

FINANCIAL SUSTAINABILITY PLAN FOR THE MARINE PROTECTED AREA SYSTEM IN THE SEAFLOWER BIOSPHERE RESERVE

**ARCHIPELAGO OF SAN ANDRES, OLD PROVIDENCE AND
SANTA CATALINA, COLOMBIA**

BY

TOM VAN'T HOF AND ERNESTO CONNOLLY

Corporation for the Sustainable Development of the Archipelago of San Andres,
Old Providence and Santa Catalina, San Andres

In collaboration with

The Ocean Conservancy, Washington, DC

FINANCIAL SUSTAINABILITY PLAN FOR THE MARINE
PROTECTED AREA SYSTEM IN THE
SEAFLOWER BIOSHERE RESERVE

ARCHIPELAGO OF SAN ANDRES, OLD PROVIDENCE AND SANTA
CATALINA,
COLOMBIA

BY

TOM VAN'T HOF¹ AND ERNESTO CONNOLLY²

July 2002

Corporation for the Sustainable Development of the Archipelago of San Andres,
Old Providence and Santa Catalina (CORALINA), San Andres

In collaboration with

The Ocean Conservancy, Washington, DC³

NOTE: Most figures in sections 2 and 3 are expressed in Colombian pesos and use the \$ sign. An average conversion rate of \$ 2,000 to the US \$ can be used. Figures

¹ Marine & Coastal Resource Management Consulting, Saba, Netherlands Antilles

² CORALINA, San Andres, Colombia

³ Formerly the Center for Marine Conservation

expressed in US dollars are denoted with “US \$”. Revenue projections and budget figures are in US \$ and are clearly marked as such.

Executive summary

The purpose of this financial sustainability plan is to identify the funding sources and financing mechanisms that will provide sustained long-term income to cover the annual recurrent costs of the marine protected area (MPA) system in the Archipelago. The approach to developing the plan was to:

- (a) Evaluate a wide range of financing options with a view to their potential for the MPA system;
- (b) Provide a socio-economic characterization of the main stakeholders of the MPAs;
- (c) Consult with stakeholders as to the feasibility and acceptability of selected financing mechanisms;
- (d) Estimate the annual operational costs of the MPAs;
- (e) Calculate the potential revenue from selected financing mechanisms;
- (f) Build consensus among stakeholders about the implementation of selected mechanisms.

The main stakeholders that are characterized in the plan are the Departmental Government (*i.e.*, the government of the Archipelago), the general population, fishers, and the tourism and water sports sectors.

Apart from the allocation by the Departmental Government to the general budget of CORALINA through a percentage of the property tax and of electricity sold, Government has no leeway to contribute financially to the MPAs. However, Government should allocate a percentage of the “tourist tax”, collected from arriving visitors by the airlines, to the preservation of natural resources. The revenue is currently applied entirely to servicing of commercial debt, while by law this has to be allocated to tourism infrastructure and the preservation of natural resources.

The general population is characterized by a high unemployment rate (approximately 40%) and low income. According to the 1999 census, sixty seven percent of the population earns less than four times the minimum wage (the minimum wage was \$ 240,000 or about US \$ 120 per month in 2001). According to an independent survey, this figure was even higher. Nevertheless the population demonstrated a willingness to contribute an average of almost US \$ 5.00 per month to coral reef conservation.

Fishing is a very important tradition in the culture of the archipelago and most fishers attach great value to that tradition being continued. The results of the survey suggest that most fishers underestimate their income or overestimate their catch. Calculated income based on stated catch was up to ten times higher than stated income. The fishers are unanimous in their belief that the MPAs will be beneficial to fishing. Fishers resent certain clearance fees they currently pay to the port captain and would be quite willing to reallocate this money to the MPAs if those clearance fees could be reduced or eliminated.

Tourism is obviously an important economic activity in the Archipelago, but has suffered since the collapse of the Freeport. Tourist arrivals in San Andres in 1999 stood at 369,000 and have fluctuated since the collapse of the Freeport between 300,000 and 413,000. National tourism makes up 95% of total tourism. International tourism is particularly

depressed because any Colombian destination is associated with low personal security (although this is completely untrue for the Archipelago). The number of hotels has decreased in recent years and average occupancy rates were 43% in 1998 in San Andres and 19% in 1999 in Providence. According to a survey conducted as part of this project, most visitors are attracted by the beaches, the climate, the environment and the culture. Ninety percent takes part in some form of marine recreation, *i.e.*, they would enter the MPAs if these were officially in existence today (because the planned MPAs will surround the islands). However, the figures on marine recreation given by the operators are about ten times lower than those resulting from the visitor survey. Almost 88% of the visitors demonstrated a willingness to pay an average of nearly US \$ 5.00 to the MPAs each time they visit the Archipelago. Most tour/water sports operators seem to underestimate their income or overestimate the number of clients. The launch transport (tours to the cays) is by far the biggest tourism transportation business in San Andres in terms of volume. Most operators in the sector feel that MPAs will be beneficial to their business. They agree with the concept of user fees but interpret these as fees paid by “others” rather than by themselves.

There is some concern among the tourism sector that visitors would be taxed too much or would be burdened with too many different taxes or charges. All stakeholders are in agreement that it is fair to ask those who benefit from the MPAs to also contribute financially to the cost of maintaining them.

The proposed strategy for financing of the MPA system is:

To apply as many financing mechanisms as applicable and suitable to the particular circumstances of the MPA system in the Seaflower Biosphere Reserve, taking into account the potential to capture revenue, effort/yield ratio, feasibility to implement, social acceptability, equitability, and financial capacity (of sectors targeted for user fees), for each of the proposed mechanisms.

The annual costs of operating the MPAs optimally, including costs of personnel, maintenance, surveillance and patrolling, education, and monitoring, amount to US \$ 350,000.

The funding sources and financing mechanisms that were evaluated were divided into three categories, based upon the criteria of the financing strategy. Primary mechanisms include those with the greatest potential and which should be further developed as a matter of priority. These include grants from multilateral donors, bilateral development cooperation agencies, international foundations and conservation non-governmental organizations (NGOs), government appropriations, environmental funds, debt for nature swaps, user fees, and resource extraction fees. Secondary mechanisms are those that are considered to have either less potential or are of lower priority and include existing national or regional conservation funds, taxes, levies and surcharges, tax incentives, fines, sale of goods and services, site membership and “friends” schemes, and provision of in-kind services/use of volunteers. Seven mechanisms were not further considered because of insufficient potential.

Government appropriations relate entirely to the allocation of a percentage of the “tourist tax” to MPAs. An environmental fund would need to be capitalized by a series of grants, a debt for nature swap, or by income from user fees and taxes while the operational costs of the MPAs are supported by grants. Such a fund could initially be established as an endowment fund to cover recurrent costs of the MPAs but could develop into a combined

endowment/revolving fund and make grants to NGOs and other community organizations in addition to covering recurrent MPA expenses. If successful, the scope of an environmental fund could go well beyond the MPA system and have a much broader application in financing conservation in the Archipelago. User fees will target primarily recreational users and fishers. The proposed mechanism for collecting recreational user fees is an environmental sticker that has to be affixed to all tickets sold for recreational activities. Resource extraction fees will target the industrial fishing companies. Artisanal fisher fees are related to a possible reduction or elimination of certain clearance fees.

The calculations of projected revenue take into account twelve different scenarios, including a 5, 10 and 15% share of the “tourist tax”, the low estimate of recreational users by the tour/water sports operators and the high estimate based on the CORALINA visitor survey, and a US \$ 0.25 and US \$ 0.50 visitor fee. The calculations are furthermore based on fisher fees equaling 50% of the currently paid clearance fees, and on an environmental fund with a capital of US \$ 2 million, a return of 10% and operating costs of 25%. The revenue based on these scenarios and assumptions ranges from US \$ 317,000 to US \$ 915,000. Only the two most conservative scenarios yield insufficient revenue to cover the operational costs of the MPAs. Although there are uncertainties and assumptions in these calculations, we conclude that there is reason for moderate optimism that the goal of long-term financial sustainability can be achieved.

The proposed mechanisms need to be further developed and ongoing consultation with stakeholders will be required in further developing and implementing this plan. The follow-up involves considerable legal and financial research to be undertaken by CORALINA.

Acknowledgements

In my capacity as first author of this document I want to thank all CORALINA staff, both in San Andres and in Old Providence, for their tremendous support and kind hospitality during the development of this financial plan. Although my appreciation is extended to all, I want to thank in particular Dr. June Marie Mow, Elizabeth Taylor, Rixcie Newball, Marion Howard, Giovanna Peñaloza, Luz Mila Ramirez, Claudia McCormick, Cesar Robinson, Fanny Howard, Evans Baldonado, and George Barker. Co-author Ernesto Connolly, who was responsible for the socio-economic data collection and analysis, has worked with me diligently on every aspect of this plan and his input has been invaluable.

The stakeholders in San Andres and Old Providence have been generous with their time to meet with us and gave valuable input, comments and suggestions, which are reflected in this document. Francisco Gallo Mejía and Alejandro Martinez Carvajal were helpful in providing additional socio-economic data for the diving sector and Susan de Saad kindly shared her knowledge of the tourism and travel sector.

Several experts in conservation financing in Washington, DC, shared their knowledge with us and provided valuable advice. We wish to thank Randy Curtis and Scott Smith of The Nature Conservancy, Marianne Guérin-McManus of the Global Conservation Fund at Conservation International, Carlos Quintela of the Wildlife Conservation Society and Barry Spergel of World Wildlife Fund for giving generously of their time.

The Ocean Conservancy (TOC), as partner in the marine protected area project, provided much appreciated guidance and financial support for the development of this plan. Special thanks are due to TOC's Cheri Recchia.

Thank you all – Gracias a todos!

Table of contents

Executive summary	3
Acknowledgements.....	6
Table of contents	7
List of tables.....	8
1. Purpose of the plan.....	9
2. Background/framework for plan development	10
2.1 Geographic and biological context	10
2.2 Development of the MPA system (GEF project)	10
2.3 Anticipated institutional structure for management of the MPA system	11
2.4 Projected financial needs of the MPA system.....	12
2.5 Benefits provided by the MPA system	13
2.6 Relevant socioeconomic characteristics of the direct and indirect beneficiaries of the MPA system	14
2.6.1 Resident population.....	14
2.6.2 General tourism sector in the Department Archipelago of San Andres, Old providence and Santa Catalina	15
2.6.3 Visitors.....	1646
2.6.4 Hotel sector	18
2.6.5 Water sports operators	19
2.6.6 Artisanal Fishers.....	25
2.6.7 Industrial fishers	27
2.6.8 Conclusions.....	27
3. Stakeholder perceptions on financing of MPA system	29
3.1 Government	29
3.2 Local population.....	29
3.3 Fishers	30
3.4 Visitors	31
3.5 Tourism sector	31
3.6 Conclusions.....	32
4. Financing strategy and mechanisms for self-sufficiency	34
4.1 Approach and strategy	34
4.2 Financing mechanisms with insufficient potential	34
4.3 Secondary mechanisms.....	35
4.4 Primary mechanisms.....	37
5. Projected revenue.....	43
6. Conclusions and recommendations.....	45
7. Literature consulted	48
Annex I. Budgets (all figures in US \$).....	51
Annex II. Revenue calculation (all figures in US \$).....	54
Annex III. Environmental funds.....	58
Annex IV. Debt conversions (debt for nature swaps)	63
Annex V. Financing options with their advantages, disadvantages and potential for financing the MPA system	67
Annex VI. Survey results	68

List of tables

Table 1. Economic values of coastal and marine ecosystems (adapted from Cesar, 2000).	13
Table 2. Average monthly household income in San Andres (source: Newball, 2000)..	15
Table 3. Employment in the tourism sector and related sectors according to different sources.	1646
Table 4. Percentage of visitors who rated feature as “important” or “very important” in the selection of the Archipelago as their holiday destination.	18
Table 5. Percentage of visitors taking part in marine recreational activities.	18
Table 6. Jet ski operators: comparison of stated expenses/income and calculated income.	19
Table 7. Boat operators (launch coop): comparison of stated expenses/income and calculated income.	20
Table 8. Independent boat operators SAI: comparison of stated expenses/income and calculated income.	21
Table 9. Independent boat operators OP/SC: comparison of stated expenses/income and calculated income.	22
Table 10. Glass bottom boats: comparison of stated expenses/income and calculated income.	22
Table 11. Estimated average number of divers and dives per year and income of two dive shops in SAI.	2323
Table 12. Dive shops in OP/SC: rates and comparison of stated expenses/income and calculated income.	2323
Table 13. Average income and expenses of non-motorized water sports operators.	24
Table 14. Sectors of the community who should pay for MPAs and average amounts each should pay according to the local population. Last row represents actual average willingness to pay among the sampled population.	30
Table 15. Estimated income for MPAs using three main revenue-generating mechanisms (in Colombian pesos).	44

1. Purpose of the plan

Many marine protected areas (MPAs) lack effective management due to a shortage of (trained) personnel, lack of equipment, insufficient enforcement, or all of the above. They have been enacted but they are in essence “paper” parks, *i.e.*, they exist on paper only and they are not achieving the objectives for which they were originally established. Most often this is the result of inadequate funding. It is usually much easier to find funding for start-up costs of an MPA or funding for specific projects to be carried out by an MPA than sustained funding to cover annual recurrent costs at a level that will guarantee effective management and enable the MPA to accomplish its objectives. Although governments have a fundamental responsibility for protection and management of the environment, very few governments are allocating sufficient funds for this purpose. This is why protected area management agencies are increasingly looking for additional sources and mechanisms of funding and have sometimes become very creative in that respect.

The project to establish an MPA system in the Archipelago is adequately funded from different sources and CORALINA, the organization responsible for implementing the project, has attracted experienced partners including The Ocean Conservancy and the Island Resources Foundation. There is every reason to expect that the project will be successful. However, it is essential that the issue of long-term sustained funding for the annual operational costs be addressed as early as possible, which is precisely the purpose of this financial sustainability plan.

The financial sustainability plan is a planning instrument and nothing more than that. Like all planning instruments it needs to be flexible and should be adjusted when assumptions and variables change or when new opportunities present themselves. The preparation of the plan took place in two phases. During phase one in April and May 2001, socio-economic information was collected and potential financing mechanisms were evaluated. A draft plan was submitted for review. During phase two in June 2002, stakeholder consultations continued, experts in sustainable financing of conservation were consulted and new financing mechanisms were evaluated as to their potential for the MPA system. The final draft was produced in July 2002. The preparation of this plan early on in the project allows for ongoing stakeholder consultation about financing mechanisms that affect stakeholders and it allows for legal and financial research into the feasibility of some of the proposed mechanisms as well as consultation with prospective donors.

