coordinator	TNC
Tania Villegas	SUBIR partner – former Ecociencia staff	Ministry of Environment
Tarsicio Granizo	Former TNC; National development agenda	Ministry of Heritage
Walter Palacios	SUBIR - former CARE staff	Sustainable Forests and Coasts

Exhibit 3. Impacts of each component of SUBIR and PIP

IMPACT OF SUBIR COMPONENTS

SUBIR Components	LONG TERM POSITIVE IMPACTS
i. Institutional Strengthening and Organizational Development;	<ul style="list-style-type: none"> Consolidation and/or creation of NGOs that to this day have a leading role in the national environmental scenario (Ecolex, JatunSacha, Ecociencia)
	<ul style="list-style-type: none"> Capacity building through networking, best practices, hands on experience and training in operational, technical and legal issues provided more consolidated skills to stakeholders. Communities empowered to negotiate and discussed critical issues. Some community members have participated in the national political arena, have been leaders
	<ul style="list-style-type: none"> Recognition of the value of indigenous and afro Ecuadorian peoples cultures and increase knowledge of cultural heritage
	<ul style="list-style-type: none"> Creation and consolidation of social organizations (Unión de Organizaciones del Norte de Esmeraldas, palenques, Asociacion de Mujeres, etc.)
	<ul style="list-style-type: none"> Establishment of community park rangers program
	<ul style="list-style-type: none"> Participation models were consolidated including involvement of local governments, communities, hacendados - land owners
	<ul style="list-style-type: none"> Agreements with the communities - increased communities participation in decision making processes - introducing the communities management approach
ii. Policy and Legal Issues;	<ul style="list-style-type: none"> Formation and certification of community paralegals Other projects have benefited from and or reproduced the paralegal training program
	<ul style="list-style-type: none"> Productive associations established their legal status and some continue to perform productive activities developed under SUBIR
	<ul style="list-style-type: none"> Recognition of Afro Ecuadorians in the 1998 Constitution = access to land ownership
	<ul style="list-style-type: none"> Land titling supported by community paralegals
	<ul style="list-style-type: none"> Supported MAE in the drafting of standards for forest management, which constitute a SUBIR legacy since they remain in effect to date A proposal for the national forestry law was drafted.
iii. Improved Land Use Management;	<ul style="list-style-type: none"> Condor Bioreserve concept was introduced to promote an integral approach and connectivity between protected areas
	<ul style="list-style-type: none"> Mitigation of some of the historically threats such illegal hunting, paramo burning practices, expansion of agricultural frontier
	<ul style="list-style-type: none"> Local governments empowered to participate in decision making processes (local government did not understand the relevance of protected areas and considered them as obstacles)
iv. Commercialization and Marketing	<ul style="list-style-type: none"> Not found at first hand.
v. Biodiversity Monitoring	<ul style="list-style-type: none"> Contracts with logging companies outside of the boundaries of protected areas where SUBIR undertook activities
	<ul style="list-style-type: none"> Formation of Para biologists
	<ul style="list-style-type: none"> Large amount of biological information gathered, in many cases for the first time, such as was the case of several species inventories and tropical forest data

IMPACT OF PARKS IN PERIL COMPONENTS

PARKS IN PERIL Components	LONG TERM POSITIVE IMPACTS
i. Protected area strategic plan	<ul style="list-style-type: none"> • The development of management plans required a social, economic and environmental diagnosis. Much valuable information on the cultural dynamics of communities was collected
	<ul style="list-style-type: none"> • Key actors of each area formed management Committees. <ul style="list-style-type: none"> ○ Due to political instability, participation of key stakeholders (communities, landowners, local governments, associations, etc.) was fundamental. ○ This model has lasted over time
	<ul style="list-style-type: none"> • PIP partners developed guidelines to prepare and implement management plans and training programs to empower key actors in the implementation of management plans. These have been used by others projects and the communities over time
ii. Protection and management activities	<ul style="list-style-type: none"> • Strengthening of community Park Guard System
	<ul style="list-style-type: none"> • Value of water was calculated in a more scientific way, discussion about financial mechanisms was introduced
	<ul style="list-style-type: none"> • Capacity building programs and best practices training
	<ul style="list-style-type: none"> • Communities' land titling
iii. Protected Area Financing	<ul style="list-style-type: none"> • Creation of the Quito Water Fund (FONAG) to ensure watershed protection
iv. Local Support situation	<ul style="list-style-type: none"> • Local actors capacities were strengthened for the positioning of conservation and sustainable resource management issues on the agendas of local governments