2. Background/framework for plan development

2.1 Geographic and biological context

The Global Environment Facility (GEF) Project Brief (CORALINA, 2000a), which describes the project to develop an MPA system in the Archipelago, introduces the geography and biology of the area as follows: “The Archipelago of San Andres, Old Providence, and Santa Catalina is located in the southwestern Caribbean and is Colombia’s only oceanic and West Indian department⁴. One of the most isolated island regions in the Americas, the Archipelago includes 3 very small inhabited islands - San Andres, Old Providence, and Santa Catalina – as well as several uninhabited cays, with a total insular area of 57 km² and a marine area of around 350,000 km². The exclusive economic zone (EEZ) surrounding this Archipelago includes nearly 10% of the Caribbean Sea (Potter, pers.com). The island of San Andres lies approximately 130 miles east of Bluefields, Nicaragua; 450 miles south of Grand Cayman Island; and 500 miles west-northwest of Cartagena, Colombia. Old Providence and Santa Catalina (OP/SC) - which are joined by a footbridge - are 48 miles NNE of San Andres Island (SAI).

Although little studied, the region is defined as a secondary Endemic Bird Area and a center of high or very high marine endemism; additionally, the western Caribbean has been identified as a major site of coral and fish diversity and is considered a biodiversity "hot spot" (Roberts *et al.*, 2002). The oceanic reefs of the Archipelago make up one of the most extensive and productive reef systems in the Western Hemisphere and include 2 barrier reefs surrounding the main islands of San Andres and Old Providence, 5 large atolls, and other less well defined coral banks that extend for more than 500 km along the Nicaraguan rise; the OP/SC barrier reef alone is 32 km long and covers an area of 255 km², making it one of the largest reefs in the Americas (Geister, 1997). The Archipelago's reef formations are particularly complex because of the open oceanic location and adaptation to heavy wave action. The barrier reefs windward of the inhabited islands enclose lagoons rich in seagrass beds as do the atolls to the north and south. Around SAI and OP/SC, the coastal mangrove swamps complete highly intact and productive coral reef ecosystems.” (CORALINA, 2000a).

The Archipelago was declared the Seaflower Biosphere Reserve, under the United Nations Scientific, Educational and Cultural Organization’s Man and the Biosphere Program, in November 2000.

2.2 Development of the MPA system (GEF project)

In May 2000 the Global Environment Facility (GEF) approved a medium sized project proposed by CORALINA, the Corporation for Sustainable Development of the Archipelago of San Andres, Old Providence and Santa Catalina. The Project Brief (CORALINA, 2000a) describes the rationale and objective of the project as:

⁴ It is officially known as “Department Archipelago of San Andres, Old Providence and Santa Catalina”.

“The rationale of the project is to conserve biodiversity and ensure sustainable use of coastal and marine resources in the Archipelago while enhancing equitable benefit distribution for the community.”

“The objective is to design and implement a system of marine protected areas (MPAs) zoned for multiple-use and managed to reduce human threats and to protect globally important sites of biodiversity in cooperation with the local community. “

The proposed MPAs will form a comprehensive system based on *in situ* conservation and sustainable use. The system will include complete marine and coastal ecosystems representative of the region (a variety of coral reefs types and other coral communities, seagrass beds, mangroves, beaches, and deep water areas). This will ensure that the widest possible goals of global biodiversity conservation and recovery can be met as the MPAs will comprise habitats that support both coastal and marine plants and endemic, resident and migratory animals.

The main activities under the project include (CORALINA, 2000a):

1. Data collection and evaluation. Collect the information needed for management planning and implement the information system.
2. Legislation and policy. Enact the MPA system and establish legal and policy frameworks.
3. MPA management. Design and implement the integrated management plan in cooperation with the community.
4. Capacity building. Strengthen local organizations, train stakeholders, and produce communications.

The project has a duration of 4 years and officially began in September 2000. The planned MPAs will surround the islands and extend outwards to capture important cays and atolls. The MPAs are planned to include five zone types: no-entry zones, no-take zones (closed to all fishing and other extractive uses), artisanal fishing zones, general use zones, and special use zones.

2.3 Anticipated institutional structure for management of the MPA system

The institutional structure for management of the MPA system may have implications for financing of the MPA system, as not all sources of funding and financing mechanisms will be available to each type of institutional structure. During phase one of this financial sustainability plan (April-May 2001), the institutional structure for management had not been discussed within CORALINA to the extent that a single unified vision could be presented. Phase one considered, among other options, delegating the management of the MPAs entirely to an NGO. As the constitution of CORALINA does not allow such delegation of authority, this option is no longer considered. The relationship between institutional structure and financing of the MPA system is therefore much less important than originally assumed. During phase two of the development of the financial sustainability plan (June 2002), three working groups at CORALINA's annual International

Advisory Board meeting also addressed institutional structure for management. Three alternatives were suggested:

1. Decision-making power regarding MPA management rests with the Directive Board of CORALINA but is guided by advisory committees with local stakeholder representation, one for each MPA.
2. Decision-making power rests with an expanded Directive Board of CORALINA, expanded to broaden stakeholder representation. A separate MPA management sub-unit is created within CORALINA.
3. Decision-making power rests with a newly created MPA Management Board, in which stakeholders from both MPAs are represented. An MPA technical support unit will be created within CORALINA.

Alternatives 2 and 3 will require the amendment of national law by Congress. However, this step is essential if CORALINA wants to implement a co-management arrangement for the MPAs.

The institutional structure for management of the MPA system must be viewed in the context of –and be harmonized with- the structure for the Biosphere Reserve (BR)⁵ and the role of CORALINA in managing the Biosphere Reserve. Irrespective of the structure chosen, additional funds will be needed to cover the operational costs of the MPA system.

2.4 Projected financial needs of the MPA system

The financial needs for managing the MPA system depend to some extent on the institutional structure chosen. If the management structure is part of CORALINA, certain legal Governmental requirements as to staffing and procedures apply, which require a heavier staff complement than in a non-governmental structure. Salary benefits for permanent staff are different in a Governmental structure from those in a non-governmental structure. The actual cost of managing the MPA system will furthermore depend on the relationships and division of responsibilities and tasks for management between CORALINA and the entities that will manage the Biosphere Reserve as a whole and the MPA system within the BR.

In estimating the financial needs, the assumption is made that the MPA system will be managed by a separate entity that will have to undertake all management duties. The estimates furthermore assume that the management entity will be part of Government as this is the more costly alternative and constitutes the more conservative estimate. The budget is based on one MPA management office in SAI and OP/SC each. The budget does not take into account the management requirements of the part of the MPA system that includes the northern cays, as this could not yet be budgeted at the time of preparing this financial plan.⁶ The resulting budget is an “optimum” but realistic budget. Management by a non-governmental entity will reduce the annual recurrent costs somewhat, but may require more funds for initial capacity building.

⁵ The BR administrative structure is that of an autonomous body with its own legal identity. There are four separate units within the structure: the Directive Council, the Scientific-Technical Committee, the Community Commission and the Administrative Office.

⁶ It depends on the type of collaborative arrangements for enforcement that will be established with the Navy and the Coast Guard; it may require a permanent base in the cays.

The total estimated annual recurrent costs of managing the MPA system are about US \$ 350,000. In addition to the annual recurrent costs some funding is need for initial capital expenditure not included in the GEF project. This amounts to US \$ 34,000. The detailed budget is attached as Annex I.

2.5 Benefits provided by the MPA system

The MPA system incorporates the three major tropical marine ecosystems, coral reefs, seagrass beds and mangroves, which have economic value through the goods and services they provide. The total economic value comprises use and non-use value, which can be further divided into direct use, indirect use and option value, and existence and bequest value (Cesar, 2000; Hoagland *et al.*, 1995; Task Force on Economic Benefits of Protected Areas of the World Commission on Protected Areas (WCPA) of IUCN, in collaboration with the Economics Unit of IUCN, 1998). Table 1 gives an overview of the economic value of coral reefs and associated ecosystems.

Use value			Non-use value	
Direct use value	Indirect use value	Option value	Bequest values	Existence values
Food	Ecosystem services (maintenance of habitats and biodiversity)	Future direct and indirect uses	Leaving use and non-use values of biodiversity and habitats to future generations	Knowledge that biodiversity continues to exist
Raw materials and medicines	Biogeochemical services	Future information from preventing loss of biodiversity and habitats		Spiritual, cultural and community values
Mariculture	Climate control			
Aquarium trade	Coastal protection			
Tourism and recreation				
Research and education				

Table 1. Economic values of coastal and marine ecosystems (adapted from Cesar, 2000).

Use values are easier to quantify than non-use values, and direct use values easier than indirect use values. For example, one can calculate the value of a particular fishery or of a tourism industry, but putting a dollar value on option or existence value becomes much more complicated. There is an extensive body of literature that has used various valuation methods to calculate the value of ecosystems such as coral reefs, mangrove forests and wetlands. Many studies have also been conducted to determine costs and benefits of protected areas that include such ecosystems. It is beyond the scope and purpose of this plan to go into detail about such valuation studies, however, it is important to note that the benefits from for example fishing and tourism are enormous in comparison with the costs of protection and management of the ecosystems that generate these benefits (see for example Hoagland *et al.*, 1995). This knowledge should provide strong incentives to ensure that protection and management enjoy adequate financial support from both that public and the private sector. Or simply put: how could anyone *not* want to allocate money to protection and management?

2.6 Relevant socioeconomic characteristics of the direct and indirect beneficiaries of the MPA system

2.6.1 Resident population

According to the 1999 census, the total population of the Archipelago was 57,324 persons. This included 53,159 inhabitants in San Andres and 4,165 in Old Providence/Santa Catalina (DANE, 1999). However the actual number of inhabitants may be as high as 80,000-100,000, not counting the influx of seasonal workers (Cunningham, 2000). In San Andres 40% of the legal work force (those between 18 and 65 years of age) was “inactive” and 53.6% was “occupied”. In Old Providence these figures were 50.6% and 47.6% respectively (DANE, 1999).⁷

Almost a third of the legal work force had no income in 1999. Of the population of 10 years and older who did receive an income, 32% received less than the minimum wage (\$ 240,000 per month) and 67% less than four times the minimum wage (DANE, 1999). Newball (2000), in a survey among the local population (n=140) to investigate who should pay for the MPAs and coral reef conservation, also collected data on household income. The results are summarized in Table 2. According to his data, 35.7% of the population earns less than the minimum wage and even 87.9% earns less than four times the minimum wage.

Average monthly income	Percentage
No income	12.9
Less than \$ 240,000	35.7
Between \$ 241,000 and 480,000	20.0
Between \$ 481,000 and 720,000	11.4
Between \$ 721,000 and 960,000	7.9
Between \$ 961,000 and 1,200,000	3.6
Between \$ 1,201,000 and 1,440,000	0
More than \$ 1,440,000	3.6

⁷ Although the census report is not explicit about this, “occupied” does not necessarily mean employed or receiving an income.

Don't know or no answer	5
-------------------------	---

Table 2. Average monthly household income in San Andres (source: Newball, 2000).

2.6.2 General tourism sector in the Department Archipelago of San Andres, Old Providence and Santa Catalina

It is not possible to give a complete and reliable characterization of the tourism sector, because statistics vary depending on the source consulted and because the definition of a certain parameter is not always clear. In particular, the information on employment in the tourism sector as presented in Table 3 appears to be contradicting. This results from lack of definition of terms and parameters, differences in methodology and uncertainty about the quality of data. This allows only a factual representation of the available information and precludes further interpretation.

In 1998 SAI counted 309 tourism-related businesses (this figure appears to go down in 1999, in particular due to a decrease in the number of hotels in operation), employing a total of 3,622 employees, of which 367 temporary (source: Departmental Tourism Secretary). This figure does not include tourism-related merchandising. Another source estimates a total of 5,134 employees in the hotel and restaurant sector in 1997 (ISS, Cajanal, Caprecom, FIPS, Camara de Comercio, Anuario Estadístico de la Gobernación de San Andres Isla), compared with 2,732 for the same sector and year estimated by the Departmental Tourism Secretary. Based on data collected by CORALINA, 7,562 persons were employed in the tourism sector (including hotels, water sports, transportation and other tourism-related services in 1999. Cunningham (2000) lists 6,546 jobs in “tourism and complementary facilities”, not including the merchandising sector. Davis (1997), using two different sources for employment statistics, reports that in 1995 a total of 12,035 respectively 14,687 persons were employed in tourism-related jobs (including the portion of the merchandising sector that caters to tourists), representing 70% respectively 86% of total employment, depending on the source used (Instituto de Seguros Sociales and Camera de Comercio, respectively). The information from the various sources is summarized in table 3).

Year	Source	Employment	Comments
1995	Instituto de Seguros Sociales	12,035	Includes percentage of merchandising sector
1995	Camera de Comercio	14,687	Includes percentage of merchandising sector
1996	Plan de Ordenamiento Ambiental Territorial, CORALINA, cited in Cunningham (2000)	6,546	Tourism and complementary facilities (not including merchandising sector)
1997	ISS, Cajanal, Caprecom, etc.	5,134	Hotel/restaurant sector only
1997	Departmental Tourism Secretary	2,732	Hotel/restaurant sector only
1998	Departmental Tourism Secretary	3,622	All sectors except merchandising
1999	CORALINA	7,562	Hotels, transportation, dive shops,

			related services
--	--	--	------------------

Table 3. Employment in the tourism sector and related sectors according to different sources.

Tourism tax revenue in 1999 was \$ 3,382.1 M. The tourist tax was introduced by the Departmental Government in 1992 to improve and expand tourism infrastructure and to preserve the environment. The tax initially amounted to \$ 8,000 and was gradually increased to the \$ 15,300 for national tourists and US \$ 8.00 for international tourists in 2001. The tax is adjusted annually based on the price consumer index. Average revenue per tourist appears to vary between \$ 7,000 and 10,000 (roughly US \$ 3.50 and 5.00). Apparently not all of the potential revenue is captured. In the past, airlines and travel agents who collected the tax were often in arrears with making payments to the Government. Subsequently, Bancafe (a commercial bank) was in charge of collecting the tax at the airport in San Andres from all arriving tourists, except for international tourists arriving on charter flights who pay the tax to the airline or travel agent before arrival. In 2002 the airlines and travel agents were again collecting the tax. All revenue is applied to servicing commercial debt of the Departmental Government.

Tourism GDP in 1995 was reported as 43% of total GDP (Source: Planning Department, Local Government). This figure is not consistent with data from DANE (Departamento Administrativo Nacional de Estadística) on GDP in constant prices of 1994, indicating a 22% contribution from tourism to total GDP in 1995, increasing to 24% in 1997. According to figures from DANE, "Industry, commerce (hotels, restaurants, etc.)", contributed \$ 187,442 M in 1995 to the GDP of the Department, which represents 95.5% of GDP. These figures appear confusing, most likely because it is not well defined what they include. Davis (1997) estimates the total value of the tourist industry (mostly based on 1995 statistics) at 149,135.5 M or 345,766 per visitor. This is broken down as follows:

Tourist tax	\$ 5,074.5 M
Accommodation	\$ 59,201.9 M
Food/drink	\$ 52,858.9 M
Merchandise	\$ 32,000.0 M

The number of tourism-related businesses in OP/SC is about 200. This figure is not entirely comparable with that of San Andres, because it includes taxis, supermarkets and cultural groups that are not counted in the San Andres estimate. It may also be a little inflated since it includes for example 20 tour guides of which only 5 are active. The total employment in the sector is estimated at 500. Total tourism revenue (presumably in 1999, but this is unclear from the source) was \$ 1,248 M. Tourism in 1999 was at an all-time low since 1989. (Source: ECOASTUR, 1999).

The data on tourism appear to vary widely, depending on the source and probably on the method of calculation. It *seems* that tourism is very important to the Archipelago, but just *how* important in economic terms is impossible to say on the basis of the available information.

2.6.3 Visitors

In 1999 total tourism arrivals in SAI amounted to 369,256 persons. Of these, 351,911 (95.3%) were national tourists and 17,345 (4.7%) foreign tourists (Source: Aeronáutica

Civil, Calculos Banco de la Republica-Estudios Economicos, San Andres). These figures include the visitors who have OP/SC as their primary destination and those whose primary destination is SAI, with OP/SC as secondary destination. Most visitors in SAI come on a package that includes accommodation and two meals (51.8%); 28.8% stays at all-inclusive hotels (Cunningham, 2000). She characterizes the typical tourist who is visiting SAI as someone who "...is 36-55, traveling with a young family on a 4-5 day holiday package organized by an agency and which includes two meals." Forty two percent (42%) of the national visitors to SAI spend between \$ 500,000 and 750,000 on airfare and hotel.

Arrivals in OP/SC totaled 17,692 in 1999, which is considerably down from a high of 31,320 in 1993. By comparison OP/SC gets a larger share of the international market than SAI, with 17% international visitors.

A willingness-to-pay survey conducted by CORALINA among 266 departing visitors at the airport (222 in SAI and 44 in OP/SC) in April/May 2001 (see Annex VI for detailed results) indicates that over 90% of visitors are holidaymakers, while some 7% is visiting family or friends. Almost three-fourth of the visitors interviewed in SAI have San Andres as the sole destination of their trip; 17% visit OP/SC in addition to SAI and only 2-3% have OP/SC as their only destination. Of the visitors interviewed in OP/SC almost 98% said to visit OP/SC in combination with SAI.

The percentage national and international tourists in the survey at San Andres airport indicates 66.7% national and 30% international visitors, and thus deviates considerably from the Aeronautica Civil statistics. This is most likely the result of a non-random approach by some of the interviewers in an attempt to include more international tourists.⁸ Visitors interviewed in OP/SC included 16% international tourists which is very close to the figure given by ECOASTUR (1999).

The survey also inquired what attributes most influenced the selection of the archipelago as a holiday destination. For the entire population of visitors sampled (SAI and OP/SC combined), beaches were important to very important for 94% of the visitors, the climate for 86.1% of the visitors, followed closely by environment (84.6%) and native culture (75.2%). Shopping was clearly not important to the majority of the visitors (70% said not important to somewhat important). Diving and snorkeling were important or very important to 47.3% of the visitors, other water sports to only 26.3% of the visitors. The individual and combined data for SAI and OP/SC are summarized in Table 4. Among the visitors interviewed in OP/SC a larger percentage found beaches, climate, environment and native culture important or very important compared to those interviewed in SAI.⁹ Among those interviewed in SAI a comparatively greater number of visitors were attracted by shopping and other water sports than in OP/SC.

Feature	San Andres (n=222)	OP/SC (n=44)	SA + OP/SC (n=266)
Beaches	93.2	97.8	94.0
Climate	84.3	95.5	86.1

⁸ The survey includes 13% Canadians, probably because the interviewers targeted a Canadian charter flight.

⁹ Although they were interviewed in OP/SC, this does not necessarily indicate that their rating also refers to OP/SC, since they were asked how important these features were in the selection of the *Archipelago* as their destination and since 98% also visited San Andres.

Environment	82.5	95.5	84.6
Native culture	73.8	81.8	75.2
Diving/snorkeling	47.3	47.8	47.3
Other water sports	28.8	13.6	26.3
Shopping	25.2	11.4	22.9

Table 4. Percentage of visitors who rated feature as “important” or “very important” in the selection of the Archipelago as their holiday destination.

The majority of the visitors (88.7%) engaged in one or more water-related activities. Only 11.3% of the people interviewed in SAI did not take part in any such activities.¹⁰ Over three-fourth of visitors (77.5%) take a trip to the cays in SAI. This is by far the most popular activity, followed by swimming (36.5%), snorkeling (27.9%), a semi-submersible or glass bottom boat trip (26.6%), jet skiing (25.7%) and SCUBA diving (22.1%). The remainder takes part in windsurfing, kayaking, sport fishing or other activities (see Table 5).

Activity	% Of visitors taking part (results from survey at SAI airport; n=222)
Tour to the cays	77.5
Swimming	36.5
Snorkeling	27.9
Semi-submersible/glass bottom boat	26.6
Jet skiing	25.7
SCUBA diving	22.1
Windsurfing	10.8
Kayaking	5.4
Sport fishing	1.4
Other	0.9
None	11.3

Table 5. Percentage of visitors taking part in marine recreational activities.

2.6.4 Hotel sector

In 1998 the total number of establishments (including hostels, inns and apartments) in SAI was 124 with 4,052 rooms and 9,499 beds. The sector employed 2,143 persons on a permanent basis and 329 temporary workers in 1998. Occupancy rates ranged from a 28% in March to 64% December (1998). The yearly average was 43%. (Source: Departmental Secretary of Tourism).

In the year 2000 the hotel sector in OP/SC counted 25 hotels, with a total of 252 rooms and 478 beds, and providing employment for 77 persons. The number of hotels went down from 35 with 300 rooms and 600 beds in 1995. The average occupancy rate during 1999 was 19% (31% in high season and 7% in low season). The average occupancy rate over the years 1995-1998 was 42.7%. Gross earning for the sector in 1999 were 717 million

¹⁰ The sample for OP/SC is not included in the analysis since the questionnaire did not ask whether people engaged in such activities while on OP/SC, or in San Andres. It is therefore not clear how visitors have interpreted this question. Also the questionnaire did not take into account that certain activities are not available in OP/SC.

pesos. Two establishments accounted for nearly half of these gross earnings. (Source: ECOASTUR, 1999).

2.6.5 Water sports operators

Between February and May 2001 CORALINA conducted a series of surveys among water sports operators in SAI and OP/SC. The surveys were aimed primarily at collecting socio-economic information but also sought to learn the perception of the operators on the proposed MPA system. Their perception would indicate a measure of support for the MPA system, which in turn may be interpreted as potential willingness to contribute financially. The survey furthermore asked each category of operators about compatibility of their activities with other water sports activities and with fishing; about the need to designate no-take zones and exclusive artisanal fishing zones; and about the acceptability of industrial fishing by mainland or foreign companies. The latter is a highly contentious issue in the Archipelago.

The economic data collected through the survey included estimated income and expenses of the operators, as well as data on number of clients and prices charged for various services. This allows a comparison between “stated” income, *i.e.*, the income estimated by the operators, and “calculated” income based on number of clients and prices charged.

2.6.5.1 Jet ski operators

In February/March 2001 CORALINA carried out a survey among five of the six jet ski operators in SAI. They own a total of 24 jet skis and serve an estimated total of 3,690 customers in high season and 1,320 in low season, or 5,010 annually. The charge per half hour ranges from \$ 30-50,000 (average \$ 38,000) and from \$ 60-90,000 per hour (average \$ 70,000). The stated range of monthly income and costs in high and low season for each of the operators were converted to annual figures. The annual income *based on the stated number of customers* and the average half-hourly tariff of \$ 38,000 was also calculated. Table 6 compares stated expenses and income, and calculated income per business.

	Stated average annual expenses (\$)	Stated average annual income (\$)	Calculated average annual income (\$)
Business 1	13,500,000	23,400,000	9,120,000
Business 2	7,200,000	10,000,000	12,540,000
Business 3	18,000,000	28,800,000	41,040,000
Business 4	20,250,000	34,200,000	52,440,000
Business 5	12,000,000	18,900,000	75,240,000
Average	14,190,000	23,060,000	38,076,000

Table 6. Jet ski operators: comparison of stated expenses/income and calculated income.

One business appears to overestimate income or underestimate the number of clients; the others underestimate income or overestimate the number of clients. The larger businesses tend to make larger errors in their estimations than the smaller.

All jet ski operators interviewed are of the opinion that fishing of whatever kind is not compatible with their activity, but that kayaking, windsurfing and board surfing are compatible activities. Four operators consider water skiing and glass bottom boats also

compatible and three feel that water taxis and parasailing are compatible. All are in favor of the establishment of no-take zones and four feel that artisanal fishing zones are needed. All are against industrial fishing by outsiders in the MPAs, but feel that industrial fishing by the islanders should be allowed. There is less agreement among the jet ski operators as to whether or not the establishment of the MPAs will benefit their business: three answered no, one answered yes and the fourth was not sure.

2.6.5.2 Boat operators/water taxis (launch cooperative and independent operators)

Trips to the offshore cays Johnny Cay and Haines Cay (in SAI) are extremely popular among visitors. The visitors are transported by water taxis, locally referred to as launches. Most of the launch owners are members of a cooperative that handles ticket sales and maintains relationships with tour operators and travel agents. CORALINA interviewed the administrator of the launch cooperative in February 2001. At the time of the interview the coop had 40 members with a total of 36 boats. Thirty (30) boats were in service. The coop transports an estimated number of 27,500 persons per year, all national tourists. Forty percent (40%) of the clients use the service as part of a package. Sixty percent (60%) of the clients take a trip to both cays (Johnny Cay and Haines Cay). The ticket price to Johnny Cay is \$ 7,000; to Haines Cay \$ 9,000; and to both cays \$ 12,000. The coop receives \$ 1,000 of each ticket sold. A summary of stated expenses and income and calculated income is given in table 7. (Calculated income is based on 27,500 @ \$ 1,000 for the coop; 60% of 27,500 @ \$ 11,000 plus 40% of 27,500 @ \$ 7,000 for the boat owners.)

	Stated average annual expenses (\$)	Stated average annual income (\$)	Calculated average annual income (\$)
Coop	21,000,000	42,000,000	27,500,000
Boat owners (combined total)	270,000,000	540,000,000	258,500,000

Table 7. Boat operators (launch coop): comparison of stated expenses/income and calculated income.

It seems likely that the estimated number of clients is severely underestimated. According to the willingness-to-pay survey more than three-fourths of all tourists take a trip to the cays. That is about ten times as many persons as the launch coop says it transports. According to a travel agent virtually *all* tourists go on a trip to the cays at least once (De Saad, pers. com.). That would put the figure even higher. It seems therefore that neither the number of clients estimated by the launch coop, nor the stated income represent the real situation. The underestimation of the number of clients is further illustrated by 1995 data from the boat operators. In that year coop members estimated that they transported 77,950 persons and the independent operators 51,281 persons *to Johnny Cay alone*. However, this information is not considered reliable and the total number of persons visiting Johnny Cay may in reality be 200,000 per year (CORALINA, 2000b).

The launch coop administrator feels that jet skiing, water-skiing and glass bottom boats are compatible with the activities of the launch coop. He is in favor of no-take zones and separate artisanal fishing zones. He feels that industrial fishing by outsiders as well as islanders can be permitted in the MPAs and believes that the MPAs will benefit the launch coop.

CORALINA furthermore interviewed three of the five independent boat operators in SAI (May 2001). The three businesses operate a total of seven boats and transport a combined total of 11,000 persons per year.¹¹ The majority of the clients (90%) of one business took the trip as part of a package, for the other two the share of package clients was only 10%. Their prices for a trip to Johnny Cay and Haines Cay range from \$ 9,100 to 10,000; the price for a trip to both cays is \$ 12,000.

A comparison of stated expenses and income and calculated income, based on the number of clients and the average price, is given in table 8.

	Stated average annual expenses	Stated average annual income	Calculated average annual income
Business 1	42,000,000	66,000,000	36,400,000
Business 2	30,000,000	42,000,000	60,000,000
Business 3	12,000,000	18,000,000	9,500,000

Table 8. Independent boat operators SAI: comparison of stated expenses/income and calculated income

Two businesses appear to overestimate income or underestimate the number of clients, the other underestimates income or overestimates number of clients. The discrepancies may be due in part to discrepancies between the estimated *annual* number of clients (which was extrapolated from the average monthly number of clients given by the operators on the basis of an *assumed* number of months per high and low season) and the average *monthly* number of clients in high and low season as given by the operators.

Two of the businesses consider only other water taxis in the MPAs compatible with their own activities. One feels that artisanal and sport fishing are also compatible activities. They are all of the opinion that the MPAs will be beneficial to their business. Furthermore they are in favor of no-take zones and separate zones for artisanal fishing. Only one of the businesses feels that industrial fishing by outsiders should be allowed in the MPAs and all three feel that industrial fishing by islanders should be allowed.

CORALINA interviewed 5 of the 8 independent boat operators in OP/SC in May 2001. The boat operators in OP/SC pick up their customers at the hotels and make a tour around the island with several stops including one at Crab Cay. All charge \$ 15,000 for the tour. They operate one boat each and transport a combined total of 3,000 persons per year (range: 300 to 1,500). All of their clients are national tourists, almost two-thirds of whom take the trip as part of a package. Table 9 gives a comparison of stated income and expenses and calculated income based on the number and the price of the tour.

	Stated average annual expenses (\$)	Stated average annual income (\$)	Calculated average annual income (\$)
Business 1	500,000	300,000	6,000,000
Business 2	200,000	200,000	7,500,000
Business 3	2,000,000	1,500,000	22,500,000
Business 4	300,000	800,000	4,500,000
Business 5	1,500,000	1,500,000	4,500,000

¹¹ This is a conservative estimate. The boat operators also gave a monthly total during the high and low seasons, but were not asked how many months each season included.

Table 9. Independent boat operators OP/SC: comparison of stated expenses/income and calculated income.