Exhibit 4. Evaluated Projects Summary

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
SUBIR (general)	<ol style="list-style-type: none"> 1) Organizational Development of local communities and of local and national governmental and nongovernmental organizations; 2) Protected Areas Management to conserve ecological systems of scientific and economic value; 3) Ecotourism Development; 4) Improved Use of Land and Biological Resources in Buffer Zones, to identify, verify, and disseminate technologies, practices, and knowledge of soil, water, crop, livestock, forestry/agroforestry, fishery, crafts, product processing and marketing, etc. Alternatives; 5) Research and Monitoring, to increase basic scientific knowledge of the existing biological resources and their socio-cultural contexts; 6) Policy Analysis, to stem the loss of biodiversity and accelerate the transition from resource mining to resource management 7) Inter-organizational Coordination, to synchronize actions and resolve conflicts 8) Management and Administrative Component 		Agriculture - agroforestry, livestock, tourism		<p>1991-2002</p> <p>USD 15 Million</p> <p>Implementing agency: CARE</p>

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
<p style="text-align: center;">SUBIR I</p> <p>Cotacachi-Cayapas Ecological Reserve Cayambe-Coca Ecological Reserve Yasuni National Park</p>	<p>To contribute to the conservation and management of Ecuador's renewable natural resources for sustained economic development.</p> <p>The Project purpose is to identify, test, and develop in the field ecologically and socially sustainable resource management models in selected protected areas and their buffer zones to preserve biodiversity and improve the economic well being of local communities through their participation in the management of natural resources.</p> <p><u>Components:</u></p> <ol style="list-style-type: none"> 1. Organizational development; 2. Protected area management; 3. Ecotourism development; 4. Improved use of land and biological resources in buffer zones; and 5. Research and monitoring 	<ol style="list-style-type: none"> 1) SUBIR sustainability, research, and training.—Ecociencia became Ecuador's premier biological research and training institution capable of supporting not only Phase II of SUBIR but similar initiatives elsewhere. SUBIR/ Ecociencia research has yielded considerable baseline data on the biological resources of many of the Project sites and has served as a fertile training ground for both scientists and community "Para biologists." 2) Grassroots democracy, development, and conservation.—The paralegal program trains and assists local people in community laws and legal advocacy on issues such as land titling and natural resource access rights. SUBIR is strengthening second-level organizations to test and extend sustainable uses of biological resources. "Guarda parques comunitarios" bolster a weakened park protection system with assistance from SUBIR and second-level organizations. 3) Development-environment dialogue.—SUBIR has made significant strides in opening channels of communication between environmental groups and natural resources related industries, particularly with Endesa/Botrosa in timber and Maxus in oil exploration. These established linkages, combined with SUBIR field efforts, demonstrate promise for influencing the improved management of resources by private-sector entities and affecting the overall policy environment. 4) Conservation of biological diversity.— SUBIR has focused on three protected areas and their buffer zones that efficiently encompass an array of more than a dozen distinct ecosystems from Pacific mangroves through cloud forests, paramos, and the forests of the Amazon. 		<p>EcoCiencia, JatunSacha, CEDENMA, WCS (bd and forest conservation technical assistance), ECOLEX and local indigenous organizations</p>	<p>1991-Dec 1994</p> <p>USD 4.8 Million</p> <p>Implementing agency: CARE</p>

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
<p align="center">SUBIR II</p> <p>Cotacachi-Cayapas Ecological Reserve</p>	<p>Increase the capabilities of the local inhabitants and of conservation-oriented NGOs to manage these areas sustainably (local participation and empowerment by developing conservation compatible livelihood options, will lead to adopt practices that assure sustainable conservation)</p> <p><u>Components:</u></p> <ol style="list-style-type: none"> 1. Organizational development; 2. Protected area management; 3. Ecotourism development; 4. Improved use of land and biological resources in buffer zones; and 5. Research and monitoring 6. Policy analysis, dialogue, and training 			<p>EcoCiencia, JatunSacha, CEDENMA, WCS (bd and forest conservation technical assistance), ECOLEX and local indigenous organizations</p>	<p align="center">1995-1997</p> <p align="center">Implementing agency: CARE CARE</p>
<p align="center">SUBIR III</p> <p>Cotacachi-Cayapas Ecological Reserve Yasuni National Park. Choco lowlands of the northern Esmeraldas Province</p> <p>*Decision from MAE to address only activities outsider of PA boundaries</p>	<p><u>Goal:</u> Protect unique biological resources found in the Chocó and in the transitional corridor bridging the Amazon and the Western Andean lowlands through sustainable natural resource use (worked with communities in Cotacachi-Cayapas Ecological Reserve, Yasuni National Park)</p> <p><u>Purpose:</u> To increase the capabilities of the local inhabitants and of conservation- oriented NGOs to manage these areas sustainably</p> <p><u>Components:</u></p> <ol style="list-style-type: none"> 1) Institutional Strengthening and Organizational Development; 2) Policy and Legal Issues; 3) Improved Land Use Management; 4) Commercialization and Marketing; and 5) Biodiversity Monitoring. 	<ol style="list-style-type: none"> 1) Sound land use management of the Cotacachi-Cayapas Ecological Reserve. Project had impact on biodiversity conservation at multiple levels: <ol style="list-style-type: none"> a. multiple interventions encouraged sound forms of forest management over a vast area adjacent to the Reserva Ecológica Cotacachi-Cayapas b. 250 productive projects implemented in conjunction with 17 communities c. 69 new families adopted plans for integral management of natural resources d. 128 new property owners adopted agro-forestry systems over 293 ha w/164 ha supported by SUBIR and 129 supported by British Embassy e. 48 new families raising small animals, 67 new chicken breeding operations f. Integrated management plans under preparation for 3 communities. 2) Project most important long-term accomplishment in the Rio Santiago-Cayapas area was building a critical mass of community members committed to sustainable development. Capacity building represented the project's most significant local legacy for biodiversity conservation. 3) Substantial contributions to national level policies involving land tenure and forestry 	<p align="center">Agroforestry, (livestock (small animal production))</p>	<p>EcoCiencia, JatunSacha, CEDENMA, WCS (bd and forest conservation technical assistance), ECOLEX and local indigenous organizations</p>	<p align="center">1997-2002</p> <p align="center">Implementing agency: CARE</p>