The stated income and expenses suggest that only one operator is making a profit; the others are breaking even or losing money. The comparison of stated and calculated income, however, indicates that all businesses severely underestimate their income or overestimate the number of clients.

2.6.5.3 Glass bottom boats

CORALINA interviewed both glass bottom boat businesses operating in SAI in April/May 2001. One business transports about 4,550 persons per year, the other 5,200. One business caters to national tourists only, the other to national and international tourists as well as residents and therefore has eight months of “high season” vs. the other four months. Both charge \$ 10,000 per person for nationals, but the latter charges US \$ 18.00 for foreign visitors. Table 3 gives a summary of *stated* income and expenses of the two businesses and the income calculated on the basis of stated number of clients and price per person¹².

	Stated average annual expenses (\$)	Stated average annual income (\$)	Calculated average annual income (\$)
Business 1	15,750,000	31,500,000	45,500,000
Business 2	7,500,000	15,000,000	52,000,000

Table 10. Glass bottom boats: comparison of stated expenses/income and calculated income.

Both businesses appear to underestimate income or overestimate the number of clients.

The glass bottom boat operators were not very tolerant of other activities in the MPAs. They felt that other glass bottom boats were compatible with their activity, while one of the businesses said that no other activities were compatible with theirs and the other found the water taxis compatible. They favored no-take zones important but were divided on the need for separate zones for artisanal fishing. They felt that no industrial fishing should take place in the MPAs, whether by outsiders or by islanders. They both felt that their business would benefit from the existence of the MPAs.

2.6.5.4 Dive shops

CORALINA received information from five of the eight dive shops in San Andres. The data are generally of a poor quality and shows several inconsistencies and gaps. It is therefore not possible to draw conclusions from the survey with any measure of confidence. Data collected in the context of a research project provide more reliable information for two dive shops, one of which is considered one of the largest in SAI. These data are summarized in Table 11.

	# Of divers/year	# Of dives /year	Calculated yearly
--	------------------	------------------	-------------------

¹² A price of \$ 10,000 per person was used in the calculation since the number of foreign passengers @ US \$ 18.00 was unknown.

			income (\$)
Dive shop 1 ¹³	1,314	2,442	132,505,000
Dive shop 2 ¹⁴	1,416	2,646	112,455,000

Table 11. Estimated average number of divers and dives per year and income of two dive shops in SAI.

The CORALINA survey produced the following information on the dive shops' perception of the MPAs. One dive shop considered no other activities compatible with diving. Most felt that one or more non-motorized water sports activities would be compatible (especially kayaks). One dive shop also considered artisanal fishing compatible. Four of the five agreed that the MPAs should have no-take zones, three out five favored separate artisanal fishing zones, none agreed with industrial fishing by outsiders, and only one agreed with industrial fishing by islanders. All were of the opinion that the MPAs would benefit their business.

CORALINA interviewed two of the three dive shops operating in OP/SC in February/March 2001. The two businesses serve about 450 divers and 125 snorkelers per year. Both cater mostly to national tourists. The high season comprises 5 months (January, April, June, July and December); the remainder of the year is low season.¹⁵ Clients at the two dive shops make an estimated combined total of 1,000 dives per year. Between the two shops they do 45 certification courses and 80 resort courses, plus about 650 guided dives per year. A comparison of stated income and expenses and calculated income, based on prices for the services and number of clients are given in Table 12.

Activity	Business 1	Calculated income (1) (\$)	Business 2	Calculated income (2) (\$)
Certification course	350,000	8,750,000	350,000	7,000,000
Resort course	95,000	4,750,000	90,000	2,700,000
Guided dive	60,000	39,000,000	60-90,000	?
Snorkel trip	?	?	20,000	500,000
Total calc. income	-	52,500,000	-	10,200,000
Total stated income	20-25,000,000		6-9,000,000	
Total stated expense	16-18,000,000		2-4,000,000	

Table 12. Dive shops in OP/SC: rates and comparison of stated expenses/income and calculated income.

The comparison shows that the dive shops –especially #1- underestimate income or overestimate the number of clients.

Only one dive shop answered the question on activities compatible with diving and snorkeling in the MPAs. This business felt that artisanal fishing, windsurfing and board surfing are compatible with their activities. They both believe that the MPAs will benefit

¹³ Data based on extrapolation of dive statistics for an 8-month period. Income relates to guided dives and courses. Number of divers and dives corrected for divers taking courses.

¹⁴ Data based on extrapolation of dive statistics for a 4-month period. Income relates to guided dives only. Number of divers and dives not corrected for divers taking courses.

¹⁵ Information given by one business; the other answered that low season is all year round.

their business. They are in favor of no-take zones and separate artisanal fishing zones and they feel that industrial fishing in the MPAs by outsiders should not be permitted. They are divided as to whether or not industrial fishing by islanders should be permitted.

2.6.5.5 Non-motorized water sports

CORALINA interviewed the two operators of non-motorized water sports in SAI. They rent catamarans, sunfishes, windsurf boards (both businesses), and water bikes and kayaks (one business only). One has a fleet of 58, the other of 30. Kayaks and windsurf boards make up by far the largest portion of the fleet. One operator serves an average of 35,100 clients per year, the other 4,800. Both have national and international tourists among their clients; one also caters to residents. Both operators work with packages from hotels. One operator receives \$ 4,600,000 per month from an all-inclusive hotel on package services provided (includes the use of all vehicles except catamarans for which the charge is \$ 40,000 per hour). The other operator charges an average of 15,000 per vehicle per hour or \$ 30,000 per day.

Table 13 lists stated the income and expenses for each business (there is no basis here to calculate income).

	Stated average annual expenses	Stated average annual income
Business 1	78,000,000	114,000,000
Business 2	72,000,000	114,000,000

Table 13. Average income and expenses of non-motorized water sports operators.

Both operators feel that a range of activities are compatible with theirs, including transport launches, glass bottom boats, kayaks, windsurfing, board surfing, and parasailing. One operator thinks artisanal fishing is also compatible; the other considers jet skiing also compatible. They are divided about the need for no-take zones, but they agree that artisanal fishing zones should be established, that industrial fishing by outsiders should not be permitted, that industrial fishing by islanders can be permitted, and that the MPAs will be beneficial to their business.

2.6.5.6 Yachts (day cruises)

In April 2001 CORALINA interviewed the owner of a yacht that is offering day cruises to tourists in SAI. The two other businesses that offer a similar service were not in operation. The business serves about 7,000 persons per year, all of whom are national tourists and 90% of whom take the cruise as part of a package. The price per person is \$ 5,000.

The average annual stated expenses are \$ 30 million; the average annual stated income is \$ 42 million, which is higher than the calculated income of \$ 35 million.

Compatible activities mentioned include transport launches, kayaks and glass bottom boats. The operator is in favor of no-take zones, but does not see the need for artisanal fishing zones. He is opposed to industrial fishing by outsiders as well as by islanders and feels that the MPAs will benefit his business.

2.6.6 Artisanal Fishers

In April 2001 CORALINA conducted surveys among 49 fishers in SAI and 50 in Old Providence and Santa Catalina. Although the results of the two surveys show many similarities, they are treated here individually.

2.6.6.1 San Andres

Fishing is a very important tradition in the culture of the native islanders that seems to have been handed down from one generation to the next. Although nearly all respondents would like future generations to continue fishing, their age distribution shows that comparatively few young people (72% is in the 30-60 year age group while only 8% of fishers is under 30) are currently involved in fishing. All fishers interviewed are of the opinion that the islander people have traditional rights over certain fishing grounds or even all fishing grounds in the Archipelago. Half of the respondents believe that there are well over 200 artisanal fishermen in SAI, 22% even think there are more than 500. Nearly all think that there are more artisanal fishers than 10 years ago. About one-fourth belongs to a cooperative, the other are independent fishers.

Most fishers (62%) target fish only, 28% targets fish, conch and lobster, and 10% fish and conch. They spend an average of 7.6 hours per day fishing during an average of 15.5 days per month. The average monthly catch per fisher is 753 pounds of fish (45 fishers), 150 pounds of lobster (7 fishers) and 255 pounds of conch (9 fishers). Nearly all (92%) sell directly to the community. In addition, 74% also use part of the catch for their own consumption and 40% also sell to the cooperative. Only 12% sell to middlemen.

About half the number of fishers earns between \$ 100,000 and 400,000 per month from fishing (14% 100,000-200,000; 16% 200,000-300,000, 22% 300,000-400,000), while an additional 16% earns between 400,000 and 600,000. When expenses and income are compared it seems that fishers in the higher income brackets are losing money, while those in the medium and lower income brackets are breaking even or making a slight profit. When the value of the estimated catch (as estimated in pounds by the respondents) is calculated¹⁶, it appears that:

- (a) Stated income and calculated value of the catch match for only five of the 38 respondents (13.2%) for which data were available.
- (b) Two (2) respondents (5.3%) overestimated income or underestimated catch.
- (c) Thirty-one (31) respondents (81.6%) underestimated income or overestimated catch.

The calculated value of the catch was up to 10.5 times higher than the stated income. Those fishers who are members of fishing cooperative (26%) are paying an average yearly fee to the coop of \$ 62,000. Sixty four percent (64%) of the respondents supplement their income from fishing with farming (40%), animal raising (14%), government employment (6%) and other occupations (8%)¹⁷.

All fishers interviewed are of the opinion that the MPAs will be beneficial to them. Ninety percent (90%) would like to see designated zones for artisanal fishing only, 98% want no-take zones and 62% feel that no-take areas could be used for recreational purposes.

¹⁶ Calculations were based on a price of \$ 1,500/pound for fish, \$ 7,000/pound for whole lobster and \$ 3,500/pound for conch.

¹⁷ Multiple answers were possible.

Ninety percent (90%) is opposed to industrial fishing by vessels or companies from outside the Archipelago in the MPAs, while 78% feels that industrial fishing by islanders should be permitted in the MPAs. Most fishers want a ban on long line fishing (92%) and nets (72%) in the MPAs; 50% want to ban spear fishing and 44% the use of SCUBA as fishing method in the MPAs.

2.6.6.2 Old Providence/Santa Catalina

Much like in SAI, the fishing tradition is of great importance to the fishers of OP/SC, a tradition that they would like to see continue. The majority of the fishers (70%) are in the 30-60 years age group, while only 14% is under 30. Nearly 100% of the fishers feel that the islanders have traditional rights over the northern cays and banks or all fishing grounds in the Archipelago. The majority of respondents estimate that there are well over 200 artisanal fishers in OP/SC, actually more than 10 years ago.

More than half of the fishers (52%) target fish only, 18% target fish and lobster, 24% fish, lobster and conch, with the remainder either lobster only (4%), or fish and conch (2%). The majority of the respondents (70%) fish around OP/SC only, with the remainder also targeting Queena, Roncador and/or Serrana. They spend an average of 6.5 hours per day fishing during an average of 16 days per month. The average monthly catch per fisher is 599 pounds of fish (48 fishers), 174 pounds of lobster (23 fishers) and 285 pounds of conch (12 fishers). Eighty percent (80%) use part of the catch for family consumption, while 48% also sell directly to the community and 58% also sell to middlemen.

By comparison, Chiquillo (2000) estimated that there were 215 artisanal fishers in 2000, of which 49% included lobster in their catch (46% in CORALINA survey, 2001).

Over two-thirds of the fishers earn a monthly income from fishing between \$ 200,000 and 600,000 (16% 200,000-300,000; 18% 300,000-400,000; 16% 400,000-500,000, 18% 500,000-600,000). A comparison of the stated income and expenses reveals that only about one third of the fishers seem to be making a profit, while 40% are losing and the rest more or less break even. However, when the value of the estimated catch (as estimated in pounds by the respondents) is calculated, it appears that almost all of the respondents grossly underestimate their income or overestimate the catch. The actual value of the catch was up to ten times higher than the stated income. Eighty percent (80%) of the respondents said that they earn additional income through farming (22%), cattle raising, government employment (18%) and other occupations (34%).

With respect to MPAs, a vast majority of the respondents (92%) are of the opinion that MPAs will be beneficial to them. Seventy percent (70%) feels that MPAs should have separate zones for artisanal fishing only, 96% favors the establishment of no-take zones, and 86% feels that no-take zones can be open to recreational activities such as diving. Nearly all (96%) is against industrial fishing in the MPAs by companies or vessels from outside the Archipelago, while 76% feels that industrial fishing in the MPAs by islanders should be permitted. Almost all respondents (90%) want a ban on long line fishing, 80% wants a ban on nets (primarily gill nets) and 80% is against the use of SCUBA as a fishing method in the MPAs. Only 8% is against the use of fish pots and 18% against spear fishing in the MPAs.

These responses clearly reflect broad support for the MPAs among the fishers of San Andres and Old Providence/Santa Catalina and a good understanding of management measures needed to promote sustainability of the fishery in the Archipelago.

2.6.7 Industrial fishers

Chiquillo (2000) mentions that 49 vessels were licensed to conduct industrial fishing in the Archipelago in 2000. Some of these have a license to fish for lobster exclusively, others for fish, conch and lobster. Total landings for lobster in SAI in 1999 were estimated at 165,507 pounds per month, but Chiquillo remarks that these statistics are not reliable. Lobster statistics for artisanal fishing are not available, but Chiquillo estimates that they are quite low compared to total landings. Processed frozen lobster tail for export fetches a minimum price of US \$ 12.50 per kilogram. The local annual consumption in SAI is estimated at 1,870 kilograms per year.

2.6.8 Conclusions

This section addresses the implications of the socio-economic analysis of the direct and indirect beneficiaries of the MPA system for developing the financing strategy and mechanisms and draws some general conclusions.

- (a) High unemployment rates and low incomes suggest that the local population cannot realistically be expected to contribute much to the MPAs.¹⁸ If possible they should not be targeted at all, especially since they already contribute to environmental protection in general through the share of property tax and of the sale of electric power that is allocated by law to CORALINA.
- (b) Tourism is clearly an important economic activity in the Archipelago, both in terms of revenue generated, as well as employment. Conflicting tourism GDP and employment statistics make it impossible to further quantify the relative economic importance of tourism.
- (c) National tourism makes up about 95% of total tourism. Total arrivals in SAI in 1999 were 369,000; since the collapse of the Freeport arrivals they have fluctuated between 300,000 and 413,000. Arrivals in OP/SC in 1999 were only 17,692, the lowest since 1989.
- (d) The hotel capacity in the Archipelago has decreased in recent years. The average occupancy rate in SAI in 1998 was 43%; in OP/SC in 1999 only 19%.
- (e) Tourism statistics since the collapse of the Freeport show *fluctuations* rather than a consistent *trend*. Nevertheless, times of poor tourism performance are typically not favorable to win support from the industry for increased costs to the tourist (as would be the case if MPA user fees are introduced).
- (f) Information collected through the willingness-to-pay survey indicates that almost 90% of the visitors will enter or use the MPAs (anyone who enters the water for whatever activity, enters the MPA because they are planned to surround the islands). This justifies the collection of MPA user fees from the entire visitor population rather than from certain segments of that population.