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
<p>Parks in Peril & Condor Bioserve</p> <p>Sumaco Napo-Galeras National Park, Cotopaxi National Park, and Llanganates National Park, Cofan-Bermejo Reserve, Cayambe-Coca Reserve, Antisana Reserve and Paschocha Wildlife Refuge</p>	<p><u>Components</u></p> <ol style="list-style-type: none"> 1) PA Strategic Plan 2) Basic protection activities 3) Long term financing 4) Support from local groups <p>Additional components: Communication Program:</p> <ol style="list-style-type: none"> 5) Stimulate behavioral changes and promote conservation practices in order to be compatible with the ecosystems sustainability, biodiversity, water and other resources of the Condor Bioserve; 6) Motivate community participation in the conservation of the natural resources; 7) Support the institutional development of FONAG to stimulate the protection of the watersheds that provide water to Quito. 	<ol style="list-style-type: none"> 1) Monitoring system for Condor Bioserve based on Geographic Information Systems developed, including a website that provides public access to maps, tables and graphics showing the main indicators generated within the system. 2) A bear/livestock conflict management program in Oyacachi decreased killing of bears. 3) Community Park Guard System established in Llanganates National Park 4) The flow of species and the ecosystem dynamics between Cofán Bermejo and Cayambe-Coca Ecological reserves were improved due to the establishment of 40,000 ha. conservation corridor. 5) The Cofán Park Rangers program ensured the conservation of 380,000 hectares of the Cofán territory. 6) Over six years, FONAG capitalized US\$4.9 million in donations from its contributors, making it a source of long-term financing for conservation activities related to water resources and their associated ecosystems in the CBR. 7) Papallacta's lake system became a source of financing for biodiversity through tourism activities in the highland zone of the Cayambe-Coca Ecological Reserve. 8) Participatory actions related to environmental education and sustainable tourism were implemented with the community through the Municipal Sustainable Development Units of the municipalities in the Quijos Valley 	<p>Agriculture, livestock, tourism</p>	<p>Fundación Antisana, Fundación EcoCiencia, Fundación Rumicocha, FONAG, Fundación Sobrevivencia Cofán (FSC), Fundación Páramo</p>	<p>1997-2007</p> <p>USD 7 Million</p> <p>Implementing agency: TNC</p>

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
<p>Conservation of Indigenous Territories</p> <p>Cofan Bermejo Ecological Reserve, Yasuní National Park, the Yasuní Biosphere Reserve, Cotacachi Cayapas, Cayambe Coca (lower area)</p>	<p>The Conservation of Indigenous Territories project provides indigenous groups with the technical and institutional resources needed to manage their lands. The project helps the Awá, Cofán, and Waorani peoples to demarcate and monitor their lands, strengthen their institutions, improve their livelihoods, and support the long-term conservation of their territory</p>	<p>Results through of 2010</p> <ol style="list-style-type: none"> 1) Nearly 1.9 million hectares of Awá, Cofán, Waorani, and other indigenous territories are under improved management through the establishment of territorial boundaries, implementation of control and surveillance systems, legal land titling, and conflict mitigation. 2) Three indigenous groups joined the Ecuadorian government's "Forest Partnership" program, in which communities receive annual cash payments in exchange for upholding conservation agreements, helping the project's indigenous partners receive \$221,000 per year. 3) Almost 5,000 people have received economic benefits from sustainable activities in agriculture, apiculture, agro-forestry, handicrafts, and fisheries. <p>Expected Results in 2011</p> <p>In its final year, the project will place an additional 30,000 hectares of threatened indigenous territories under improved environmental management and help 4,365 more people reap the economic benefits of sustainable resource management and conservation.</p>	<p>Handicrafts; Non-timber Forest Products: honey production from native bees; Community tourism; "el mundo bajo el agua" interpretive center in Nueva Providencia; community tourism activities in 3 Waorani communities</p> <ul style="list-style-type: none"> • Carpentry • Livestock: chicken, pig, fish production • Agriculture: Cofanes and Kichwas in cacao certification; Cacao production with Sápara communities; Support commercialization of agricultural products from FOCAO communities. 	<p>FCAE, NAWE, AMWAE, FEINC, Chachi Federation of Ecuador, MAE Fundación Altrópico, FFLA, TNC, FLACSO, CI, Global Fund for Nature, VIHOMA, Institute for Environmental Conservation and Training, FSC, WWF, Fundación Naturaleza & Cultura, and Corporación OIKOS.</p>	<p>2007-2011</p> <p>USD 6.1 Million</p> <p>Implementing agency: WCS</p>