¹⁸ See also section 3.2 for surprising results of the willingness-to-pay survey.

- (g) The boat operators and water sports operators for which information is available are all making a profit (although some marginally). Within the sector the boat operators who run trips to the cays in SAI appear by far the biggest business in terms of passenger volume. Therefore user fees collected from visitors to the cays alone could yield substantial revenue.
- (h) Most boat operators and water sports operators appear to underestimate their earnings (or overestimate the number of clients they serve). The poor quality of the available data does not allow a reliable characterization of the sector in economic terms.
- (i) Although limited information is available for the dive shops in SAI, it is clear that two of the seven dive shops for which information could be obtained have a much higher turnover than the remaining five (gross revenue of \$ 110-130 M as opposed to \$ 20-30 M).
- (j) With the exception of some jet ski operators, all operators in the sector mentioned under (f) and (g) are in accord that the establishment of the MPAs will benefit their business.
- (k) Fishers appear to underestimate their earnings or overestimate their catch. They believe that the MPAs will benefit fishing.

3. Stakeholder perceptions on financing of MPA system

3.1 Government

The financial position of the Government of the Department Archipelago of San Andres, Old Providence and Santa Catalina is such that it cannot currently contribute to financing of the MPA system. All proceeds of the “tourist tax” are currently applied to debt servicing¹⁹. Even if the tourist tax would be increased or new taxes established, the revenue would most likely be applied to debt servicing. Government endorses the concept of user fees, whether collected directly from individual users, or indirectly through private sector entities that cater to users. The principle that those who benefit from the conservation and management of resources pay for that service is considered fair.

Of the existing financing mechanisms controlled by Government that might be applied to conservation financing, only the allocation of a percentage of the construction license fee has some potential. This could be justified on the basis of environmental impacts related to construction in the coastal zone and needs to be further investigated as to its feasibility and possible proceeds.

New mechanisms that could be explored according to Government include:

- (a) An “ecotax” to be established by law through Congress or the Assembly. Such a tax could be levied on various resource uses such as fishing, fish processing, and recreational uses. The law should specify the purposes to which the revenue can be applied. Article 310 of the Constitution provides the justification for such a law. It could be presented by the Minister of the Environment and the Minister of Agriculture, or by the congressional representative of the Department. Unless CORALINA takes the initiative and prepares a draft for this law, the matter is unlikely to receive much attention from politicians.
- (b) A tax on real estate in the Department owned by absentee owners. Such a tax could be introduced while Congress is in the process of revising Departmental taxes.
- (c) An annual per-bed contribution from the hotels.
- (d) Issuing of a special stamp (symbolic stamp), the proceeds of which would benefit marine conservation.

3.2 Local population

Newball (2000) conducted a survey among the local population (n=140, 55% native and 45% resident) to gain insight into the opinion of the community about who should pay for the MPAs²⁰ as well as to investigate the willingness to pay among the population itself. The majority of the respondents are of the opinion that artisanal fishers, diving and water sports centers and the general tourism sector (hotels, restaurants, etc.) should contribute to the MPAs, while less than half feel that tourists should pay. The majority of the

¹⁹ Article 20 of Law 47 determines that the revenue from the “Contribution for the Public Tourist Infrastructure” is specifically destined to tourist infrastructure *and* preservation of natural resources.

²⁰ The survey emphasized coral reef conservation in particular.

respondents showed willingness to pay themselves for the MPAs. A summary of the results is shown in Table 14.

Community sector	Should pay	Should not pay	Amount (monthly)
Artisanal fishers	70.7%	29.3%	\$ 11,300
Diving/water sports center	95.0%	5.0%	\$ 61,621
General tourism sector	90.0%	10.0%	\$ 95,616
Tourists	40.7%	59.3%	\$ 4,714 ²¹
The respondent him/herself	72.1%	27.9%	\$ 10,508

Table 14. Sectors of the community who should pay for MPAs and average amounts each should pay according to the local population. Last row represents actual average willingness to pay among the sampled population.

3.3 Fishers

The fishers of SAI and OP/SC agree that all users should contribute financially towards the MPAs. They clearly demonstrate a willingness to pay themselves, however their willingness seems to be contingent to some extent upon eliminating or lowering other fees that they are required to pay to the Port Captain – but are reluctant to do so. These fees include:

- (a) Boat registration fee (relates to yearly safety inspection by DIMAR²²). Fishers in SAI pay \$ 70,000 for the registration form and the inspector may charge up to \$ 150,000 additionally (no receipt for the latter is given). Presumably similar fees apply in OP/SC.
- (b) Fishers in SAI must get a clearance when going out beyond 3 miles (must be obtained 24 hours in advance). The fee for this clearance is on average \$ 10,000, which must be deposited in the bank.
- (c) Fishers in OP/SC are required to obtain a clearance for nearshore day fishing, for night fishing and in the event they use their boat to transport tourists for a fee (act as “launch operators”). Each costs \$ 4,300 and is valid for 15 days; no receipts are given. Fishers question the legality of this fee.

The fishers clearly resent these clearances and fees. It appears that they will gladly pay the same or similar amounts to the MPAs if the fees are eliminated or reduced.

Fishers in OP/SC are concerned that visitors may be taxed too much and therefore choose another destination. They are also concerned with burdening visitors with too many different fees or taxes and suggest that visitors should be charged a flat fee that includes all charges and taxes, which are then divided.

²¹ Not monthly, but per visit.

²² The Maritime and Port Authority (DIMAR) is responsible for enforcement of laws relating to shipping, pollution from ships, protection of the marine environment, fisheries, land use for ports, beaches and coastlines. DIMAR regulates construction in the sea and the coastal zone. It includes the port captains and coast guard as well as the Colombian Oceanographic Institute.

Fishers in SAI suggested that fees from tourists could be collected through travel agents, tour operators and hoteliers. They also recommended investigating what fees are paid by cruise ships, cargo vessels and yachts, and where the revenue is going.

3.4 Visitors

As part of the willingness-to-pay (WTP) survey, visitors were asked whom they thought should pay for the operation of the MPAs, how much they themselves would be willing to pay, and if they would be willing to pay more if certain conditions were fulfilled.

One third (33.1%) was of the opinion that Government should bear the costs of the MPAs. Only few people felt that visitors alone or the private sector alone should pay (3% and 6% respectively). Many more favored a combination of Government, private sector and visitors (22.6%) or Government and private sector (21.1%). The remainder opted for other combinations.

Despite the fact that about 60% felt that others than the visitors should pay for the MPAs (33.1% of the respondents said Government should pay; 6% said private sector; 21.1% said Government and private sector), 87.6% of the visitors, when asked how much they would pay if a visitor fee were established, expressed a willingness to pay. The average WTP among national and international tourists for the entire sample (SAI and OP/SC combined) is \$ 10,068 per person (p.p.). The average WTP among national tourists is slightly lower than among international visitors, \$ 9,348 p.p. compared to \$ 11,910 p.p. WTP among visitors interviewed in OP/SC appears to be somewhat higher than in SAI, especially among international tourists, but the OP/SC sample is too small to do a statistical analysis.

The majority of visitors showed a willingness to pay more than the amount indicated in the previous question if information and education materials about the MPAs were available (71.8%), if surveillance and enforcement were effective (69.2%), if permanent moorings were installed to prevent anchor damage (73.3%), and if they knew that the money collected would not go to Government but directly to the MPAs (80.8%). Only between 10 and 19% were not willing to pay more if such conditions were fulfilled. This indicates that there is a considerable consumer surplus.

3.5 Tourism sector

Representatives of the tourism sector consulted include hotel associations (Directive Board of Ashotel in SAI, members of ECOASTUR in OP/SC), one travel agent in SAI, dive shops in SAI and OP/SC, and non-motorized water sports operators, jet ski operators and glass bottom boat operators in SAI.

There is general agreement among these groups that those who benefit from the MPAs should also contribute. The opinions on how that translates into who exactly should pay vary somewhat. Some feel that all visitors should be charged, others that all visitors could pay a small fee and those actually entering the parks pay an additional fee; again others feel that the entire community should contribute.

Several suggestions were made for possible mechanisms to collect fees:

- (a) Everyone entering an MPA should pay a fee.
- (b) Everyone entering SAI should pay a fee.
- (c) Levy a surcharge on recreational activities in the MPAs (e.g., diving, snorkeling, windsurfing, glass bottom boat trips, etc.).
- (d) Agencies, which sell packages offshore, could pay a fee.
- (e) Levy a surcharge on the hotel bill.
- (f) Impose a tax on harmful non-recyclable products.
- (g) Apply toll fees for tourist as provided for by Law 300.
- (h) Departmental Government or Municipality could establish a new tax.
- (i) Introduce an environmental sticker that would have to be sold by the operators and agencies in conjunction with tickets for all tours and activities in the MPAs. Some suggested that such a sticker should also apply to airline tickets and all-inclusive packages.
- (j) Allocate percentage of tourist tax to MPAs.

Several concerns with respect to proposed financing mechanisms were also raised:

- (a) The preservation of the environment and the natural resources is essentially a responsibility of Government and Government should allocate a percentage of the revenue from the tourist tax for this purpose.
- (b) A surcharge on hotel bills is not a feasible option because of the large percentage of visitors who travel on prepaid packages that include accommodation.
- (c) A surcharge on the package price would be extremely difficult to implement because most of the packages are sold offshore by travel agents.
- (d) Too many taxes or too heavy taxation may discourage visitors to choose the Archipelago as a holiday destination.
- (e) Too many different taxes, fees or charges would annoy visitors and lead to complaints or reduced visitor satisfaction.

3.6 Conclusions

This section addresses the implications of stakeholder perceptions for the further development of financing strategy and mechanisms: *“How do the views expressed by the stakeholders translate into guidelines and lessons for the selection of suitable and feasible financing options?”*

- (a) The preservation of the natural environment and its resources is in essence a responsibility of Government.²³ However, Government also recognizes that the State, the community, NGOs and the private sector must undertake the protection of the environment jointly.²⁴
- (b) The Departmental Government must allocate a portion of the revenue from the “tourist tax” to the preservation of natural resources in accordance with article 20 of Law 47. It is unclear whether this tax *is* indeed the contribution mentioned in Law 47. Government is using all revenue from this tax for debt servicing (the commercial bank(s) to which the Government is indebted are essentially “forfeiting”

²³ See for example articles 8, 79 and 80 of the Constitution of Colombia, 1991; article 25 of Law 47 of 1993 (Anon., 1993a).

²⁴ See article 1, paragraph 10 of Law 99 of 1993 (Anon., 1993b).

- the revenue before it reaches the treasury). Government should be challenged to comply with the provisions of articles 19 and 20 of Law 47.
- (c) Few realistic options exist for allocating revenue from any other existing taxes to the MPAs. However, the possibility to allocate a percentage of the construction license fee to MPAs should be further investigated.
 - (d) Although it is technically possible to introduce a new tax, the proceeds of which could be applied to MPA management, this should be avoided if possible because it is time-consuming and will require considerable political lobby.
 - (e) All stakeholders endorse the principle that it is fair to ask those who benefit from the resource protection and management provided by the MPAs to contribute financially to that goal.
 - (f) Considerable willingness exists among the local population to make a financial contribution to the MPAs.
 - (g) Considerable willingness exists among visitors to make a financial contribution to the MPAs.
 - (h) Fishers are willing to pay a user fee to the MPAs, somewhat conditionally to other fees that they resent -or the legality of which they question- being eliminated or lowered.
 - (i) The tourism sector agrees with the concept of user fees, but interprets these as fees paid by others rather than by themselves.
 - (j) There is agreement in general in the tourism sector that visitor fees can be collected by means of an environmental sticker to be sold in conjunction with tickets for all marine recreational activities.
 - (k) There is some concern among the tourism sector that visitors would be taxed too much or burdened with too many different taxes or charges.

4. Financing strategy and mechanisms for self-sufficiency

4.1 Approach and strategy

The *approach* to developing this financial sustainability plan (FSP) has been to evaluate a large number of funding sources and financing mechanisms with a view to their potential for financing the MPA system and selecting those with the greatest potential. The selection of financing mechanisms was also directed by the analysis of the socio-economic situation of the public and private sectors in the Archipelago (section 2.6), which to a certain extent determines the feasibility of their contributing towards financing the MPA system. And the selection was, of course, also guided by stakeholder views and suggestions (section 3).

The *strategy* for financing the MPA system that follows from this approach then, is defined as:

To apply as many financing mechanisms as applicable and suitable to the particular circumstances of the MPA system in the Seaflower Biosphere Reserve, taking into account the potential to capture revenue, effort/yield ratio, feasibility to implement, social acceptability, equitability, and financial capacity (of sectors targeted for user fees), for each of the proposed mechanisms.

As part of phase 1 of the development of the FSP in April and May 2001, twenty sources and mechanisms of funding were considered and evaluated (see Annex V for an overview of these). During phase 2 in June 2002, these mechanisms were further reviewed and other potential financing mechanisms were added, based primarily on advice and input from conservation financing experts in Washington, DC. The result is a grouping into:

- (a) Primary financing mechanisms (those having the greatest potential for revenue generation and/or that should be implemented as a matter of priority)
- (b) Secondary mechanisms (those that either have a more *limited* potential for revenue or are of a *lower priority*)
- (c) Mechanisms that were rejected because of insufficient potential.

First the mechanisms that were rejected will be briefly discussed, particularly with respect to the reasons why they lack potential. Then we will elaborate on the remaining mechanisms that are recommended for further consideration and implementation.

4.2 Financing mechanisms with insufficient potential

(a) National grant-making foundations.

Very few grant-making foundations with environmental or conservation focus exist in Colombia (perhaps four or five). They will generally not fund projects that include annual recurrent costs.

(b) Lotteries.

The law assigns the proceeds of games of chance lotteries exclusively to public health services.²⁵ Such funds could therefore only be a source of funding for conservation programs if the law is changed.

(c) Leases and concessions.

The options for leases and concessions are extremely limited. Because of the existing “hierarchy” (all the marine tour operators were working in the area long before it –will be designated as a marine protected area), it will be extremely difficult (and perhaps not desirable) to convert the activities of the existing operators into concessions. This would require a regulation that all commercial operations in the MPAs are subject to a permit from the MPA management authority²⁶. The management authority could then determine the types and numbers of concessions that would be sold to the highest bidders. Such a move would undoubtedly cause a storm of protest and is socially and politically unacceptable. The only current possibility for a concession is a gift shop where conservation-related and environmentally responsible items are sold.