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
<p>Protecting Water Sources to Conserve Biodiversity</p> <p>Cayambe-Coca Reserve; Antisana Reserve, Antisana, Ilinizas, Cotopaxi</p>	<p>1) Assist local governments to improve watershed management, directly benefiting up- and down-stream users; 2) Establish financial mechanisms to support long-term investment in watershed and biodiversity conservation; and 3) Increase civil society and private sector participation in watershed management, especially through education programs and sustainable productive activities.</p>	<p><i>Results through 2010:</i></p> <p>1) Replication of the Quito Water Fund model in five new locations: Zamora, Tungurahua, Paute, Riobamba, and Espíndola (protection of 382,341 hectares of watersheds)</p> <p>2) Financial support for productive activities and for improved management has reduced threats to biodiversity and improved the quality of water.</p> <p>3) Project established park-guard and community oversight groups to monitor the protected areas and surrounding buffer zones that are the source of most of the water.</p> <p>4) Project has assisted 13,110 residents of critical areas to reap the benefits of sustainable economic practices: production of organic vegetables, guinea pig breeding, cattle management, and ecotourism.</p> <p><i>Expected Results in 2011:</i></p> <p>1) Implementation of monitoring activities in protected watersheds, complementing the efforts of the MAE.</p> <p>2) Additional 43,000 hectares of watersheds will be placed under improved management, and about 1,400 more people will receive increased economic benefits from sustainable watershed management and conservation</p> <p><i>Other results not reported</i></p> <p>a) FONAG has technical and human resources as well as processes and procedures that have been implemented in order to achieve effectiveness and efficiency in its own day-to-day management and planning.</p> <p>b) School students, stakeholders, local governments, and other actors have received training, equipment and other related tools to strength their understanding and capacities regarding both water protection and biodiversity conservation.</p>	<p>orchards, essential oils, livestock (genetic improvement), nurseries, ecotourism, handicrafts, agriculture</p>	<p>Ministry of Environment , Hydroelectric Companies, Municipal Water Companies, Other Private Sector Partners</p>	<p>2007-2012</p> <p>3 Million USD</p> <p>Implementing agency: FONAG</p>

Project name & intervention areas	Objective / components	RESULTS	Productive Activities	Other Partners	Time, Investment & partner
<p>Sustainable Forests and Coasts</p> <p>Gran Chachi Reserve and buffer zone, Marine Reserve Galera San Francisco and coastal watersheds, Río Ayampe watershed, Churute Mangrove Reserve, and Wildlife and Mangrove Production Reserve of Salado, Machalilla National Park</p>	<p>The Sustainable Forests and Coasts project seeks to improve biodiversity conservation in critical coastal and forest areas as well as improve livelihoods for local populations. Greater incomes decrease incentives to exploit natural resources irresponsibly. Finally, the project promotes partnerships with local, regional, and international organizations for ongoing support for biodiversity conservation.</p>	<p>Results Through 2010</p> <ol style="list-style-type: none"> 1) The project worked with communities and government to place 271,391 hectares of land and coastal marine areas under improved environmental management—reducing environmental threats and making productive activities more sustainable. 2) Project trained 1,290 people in best practices for natural resource management and provided 2,970 people with increased economic benefits derived from sustainable natural resource management and conservation. <p>Expected Results in 2011</p> <ol style="list-style-type: none"> 1) Project will place an additional 84,000 hectares of threatened forests and coastal marine areas under improved environmental management and help 4,500 more people reap the economic benefits of sustainable resource management and conservation. Special attention will continue to ensure that markets and productive activities are sustainable, both environmentally and economically. 	<p><i>Agroforestry (cacao, tropical fruits); crab pulp; tagua, handicrafts, kapok cotton; tourism</i></p>	<p>Ministry of Environment, Ministry of Agriculture, Ministry of Tourism, Municipalities, Local communities</p>	<p>2009-2014</p> <p>USD 13 Million</p> <p>Implementing agency: Chemonics</p>