(d) Cause-related marketing.

The potential of this mechanism is considered low because the market for special fund-raising events is quite small and the effort/yield ratio is high.

(e) Bio-prospecting.

Bio-prospecting was eliminated as a potential mechanism because the revenue would be national and be beyond the control of the MPA management authority. It could only be a potential source of funding if the revenue from bio-prospecting feeds a national conservation/protected areas fund. However, it remains a speculative and uncertain source.

(f) Corporate donations or sponsorships.

A corporate donor culture is almost non-existent in San Andres and would need to be developed in order for this mechanism to have any potential. Even if it can be developed, the effort/yield ratio would be high.

(g) Individual donations.

Similar to corporate donor culture, there is no well-developed culture of giving to charity in the Archipelago other than giving to the church. (See also site memberships and “friends” schemes under 4.3 below.)

4.3 Secondary mechanisms

(a) Existing national or regional conservation funds.

Ecofondo is a national conservation fund capitalized through a debt swap, with approximately US \$ 40M in capital. While CORALINA as a government corporation is not eligible for grant funding from Ecofondo, it is worth exploring if Ecofondo would provide matching funds if CORALINA can find an external donor willing to help

²⁵ See article 336 of the Constitution.

²⁶ Such a permit system is proposed anyway, but more as a management tool than as a revenue generating mechanism. Permit fees would generate a small amount of revenue only.

capitalize a regional conservation fund that would support the management of the MPA system or the Biosphere Reserve as a whole (Corporacion Ecofondo, 2000)²⁷.

(b) Taxes, levies and surcharges.

The potential of two existing mechanisms needs to be further investigated. First and foremost the true nature of the “tourist tax” collected from arriving non-residents at SAI airport must be established and the Government should be challenged to comply with the provisions of articles 19 and 20 of Law 47.²⁸ Eventually a key for the division of revenue from the tourist infrastructure contribution among public tourist infrastructure and preservation of natural resources *including* the MPA system must be agreed upon and established by the Assembly. Secondly, the possibility to assign a percentage of the revenue from the construction license fee to the MPAs should be investigated (see also section 3.1).

A new mechanism that should be explored is a tax on real estate of absentee owners. This requires new legislation, which can be passed at the Departmental level, *i.e.*, by the Assembly. In all cases it must be understood that changes in the allocation of revenue from an existing tax, as well as the introduction of a new tax with proceeds allocated for a specific purpose, not only needs the approval of the Assembly but also competes with many other needs, such as general infrastructure, health care and education.

(c) Tax incentives.

Tax deductions on contributions (donations, memberships, services) to the MPA management authority have some potential to generate revenue from the native islander population living in the USA. This mechanism requires the incorporation of a non-profit organization in the USA, which must obtain tax-exempt status from the US Internal Revenue Service (IRS). It may also require a collaborating local NGO to which the US-based non-profit can make periodic grants. The effort/yield ratio will be fairly high. This mechanism should be viewed in close relationship with site memberships and “friends” schemes (see (h) below).

(d) Fines.

Law 99 authorizes CORALINA to impose and collect fines for violations of the regulations for the protection of the environment and natural renewable resources. The law determines the amounts of the fines and other sanctions. In order to use this mechanism CORALINA must make provisions for allocating the revenue from fines collected for violations of regulations in the MPAs specifically to the MPAs. Although this mechanism has the potential to generate revenue, it must be understood that it does not provide a reliable steady source of income, that it bears the risk of overzealous enforcement practices, and that –ideally- it would be a small source of revenue as infractions decrease with increasing support for MPAs over time.

(e) Sale of goods and services.

This mechanism has potential for some revenue generation, especially if one or more visitor centers are established with gift shops. Such gift shops can be operated by the management authority or as a concession. Even without a visitor center it may have

²⁷ Such an arrangement was considered in the negotiations to establish the Sierra Nevada Environmental Fund (these negotiations have since stalled).

²⁸ See also the discussion in sections 3.1 and 3.6(b).

potential since there are very few local authentic souvenir items for sale on the islands. The actual revenue will be limited and is expected to be less than 10% of the financial needs.

(f) Site memberships and “friends” schemes.

This mechanism will have potential locally because many people like to “belong” to a group or organization. If as a result of the establishment of the Biosphere Reserve and the MPA system a different kind of tourism develops and international tourism increases, the mechanism will also have potential among visitors. The effort/yield ratio is fairly high.

(g) Provision of in-kind services; use of volunteers.

This is obviously not a direct source of revenue, but a mechanism to reduce costs. There is good potential for in-kind contributions while volunteer services from the fishers; members of the launch coop and the water sports sector are expected. In-kind contributions have a good effort/yield ratio. The use of volunteers helps to build support and a sense of ownership, but requires considerable time and effort for training and guidance.

4.4 Primary mechanisms

(a) Multilateral donors.

(b) Bilateral development cooperation agencies.

(c) International foundations and conservation NGOs.

These three types of organizations will not normally fund long-term annual recurrent costs and are therefore generally not considered suitable sources. However, several management-related activities in MPAs (e.g., research and monitoring, educational activities) can be presented as “projects” and thus may become eligible for support by such organizations. In addition, multilateral and bilateral agencies *can* support the creation of environmental funds, while conservation NGOs can play an important role in facilitating debt for nature swaps²⁹. We will therefore revisit these types of organizations and consider their potential roles when we discuss environmental funds and debt for nature swaps.

Two funding opportunities related to conservation NGOs need to be mentioned separately because of their potential for the MPA system: the “Global Conservation Fund” at Conservation International (CI) and the “Transforming Coral Reef Conservation” program, which is being developed (June 2002) jointly by The Nature Conservancy (TNC) and CI.

The Global Conservation Fund (GCF) was established in mid-2001 and was made possible through a US \$ 100 M grant from the Gordon and Betty Moore Foundation. The GCF undertakes a cost-effective approach to conservation by targeting areas that CI has identified as hotspots and major tropical wilderness areas. The GCF promotes partnerships with other conservation organizations working in high-priority areas. For the long-term management of new protected areas, the GCF aims to leverage 1:1 matching funds from private donors and 2:1 matching funds from public donors. To

²⁹ See Kaiser and Lambert (1996) for examples of such a role by, among others, Conservation International, The Nature Conservancy and World Wildlife Fund.

date activities have included establishing new protected areas, expanding existing protected areas, upgrading the status of multiple use areas, helping to secure indigenous lands, and establishing private reserves. The Fund provides grants in three phases: identification of new sites, project preparation and implementation. In the implementation phase, GCF funds may be used for the long-term management costs of an area, opportunity cost of the project, or benefits forgone. To date GCF grants have mainly targeted the protection of tropical forest areas and GCF is interested in expanding its activities in the marine realm.

The Transforming Coral Reef Conservation (TCRC) program includes four components: develop networks of MPAs that can better cope with global threats; improve management effectiveness of MPAs; policy development; and sustainable financing. The program is global in scale and will target at least 7 geographic areas, including the Western Atlantic. Within the Western Atlantic region focus is likely to be on the Meso-American Barrier Reef System and Brazil. The sustainable financing component intends to develop national or regional networks of financially sustainable MPAs. The program will also support the development of new enterprises compatible with and supportive of coral reef conservation. Total costs of the program over ten years are estimated at US \$ 246 M with and expected US \$ 84 M in matching funds. Of the total funds, US \$ 150 M is for endowment capital for conservation trust funds in each of the focus MPA networks, and US \$ 25 M is for grant and capital assistance for compatible enterprises. Development of the program is expected to be completed by the end of 2002.

(d) Government appropriations.

According to the Constitution the responsibility for the care of the environment and the preservation of natural resources is the responsibility of Government.³⁰ It is obvious that Government also realizes that it is unable to adequately fulfill that task alone, as reflected by statements like "...the protection of the environment must be undertaken jointly by the State, the community, NGOs and the private sector."³¹ So while it is clear that Government is unable to contribute adequately to environmental protection and natural resource conservation, we still rank government appropriations as a primary mechanism for financing for the following reasons:

- Government should not be "relieved" of a fundamental responsibility simply because we lose faith and become desperate; instead it should be reminded constantly of its obligations according to the law.
- Commitment by Government is essential to implementing other mechanisms, in particular more complex mechanisms that require bilateral or multilateral support.
- The Departmental Government needs to be urged -as a matter of priority- to contribute a portion of the tourist tax to the preservation of natural resources as prescribed by law (see section 4.3 (b) above for a further discussion of this issue).

(e) Environmental funds.

Three kinds of environmental funds are commonly distinguished:

Endowments – invest the capital and use only the income from the investments to finance conservation activities.

³⁰ See for example articles 8, 79 and 80 of the Constitution of Colombia, 1991; article 25 of Law 47 of 1993 (Anon., 1993a).

³¹ See article 1, paragraph 10 of Law 99 of 1993 (Anon., 1993b).

Sinking funds – spend the entire capital and investment income over a relatively long period of time (usually 10-15 years).

Revolving funds – finance conservation activities, usually through grant making, but replenish or increase the original capital by revenue from taxes, fees or other income.

The Global Environment Facility (GEF) distinguishes “parks” funds and “grants” funds. A parks fund supports specific protected areas within a national protected areas system. A grants fund supports a broad range of conservation and sustainable development projects carried out by NGOs and community organizations (Global Environment Facility, 1998). An environmental fund for the Archipelago could be both parks fund and grants fund, and it could be a combination endowment/revolving fund. It has the potential to be a very successful mechanism for financing the MPA system. In fact its potential goes beyond the MPA system since an environmental fund could provide financial support to the Biosphere Reserve as a whole.

An environmental fund needs to be managed by a board of directors comprised of representatives from both the public and private sectors. The fund should adopt procedures of rigorous record keeping, transparency, contracts, banking and auditing. The fund should have highly qualified professional staff and establish technical advisory committees to assist in the review of proposals and projects. The fund should develop an investment strategy to match its financial needs and objectives and select a professional asset management firm.

A number of options for the capitalization of such a fund need to be further explored.

- Grants. Several trust funds have been capitalized through grants from bilateral or multilateral aid agencies, with occasional additional support from private conservation organizations. The GEF in particular has supported the creation of a number of conservation funds during the last decade, including funds that target a single site. However, in applying for GEF support, one must realize that geographic balancing and rigorous co-financing have becoming increasingly more important criteria for eligibility. Also, GEF projects require Government endorsement and may face heavy competition from other interests. Furthermore, GEF and bilateral donors will only support the creation of a trust fund if its structure is private (independent from Government), but with Government representation (in a minority position) on the board.
- Dedicated debt for nature swap. The debt for nature swap mechanism is further elaborated in the following section (4.4f).
- Capitalize a fund using the revenue from user fees and tourist tax, while the operational costs of the MPAs are supported by a series of grants over a period of 5 to 10 years³². Potential grantors include the bilateral aid agencies, GEF and the Global Conservation Fund.

It is recommended to develop the fund over a period of several years, with initial capitalization through a single grant to create an endowment large enough to finance at least part of the MPA recurrent costs or to provide leverage for attracting other funding for recurrent costs, and subsequently increase the fund’s capital through

³² The Bolivian parks system was supported by US \$ 1 M/yr grants over a 10-year period while income from entry fees was used to capitalize a trust fund. Uganda’s Mgahinga and Bwindi Impenetrable Forest Conservation Trust raised funds from bilateral donors to support operations and projects for 7 years to allow growth of the endowment capital from accrued interest.

additional grants or other mechanisms so that the fund becomes both parks and a grants fund and can also support the management of the Biosphere Reserve as well as a variety of related conservation activities of NGOs and CBOs.

A more detailed description of environmental funds and their functioning, as well as of the implementation steps is given in Annex III.

(f) Debt for nature swaps.

A debt for nature swap is a financial transaction whereby an NGO buys discounted debt on the secondary market (in the case of debt to a bank) or obtains debt at no cost through a developing country's debt reduction scheme (in the case of bilateral debt); the debtor Government agrees to buy the debt for local currency in an amount exceeding the price the NGO paid -in exchange for cancellation of the full value of the debt- and the NGO agrees to spend the local currency on an environmental program.

For example, suppose an NGO in a developing country needs funding for a conservation program. The Government of that country has been unable to meet its obligations as a debtor and the debt is worth only 30 cents to the dollar. The NGO buys US \$ 10 million worth of debt for the discounted price of US \$ 3 million (of course, the NGO needs to find the US \$ 3 million first). The debtor Government agrees to pay US \$ 5 million in local currency in exchange for a full cancellation of the US \$ 10 million debt and the NGO gets the equivalent of US \$ 5 million to carry out its conservation program. Even the creditor gains, provided that the original debt was considered non-collectable.

There are many variations to the general theme in the example above and a more detailed description of debt conversion schemes and their functioning, as well as of the implementation steps is given in Annex IV.

A debt conversion is a potential mechanism to help capitalize an environmental fund and therefore needs to be further investigated and pursued. First of all, the feasibility of a debt conversion should be investigated, (answering such questions as: would the Colombian Government consider a debt for nature swap; what is the nature of the debt –commercial, bilateral, multilateral; to what extent is the debt considered non-collectable by the creditor). Likewise it must be investigated if Colombia qualifies for any existing bilateral debt relief or debt reduction programs. One such program from which Colombia benefited for the creation of Ecofondo is the Enterprise for the Americas Initiative (EAI) of the US Government, which among other things includes a debt reduction option for bilateral development assistance to Latin American and Caribbean countries. Debts are being reduced and restructured and interest on the new EAI debt can be paid in local currency into an environmental fund. While Colombia may not be eligible for further debt reduction under the EAI, the US Government is preparing a Coral Reef Conservation bill, which would have similar debt reduction opportunities from which Colombia might benefit in the future.

Other countries with debt relief programs for ODA-debt (official development aid) include Belgium, Switzerland, France, Germany, and Canada. Each has its own special conditions but most can be applied to fund environmental and sustainable development projects. Although debt swaps have generally been applied to capitalize national conservation funds, it is worthwhile to explore a dedicated swap, which would benefit a regional or even site-specific fund. Some of the European Governments may

be willing to donate debt for such a swap. This could be negotiated on a direct Government-to-Government basis between the Finance Ministries of the respective countries. In particular the German and Dutch Governments have converted debt of certain Latin American countries (Curtis, 1996) and could be approached.

The local organization that wants to convert debt into an environmental fund must have political support, connections to the public or private creditors, qualified personnel, and the capacity to mobilize funds. It must also have the capacity at the receiving end to apply the funds received to its environmental activities. There are several northern NGOs that assist local organizations with the implementation of a debt conversion and the establishment of a fund. The Nature Conservancy, Conservation International and World Wildlife Fund have facilitated a number of debt conversions in Latin America.