Exhibit 5. Rubric for Sustainability Evaluation

PERFORMANCE LEVELS (ANCHORS)					
0	1	2	3	4	5
Missing	Just starting	Needs improvement	Good	Very good	Excellent
The statements presented are absent	Deficient or preliminary consideration of the statements presented	Not enough or incorrect consideration of the statements presented	Complies with most of the statements presented	Complies with most of the statements presented in a good way	Fully complies with all the statements presented in an exceptional way

CRITERIA					
1. Change management mechanisms including pilot activities					
0	1	2	3	4	5
Adequate time for experimentation, feedback, debate and attitudinal change.					
Adequate processes of debate, agreement, learning and ultimately behavior change.					
Guides change in circumstances of uncertainty, and encourages a culture of experimentation and innovation.					
Limited/unlimited room to maneuver.					
Include pilot activities.					
2. Communication and awareness-raising mechanisms					
0	1	2	3	4	5
Develop mechanisms for information generation, debate, communication, awareness raising and decision-making.					
Promote non-conventional means of education and awareness.					
Ensure adequate skills in participatory enquiry, communications, education and media activities.					
3. Financial resources, mobilization and allocation					
0	1	2	3	4	5
Secure the necessary funding for the project's sustainability (stable and sustainable source of funding).					
Secure the commitment of the civil society and the private sector.					
Strengthen appropriate analytical tools and methodologies which help to quantify and integrate external costs and benefits.					
Conduct calculation of net benefits for the different stakeholders (quantitative and qualitative dimensions).					
4. Information systems: tracking trends, issues, needs; research and analysis					
0	1	2	3	4	5
Development of key information products to improve awareness and stimulate action.					
Establishment of knowledge management systems to ensure sharing of experience and facilitate collective learning.					
Coordination of research and training programs to avoid duplication and to achieve optimal benefits.					
Wherever possible, local institutions should be used for information gathering, analysis and planning.					
5. Monitoring and accountability mechanisms					
0	1	2	3	4	5
Developing and reviewing sustainability indicators, baselines, standards and codes of practice.					
Identifying and encouraging innovative processes to promote the culture of action-learning; independent					

monitoring; and feedback to decision-making.					
Harmonization and coherence among existing or planned co-ordination mechanisms, indicators, and mechanisms for monitoring and evaluation.					
Facilitating the setting of agendas at all stages of the program/project, and follow-up of decisions/agreements.					
Identification and use of appropriate performance indicators.					
Identifying possible roles for independent monitoring or “watchdogs”.					
Independent monitoring and auditing (Community-based monitoring).					
6. Negotiation and conflict management					
0	1	2	3	4	5
Determine the existence/extent of sectoral policy conflicts and inconsistencies, and the work necessary to resolve them.					
Debate how all decisions will be made and agreed.					
Co-ordinate means for negotiation of trade-offs and conflict management.					
Reconcile the short-term positions and longer-term interests of different stakeholders.					
7. Participation mechanisms					
0	1	2	3	4	5
Appropriate participatory methods for appraising needs and possibilities, dialogue, ranking solutions, forming partnerships, resolving conflicts and reaching agreement on the way ahead.					
A proper understanding of all those with a legitimate interest in the program/project and a considered and concrete approach to include the more vulnerable and disenfranchised among them.					
Balance between use of expertise and need for a participatory approach.					
Stakeholders involved from the beginning.					
Ensure broad-based ownership by key ministries and agencies, civil society and the private sector.					
Define and seek agreement on the roles of stakeholders (i.e. their rights, responsibilities, rewards, and relations) – private sector, civil society (e.g. NGOs, local communities), donors, national and local government, etc.					
Conduct regular stakeholder forums and other means for participation to reach and improve consensus and to review progress.					
8. Prioritization, planning and decision making mechanisms					
0	1	2	3	4	5
Debate and agree how all decisions will be made and agreed, and uncertainty dealt with.					
Promote broad-based participation in planning.					
Review achievements of other ventures in terms of synergies, clashes and gaps, and their outcomes.					
Ensure that poverty-environment linkages and issues of long-term sustainability are clearly understood and integrated in planning.					
Analyze trade-offs; transparency in the decision-making process; and the mobilization of alternative support to reduce the possibility of compromising long-term objectives.					
9. Strategic management: (environmental, economic, social)					
0	1	2	3	4	5
National debate and analysis among a wide range of stakeholders on what the different strategic approaches have to offer and whether prerequisites for effective strategies are in place.					
Ensure that the program/ project improves synergies, removes inconsistencies, avoids conflicts and fills gaps.					
The programs/projects addressed all of the main development issues that confront society: health, transport, energy, water and food supply, natural and cultural resource conservation, and so on.					