(g) User fees (non-extractive resource use).

The willingness to pay among most stakeholders, the high percentage of visitors who will enter and use the MPAs, the view held by nearly all stakeholders that they will benefit from the establishment of the MPAs, and the general agreement on the principle that those who benefit should also contribute financially to the MPAs, all provide strong justification for the introduction of user fees and make this into a potentially successful mechanism.

Law 99 of 1993 authorizes CORALINA to collect fees, however the tariffs have not yet been established. This must be done by Presidential decree upon proposal by the Minister of the Environment. CORALINA should initiate this process by drafting the decree.

The proposed fee collection mechanism is an environmental sticker. CORALINA has suggested that such a fee falls under the category "tarifas" in accordance with Law 99. The basic concept is that all tickets sold for tours or other recreational activities in the MPAs will only be valid if they have the environmental sticker affixed to it. Since most tours and recreational activities are being marketed through travel agents, they will be the primary vehicle through which the sticker will be sold. In addition to the travel agents, hotels that sell water sports (including the all-inclusive hotels), and independent water sports operators will also be required to sell the stickers. According to the CORALINA willingness-to-pay survey this mechanism will target nearly 90% of the visitors.

In order for the system to work properly, the sticker, which is essentially a MPA surcharge or entrance fee, must be mandatory and the travel agencies and other intermediaries selling the sticker must be required to pay for the stickers in advance. This will provide the incentive for the intermediaries to collect the money from the clients. To overcome the obstacle of the initial outlays for the intermediaries they will be given a one-month supply of stickers free at the time the mechanism enters into force. The incentive to recover costs by selling the stickers is the main enforcement mechanism. However, park rangers will also conduct spot checks.

The cost of the sticker will need to be determined at a later date, but considering that visitors and fishers will enter the MPA multiple times, the cost should be quite low. In the calculation of projected revenue (see section 5) figures of US \$ 0.25 and US \$ 0.50 were used for visitor fees.

(h) Resource extraction fees

Several countries have adopted the principle of internalizing costs and benefits of environmental protection. This is based on the notion that for example beneficiaries from natural resources or ecosystem services should pay and that polluters who impact negatively on the environment should pay. A common example is consumers who pay a surcharge on their water bill for watershed protection. In the case of the Archipelago, CORALINA should seriously consider fees for the benefits of resource extraction that accrue to the industrial fishing companies. Although information on the value of the industrial fishing is sketchy, it is expected that it is many times higher than that of the artisanal fishing. In fact, artisanal fishing may well be almost negligible compared to industrial fishing. Resource extraction fees could therefore be a source of substantial revenue.

Artisanal fishers should also pay a resource extraction fee and have, in fact, expressed their willingness to do so, provided that the clearance fees they are currently paying to the Port Captain can be reduced. A portion of the clearance fees could be transferred to CORALINA, but this still needs to be negotiated with the DIMAR and the Port Captains. Since artisanal fisher profits are generally low, we feel that it is unrealistic to charge any fees in addition to what they already pay.

5. Projected revenue

Despite a number of uncertainties and assumptions it is both essential and worthwhile to estimate the projected revenue from each of the proposed funding sources and financing mechanisms. The estimations made only take into account revenue from three of the primary mechanisms, taxes, user fees and environmental fund.³³ Potential revenue from resource extraction fees could not be assessed. The income can obviously be increased by revenue from some or all of the secondary mechanisms, should these be further developed.

With respect to taxes, the assumption is made that Government can indeed be made to comply with Law 47 to allocate part of the “tourist tax” to the preservation of natural resources. The estimated income for the MPAs from the tourist tax considers three scenarios:

- (a) The revenue will be shared between tourist infrastructure and natural resource conservation on a 75/25 basis; 5% will be allocated specifically to MPAs.
- (b) The revenue will be shared between tourist infrastructure and natural resource conservation on a 50/50 basis; 10% will be allocated specifically to MPAs.
- (c) The revenue will be shared between tourist infrastructure and natural resource conservation on a 50/50 basis; 15% will be allocated specifically to MPAs.

The projected income from an environmental fund is based on a fund with a capital of US \$ 2 million, a 10% return and 25% operating costs.

With respect to user fees, the estimations are complicated by the fact that the estimated number of visitors taking part in MPA-related recreational activities varies considerably depending on the information source. The estimates resulting from the willingness-to-pay survey conducted by CORALINA are about ten times higher than the estimates of the operators. Although we have strong suspicions that the operator estimates are low, we have no means for verification of their information other than the tools we used to compare calculated and stated income in section 2.6.5. We therefore include four scenarios, based on the high CORALINA estimate and the operators’ low estimate and a US \$ 0.25 and US \$ 0.50 visitor fee for each.

This gives a total of 12 scenarios, the calculated revenue of which is shown in table 15.

Scenario	Total revenue (in US \$)
5% Share of tourist tax; low estimate visitor fees; \$ 0.25 fee	316,916
5% Share of tourist tax; low estimate visitor fees; \$ 0.50 fee	334,469
10% Share of tourist tax; low estimate visitor fees; \$ 0.25 fee	451,097
10% Share of tourist tax; low estimate visitor fees; \$ 0.50 fee	468,650

³³ Debt conversion is not mentioned separately here as it is seen as a subsidiary to the creation of an environmental fund.

5% Share of tourist tax; high estimate user fees; \$ 0.25 fee	472,875
15% Share of tourist tax; low estimate visitor fees; \$ 0.25 fee	585,278
15% Share of tourist tax; low estimate visitor fees; \$ 0.50 fee	602,831
10% Share of tourist tax; high estimate visitor fees; \$ 0.25 fee	607,056
5% Share of tourist tax; high estimate visitor fees; \$ 0.50 fee	646,388
15% Share of tourist tax; high estimate visitor fees; \$ 0.25 fee	741,238
10% Share of tourist tax; high estimate visitor fees; \$ 0.50 fee	780,569
15% Share of tourist tax; high estimate visitor fees; \$ 0.50 fee	914,750

Table 15. Estimated income for MPAs using three main revenue-generating mechanisms (inUS dollars).

The detailed calculations for each mechanism are attached as Annex II. The diskette that accompanies this document contains the revenue calculation tool, a spreadsheet that will allow the user to recalculate income if assumptions change.

6. Conclusions and recommendations

Some of the socio-economic information collected as part of this plan shows discrepancies that are difficult to explain and raise questions as to the reliability of the information provided. This problem relates primarily to the water sports operators, who estimate that considerably fewer people are taking part in marine recreational activities than is concluded on the basis of the information on such activities provided by the tourists themselves. For the sector as a whole the estimate by the operators is almost a factor of ten lower. This has obviously complicated the revenue projections from visitor fees. Analysis of the data provided by the dive shops strongly suggests that most of them have not made a serious effort to provide reliable user statistics.

Despite these uncertainties the projected revenue based on different scenarios instills confidence that financial sustainability of the MPA system can be attained. Even the most conservative estimate comes close to covering 90% of the estimated MPAs budget. These estimates are based on three main mechanisms only, and do not yet take into account potential revenue from bilateral or foundation grants and other (secondary) mechanisms. Of course, the projected revenue can only be realized if certain assumptions will appear to be correct and if a mechanism such as an environmental trust fund can indeed be implemented. Overall there is reason for moderated optimism.

The plan requires follow-up in several respects. Below is a listing of recommendations, most of which relate to such follow-up activities.

- 1) CORALINA should continue the consultation process with local stakeholders as the implementation of the plan progresses. In particular, further consultation with all stakeholders in the tourism sector will be required on the exact collection mechanism and the amount of the user fee.
- 2) CORALINA lawyers should investigate, as a matter of priority, the true nature of the “tourist tax” and ensure that the “contribution” as mentioned in articles 19 and 20 of Law 47 is allocated according to the provisions of article 20. If the government is not complying with the law, CORALINA should take immediate action. (See also section 3.1 and 4.3b).
- 3) CORALINA lawyers should draft a decree that will establish the amount of the user fee in the category “tariffs” (tarifas) in accordance with article 31, paragraph 13 of Law 99. (See also section 4.4g).
- 4) CORALINA should further investigate the possibility of obtaining grants from bilateral and multilateral donors, including the GEF, as well as from private conservation organizations, to establish an endowment fund for the MPA system. Both the option of creating a dedicated fund for the Archipelago as well as establishing a sub-account in an existing fund such as Ecofondo, needs to be pursued. CORALINA should also consider using income from fees and the tourist tax to capitalize a trust fund while the operation of the MPAs is supported by grant funds. (See also section 4.4e and Annex III).

- 5) CORALINA should look into the possibility of a debt conversion as a mechanism to capitalize a dedicated endowment fund or create a sub-account in an existing fund. This requires first of all a feasibility study to explore: the position of the Colombian Government vis-à-vis debt conversion; the nature of the debt; the compliance with debt servicing requirements; debt reduction and debt relief schemes available to the Colombian Government; and the option of a direct Government-to-Government dedicated debt swap. (See also 4.4f and Annex III).
- 6) CORALINA should submit a concept paper to the Global Conservation Fund at Conservation International to initiate the grant application process for additional support to implementation of the MPA system. CORALINA may want to consider the possibility of applying grant funds to buying fishing concessions in the Archipelago.
- 7) CORALINA should monitor the development of the Transforming Coral Reef Conservation program by TNC and CI and realize potential benefits for the MPA system from this program, should CORALINA indeed be eligible to receive support under the program.
- 8) CORALINA should assist the artisanal fishers in investigating the legality of certain clearance fees and boat registration fees currently collected from fishers and try to eliminate any non-legal fees and/or negotiate a reduction of fees with the DIMAR. (See also section 3.3).
- 9) CORALINA should investigate what fees are currently paid by industrial fishing vessels and attempt to introduce resource extraction fees for industrial fishing in the Archipelago.
- 10) Since the institutional structure for management may have consequences for the application of financing mechanisms, CORALINA should continue the discussion on the institutional structure for managing the MPA system and try to reach a conclusion early in the third year of the MPA project. The options that CORALINA could consider include (see section 2.3 for more detail):
 - (a) Decision-making rests with the Directive Board of CORALINA, but is guided by advisory committees for the respective MPAs
 - (b) Decision-making rests with expanded CORALINA Directive Board (expanded to broaden stakeholder representation) and sub-unit for MPA management is established within CORALINA
 - (c) Decision-making rests with newly created MPA Management Board under the Directive Board; MPA technical support unit is established within CORALINA.

We recommend that CORALINA give due consideration to true co-management arrangements.

- 11) CORALINA lawyers should investigate – but as a matter of lower urgency:
 - (a) The possibility of obtaining a percentage of the construction license fee.
 - (b) The possibility of introducing a tax on real estate owned by absentee owners.
 - (c) The possibility of applying toll fees as meant in Law 300.

- 12) With respect to the collection of visitor fees through an environmental sticker it must be noted that few travel agencies have shown an interest to participate in the discussions, while they are supposed to be the primary collection agents. This sector must be involved in further consultations. If the environmental sticker is introduced it should be something attractive; the idea of a “button” or other souvenir as proof of payment should be considered.
- 13) In Providence a different mechanism for collection of visitor fees may be considered. Nearly all visitors take a boat tour around the island and pass through the National Park where they pay the park entrance fee. Instead of a separate MPA charge, an increase of the park fee could be considered. The mechanism to allocate a share of the revenue to the MPAs needs to be discussed with the Ministry of the Environment.
- 14) CORALINA should work closely with the water sports operators to collect reliable user statistics in support of monitoring. This process should begin immediately as it will take some time to build the necessary collaboration.
- 15) CORALINA should consider a separate MPA license for all commercial operations within the MPAs. Such a license system would generate some revenue from fees, although this would not be the primary purpose. The license system would however, give the MPA management agency a powerful control and regulatory mechanism and the possibility to suspend or revoke operating permits if regulations or conditions of the permit are violated.

7. Literature cited

Anon. (1993a). Participatory Democracy and Respect for Human Rights. Colombia's New Constitution. Text and Materials. Presidency of the Republic of Colombia, Office of the Advisor for the Development of the Constitution. Imprenta Nacional de Colombia.

Anon. (1993b). Republic of Colombia. Law 99 (22 December 1993) "By which the Ministry of the Environment is created, the public sector in charge of the environment and renewable natural resources is reorganized, the environmental national system (SINA) is organized, and other regulations are dictated."

Bayon, R., C. Deere, R. Norris and S.E. Smith. *Environmental Funds: lessons learned and future prospects*. <http://economics.iucn.org> (issues-20-01).

Bayon, R., J.S. Lovink and W.J. Veening (2000). *Financing Biodiversity Conservation*. Sustainable Development Department. Technical Papers Series; ENV-134. Inter-American Development Bank, Washington, DC. pp. 37.

Cesar, H.S.J. (2000). Coral Reefs: Their Functions, Threats and Economic Value. In: Cesar, H.S.J., Editor. *Collected Essays on the Economics of Coral Reefs*. CORDIO, Sweden.

Chiquillo, M. (2000). Informacion pesquera complementaria de langosta espinosa. CORALINA, Comunicado Interno No. SCA-544.

Curtis, R.K. (1996). Canje de Deuda Bilateral Por Actividades de Proteccion del Medio Ambiente. Peru: Un Estudio de Caso en Evolucion. Presentado en el Taller sobre Deuda y su Conversion en el Congreso Mundial de Conservacion de la IUCN, Montreal, 17 de Octubre de 1996. The Nature Conservancy, Arlington, VA. Pp. 27.

CORALINA (2000a). COLOMBIA. *Caribbean Archipelago Biosphere Reserve:Regional Marine Protected Area System*. Project Brief. GEF Medium-Sized Project.

CORALINA (2000b). *Plan de Manejo Ambiental, Johnny Cay. Documento de Discusión*. Pp. 43.

Corporacion Ecofondo (2000). *Fondo Holanda –Ecofondo. Manual General de Proyectos. Apoyo a proyectos Ambientales y de desarrollo sostenible en el Choco Biogeografico*. Equipo Tecnico Nacional de Ecofondo, Bogota, Colombia.

Cunningham, T.M. (2000). A socio-economic investigation of the contribution of tourism to the Archipelago of San Andres, Old Providence and Santa Catalina, Colombia. Submitted a part assessment for the degree of Master of Science in Environmental Economics, Policy and Risk. Department of Civil and Offshore Engineering, Heriot-Watt University, Edinburgh. Pp. 84, Appendices 8.

DANE (1999). Registro de Poblacion y Vivienda (Censo Piloto). Departamento Archipelago de San Andres, Providencia y Santa Catalina. Informe Final. Departamento Administrativo Nacional de Estadística, Ministerio del Interior, Santafe de Bogota, D.C.