Exhibit 6. Financial and Economic Evaluation of Projects

A cost benefit analysis can be used to evaluate the total anticipated cost of a project compared to the total expected benefits in order to determine whether the proposed implementation is worthwhile. If the results of this comparative evaluation method suggest that the overall benefits associated with a proposed action outweigh the incurred costs, then a project manager will most likely choose to follow through with the implementation.

Generally speaking, a cost-benefit analysis has four parts. First, all potential costs that will be incurred by implementing a proposed action must be identified. Second, one must record all anticipated benefits associated with the potential action. Third, subtract all identified costs from the expected benefits. And finally, discount the net cash flow at a selected discount rate to determine whether the positive benefits outweigh the negative costs in present value terms. You have to do it using financial prices and using economic prices.

Identifying Costs

The first step is to identify and quantify all costs associated with a proposed action. In order to successfully identify all potential costs of a project, one must follow the subsequent steps.

1. Make a list of all monetary costs that will be incurred upon implementation and throughout the life of the project. These include start-up fees, licenses, production materials, payroll expenses, user acceptance processes, training, and travel expenses, among others.
2. Make a list of all non-monetary costs that are likely to be absorbed. These include time, lost production on other tasks, imperfect processes, potential risks, market saturation or penetration uncertainties, and influences on one's reputation.
3. Assign monetary values to the costs identified in steps one and two. To ensure equality across time, monetary values are stated in present value terms. If realistic cost values cannot be readily evaluated, consult with market trends and industry surveys for comparable implementation costs in similar businesses. Make a description of those things that were impossible to value.
4. Add all anticipated costs together to get a total costs value.

Identifying Benefits

The next step is to identify and quantify all benefits anticipated as a result of successful implementation of the proposed action. To do so, complete the following steps.

1. Make a list of all monetary benefits that will be experienced upon implementation and thereafter. These benefits include direct profits from products and/or services, increased contributions from investors, decreased production costs due to improved and standardized processes, and increased production capabilities, among others.
2. Make a list of all non-monetary benefits that one is likely to experience. These include decreased production times, increased reliability and durability, greater customer base, greater market saturation, greater customer satisfaction, and improved company or project reputation, among others.
3. Assign monetary values to the benefits identified in steps one and two. Be sure to state these monetary values in present value terms as well. Make a description of those things that were impossible to value.
4. Add all anticipated benefits together to get a total benefits value.

Evaluate Costs and Benefits

The final step when creating a cost benefit analysis is to weigh the costs and benefits to determine if the proposed action is worthwhile. To properly do so, follow the subsequent steps.

1. Compare the total costs and total benefits values. If the total costs are much greater than the total benefits, one can conclude that the project is not a worthwhile investment of time and resources.
2. If total costs and total benefits are roughly equal to one another, it is best to reevaluate the costs and benefits identified and revise the cost benefit analysis. Often times, items are missed or incorrectly quantified, which are common errors in a cost benefit analysis.
3. If the total benefits are much greater than the total costs, one can conclude that the proposed action is potentially a worthwhile investment and should be further evaluated as a realistic opportunity.

Conclusion

Performing a cost benefit analysis is a valuable way to weigh the pros and cons of implementing a proposed action. A cost benefit analysis that has thoroughly identified and realistically quantified all costs and benefits is an accurate way to determine whether an opportunity is worth in terms of changes in wealth and welfare.