Davis, C.C. 1997. Resource Utilisation Issues Relevant to the Tourist Trade of San Andres, Colombia: Development of a Sustainable Planning Strategy. School of Conservation Sciences, Bournemouth University, U.K. Pp. 102, Appendices 4.

Dillenbeck, M. (1994). National Environmental Funds: a new mechanism for conservation finance. *Parks* 4(2):39-46.

ECOASTUR, 1999. Proyecto de turismo responsable conservación ambiental en las islas de Providencia y Santa Catalina hacia el siglo XX.

Financing Protected Areas Task Force of the World Commission on Protected Areas (WCPA) of IUCN, in collaboration with the Economics Unit of IUCN (2000). *Financing Protected Areas*. IUCN, Gland, Switzerland and Cambridge, UK. viii + 58pp.

Gallardo, J.E. (1994). San Andres, Providence and Santa Catalina. Law 47 of 1993. From the Congress of Cucuta to the Constitution of 1991. Imprenta Nacional de Colombia.

Geoghegan, T. (1994). Financing strategies for protected areas in the insular Caribbean. *Parks* 4(2):28-38.

Geister, J., and J.M. Diaz. 1997. A field guide to the oceanic barrier reefs and atolls of the southwestern Caribbean (Archipelago of San Andrés and Providencia, Colombia). Proceedings of the 8th International Coral Reef Symposium 1:235-262.

Global Environment Facility (1998). *Evaluation of experience with conservation trust funds*. GEF Secretariat, Monitoring and Evaluation Team. Pp. 79.

Hoagland, P. Y. Kaoru and J.M. Broadus (1995). *A Methodological Review of Net Benefit Evaluation for Marine Reserves*. Environment Department Paper no. 27. The World Bank, Washington, DC.

Kaiser, J. and A. Lambert. (1996). *Debt swaps for sustainable development*. IUCN/SCDO/EURODAD, 72 pp. IUCN, Gland Switzerland and Cambridge, UK.

Leclerc, A. (1994). User fees in natural parks – issues and management. *Parks* 4(2):2-12.

McNeely, J.A. (1997). Achieving financial sustainability in biodiversity conservation programs. In: *Investing in biodiversity conservation*. Technical Paper ENV-111. Sustainable Development Department, IDB, Washington, DC. pp. 58. Also: <http://economics.iucn.org> (issues-27-01).

Newball, R.S. (2000). *Evaluación económica del diseño e implementación de un area marina protegida (AMP) en el Archipelago Caribeño: el caso de los arrecifes coralinos de la Isla de San Andrés –Colombia*. Tesis de Grado. Universidad de Los Andes, Facultad de Economía, Programa de Espelización en Evaluación Social de Proyectos. pp. 64, Anexos 4.

Norris, R. (ed.) (1999). *The IPG Handbook on Environmental Funds. A resource book for the design and operation of environmental funds.* Pact Publications, New York, NY. pp. 137.

Roberts, C.M., C.J. McClean, J.E.N. Vernon, J.P. Hawkins. G.r. Allen, D.E. Mc Allister. C.G. Mittermeier, F.W. Schueler, M. Spalding, F. Wells, C. Vynne, and T.B. Werner. 2002. Marine biodiversity hotspots and conservations priorities for tropical reefs. *Science* 295: 1280-1284

Task Force on Economic Benefits of Protected Areas of the World Commission on Protected Areas (WCPA) of IUCN, in collaboration with the Economics Unit of IUCN (1998). *Economic Values of Protected Areas: Guidelines for Protected Area Managers.* IUCN, Gland, Switzerland and Cambridge, UK. xii+52 pp.

United Nations Environment Programme/The Nature Conservancy (1999). *Funding protected areas in the Wider Caribbean: a guide for managers and conservation organizations* (DRAFT). UNEP (WATER)/CAR/WG.22/INF.5. pp. 46.

Annex I. Budgets (all figures in US \$)

ADMINISTRATION AND OPERATION COSTS FOR MPAs IMPLEMENTATION BY CATEGORY (optimum budget) IN US \$

	MONTH	TOTAL YEAR
PERSONNEL		
MPA Manager SAI & South. Cays	1,250	15,000
MPA Manager OP & North. Cays	1,250	15,000
Biologist SAI	925	11,100
Biologist OP	925	11,100
Technician SAI	575	6,900
Technician OP	575	6,900
Administrative Assistant SAI	600	7,200
Administrative Assistant OP	600	7,200
Accountant SAI	700	8,400
Accountant OP	700	8,400
Social Promoter SAI	400	4,800
Social Promoter OP	400	4,800
Field Work Auxiliar SAI	400	4,800
Field Work Auxiliar OP	400	4,800
Ranger (1) SAI	400	4,800
Ranger (2) SAI	400	4,800
Ranger (3) SAI	400	4,800
Ranger (4) OP	400	4,800
Ranger (5) OP	400	4,800
Ranger (6) OP	400	4,800
Benefits for permanent staff (26%)	3,146	37,752
Total Personnel	15,246	182,952
MATERIALS AND SUPPLIES		
Fuel/oil motorcycles (2)		540
Fuel/oil launch (SAI)		6,750
Fuel/oil launch (OP)		9,750
Boat registration (2)		70
Boat driver's license (4)		
Compensation use personal vehicles (8)		960
Rental vehicle (10 days @ 150,000 x2)		1,500
Field Work Supplies		3,000
Resource monitoring (by CORALINA staff)		30,000
Insurance		5,000
Uniforms		390
Total Materials and Supplies		57,960
OFFICES REQUIREMENTS		
Offices Supplies (SAI/OP)		9,000
Rental (SAI/OP)		12,000

Services (light, phone, water, Internet) 6,000

Total Offices Requirements 27,000

MANTAINANCE

Launch and engines (2) 5,000

Scuba Gear (8) 1,200

Motorcycle (2) 1,000

Computers (8) - Printers (2) 1,750

Buoys 3,500

Radios 115

Cameras 115

Total Mantainance 12,680

DEPRECIATION

Value

Depreciation

Launches 7% (15,000x2) 30,000 2,100

Engines 20% (5,000x2) 10,000 2,000

Motorcycles 20% (3,000x2) 6,000 1,200

SCUBA gear 20% (800x8) 6,400 1,280

Radios 20% (1,500x2) 3,000 600

Radios 20% (350x4) 1,400 280

Cameras 20% (5,000x1) 5,000 1,000

Cameras 20% (500x1) 500 100

Cameras 20% (1000x1) 1,000 200

Computers 25% (1,300x8) 10,400 2,600

Printers 25% (250x2) 500 125

GPS 20% (575x2) 1,150 230

Total depreciation 11,715

CAPACITY BUILDING 3,600**

TRAVEL 3,250

MPAs EDUCATION 20,000

Sub total 319,157

Cost of revenue generation (10%) 31,916

TOTAL MPAs OPERATION COSTS 351,073

** Managers and rangers 1 overseas trip/2years @ US\$ 2,500

One activity in SAI/OP/2 years @ US\$ 5000

Total annual costs US\$ 12,500 - 75% donor-funded, 25% MPA budget (US\$ 3,125)

EQUIPMENT (Capital expenditure)

Motorcycle (2) 6,000

Base Radio (2) 3,000

Hand Radios (4) 1,400

GPS (2) 1,150

Digital camera (still)	575
Digital video camera	1,150
Safety equipment launches	250
Spy Glass (2)	300
SCUBA sets (8)	7,500
Computers (6)	9,000
Software (6)	3,450
Printer (1)	250
Total Equipment	34,025

Annex II. Revenue calculation (all figures in US \$)

POTENTIAL REVENUE FROM FEES FOR MPA-RELATED RECREATION BASED ON CORALINA (WTP) SURVEY APRIL 2001 (IN US \$)				
Activity	% Of visitors taking part (based on survey)	# Of visitors taking part (based on survey)	Revenue @ fee of US \$ 0.50/ person/activity	Revenue @ fee of US \$ 0.25/ person/activity
Tour to the cays	77.5	271250	135,625	67,813
Swimming	36.5	127750		
Snorkeling	27.9	97650	48,825	24,413
Semi-submersible/ glass bottom boat				
	26.6	93100	46,550	23,275
Jet skiing	25.7	89950	44,975	22,488
SCUBA diving	22.1	77350	38,675	19,338
Windsurfing	10.8	37800	18,900	9,450
Kayaking	5.4	18900	9,450	4,725
Sport fishing	1.4	4900	2,450	1,225
Other	0.9	3150	1,575	788
None	11.3	39550		
Total			347,025	173,513

POTENTIAL REVENUE FROM FEES FOR MPA-RELATED RECREATION BASED ON OPERATORS' ESTIMATES OF THE # OF CUSTOMERS (IN US\$)				
Activity	# Of customers	Average price of activity	Revenue @ fee of US \$ 0.50/ person/activity	Revenue @ fee of US \$ 0.25/ person/activity
Tour to the cays SAI (coop)	27,500	4.50	13,750	6,875
Tour to the cays SAI (indep.)	18,333	4.50	9,167	4,583
Boat tour OP/SC	3,000	7.50	1,500	750
Snorkeling OP/SC	125	10.00	63	31
Snorkeling SAI	no data			
SCUBA diving OP/SC	450	30.00	225	113
SCUBA diving SAI (1 tank dive)	7,100	21.00	3,550	1,775

Glass bottom boat SAI	9,750	5.00	4,875	2,438
Jet skiing SAI	6,012	19.00	3,006	1,503
Yacht cruises SAI	7,000	2.50	3,500	1,750
Non-motorized w'sports SAI	39,900	7.50	19,950	9,975
Total			35,106	17,553

POTENTIAL REVENUE FROM FISHER FEES BASED ON CORALINA SURVEYS (IN US\$)

	# Of artisanal fishers	# Of boats ³⁴	# Of trips beyond 3 miles per yr (SAI) ³⁵	# Of boats going out per 15 day period (OP/SC)	Average clearance paid per yr
SAI	379	190	4,927		2
OP/SC	222	111		111	
Total					

SUMMARY USER FEE INCOME (IN US \$)

Source	High estimate (US\$ 0.50 fee)	High estimate (US \$ 0.25 fee)	Low estimate (US \$ 0.50 fee)	Low estimate (US \$ 0.25 fee)
Recreation (\$ 1,000 fee)	347,025		35,106	
Recreation (\$ 500 fee)		173,513		17,553
Fishing	15,181	15,181	15,181	15,181
Total revenue	362,206	188,694	50,287	32,734

TOURIST TAX (IN US \$)

	# Of visitors	Tax amt in US \$	Revenue
National	332,500	7.65	2,543,625
Foreign	17,500	8.00	140,000
Total revenue			2,683,625

Scenario 1

Destination of revenue	
Tourist infrastructure 75%	2,012,719
Pres. nat. resourc. general 20%	536,725
MPAs 5%	134,181

Scenario 2

Destination of revenue	
Tourist infrastructure 50%	1,341,813
Pres. nat. resourc. general 40%	1,073,450
MPAs 10%	268,363

Scenario 3

³⁴ Based on 1 boat per 2 fishers SAI and 1 boat per 1.5 in OP/SC

³⁵ Assumption: 50% of the boats go beyond 3 miles once a week

³⁶ SAI clearance US \$ 5.00 each time boat goes beyond 3 miles. OP/SC clearance US \$ 2.15 per 15-day period for day fishing

Destination of revenue	
Tourist infrastructure 50%	1,341,813
Pres. nat. resourc. general 35%	939,269
MPAs 15%	402,544

SUMMARY			
Scenario 1		Scenario 7	
Income from tourist tax (5%)	134,181	Income from tourist tax (15%)	402,544
Income US \$ 2 million fund	150,000	Income US \$ 2 million fund	150,000
Income user fees (low estimate; US \$ 0.25 fee)	32,734	Income user fees low estimate; US \$ 0.50 fee)	50,287
Total MPA income	316,916	Total MPA income	602,831
Scenario 2		Scenario 8	
Income from tourist tax (5%)	134,181	Income from tourist tax (10%)	268,363
Income US \$ 2 million fund	150,000	Income US \$ 2 million fund	150,000
Income user fees (low estimate; US \$ 0.50 fee)	50,287	Income user fees high estimate; US \$ 0.25 fee)	188,694
Total MPA income	334,469	Total MPA income	607,056
Scenario 3		Scenario 9	
Income from tourist tax (10%)	268,363	Income from tourist tax (5%)	134,181
Income US \$ 2 million fund	150,000	Income US \$ 2 million fund	150,000
Income user fees low estimate; US \$ 0.25 fee)	32,734	Income user fees high estimate; US \$ 0.50 fee)	362,206
Total MPA income	451,097	Total MPA income	646,388
Scenario 4		Scenario 10	
Income from tourist tax (10%)	268,363	Income from tourist tax (15%)	402,544
Income US \$ 2 million fund	150,000	Income US \$ 2 million fund	150,000
Income user fees low estimate; US \$ 0.50 fee)	50,287	Income user fees high estimate; US \$ 0.25 fee)	188,694
Total MPA income	468,650	Total MPA income	741,238
Scenario 5		Scenario 11	
Income from tourist tax (5%)	134,181	Income from tourist tax (10%)	268,363
Income US \$ 2 million fund	150,000	Income US \$ 2 million fund	150,000
Income user fees high estimate; US \$ 0.25 fee)	188,694	Income user fees high estimate; US \$ 0.50 fee)	362,206
Total MPA income	472,875	Total MPA income	780,569
Scenario 6		Scenario 12	
Income from tourist tax (15%)	402,544	Income from tourist tax (15%)	402,544
Income US \$ 2 million fund	150,000	Income US \$ 2 million fund	150,000
Income user fees low estimate; US \$ 0.25 fee)	32,734	Income user fees high estimate; US \$ 0.50 fee)	362,206
Total MPA income	585,278	Total MPA income	914,750

Annex III. Environmental funds

(After: Norris, 1999; Global Environment Facility, 1998; and Dillenbeck, 1997; Bayon *et al.*)

What is an environmental fund and when is it the right tool for conservation?

There is no typical environmental fund (EF). The structure, scope of activities and procedures of EFs vary according to the purpose for which they were created and the particular circumstances of the country or area they serve. A broad definition (applying to a fund in civil law countries) of an EF is: “A legal structure, most commonly a foundation, by which money or other property is held, invested and spent by a board of directors exclusively for specific environmental purposes as defined in its statutes and/or bylaws.”

Three kinds of EFs are commonly distinguished:

- (a) *Endowments*, which invest the capital and use only the returns on the investments to finance conservation activities.
- (b) *Sinking funds*, which spend the entire capital and investment income over a relatively long period of time (usually 10-15 years).
- (c) *Revolving funds*, which finance conservation activities usually through grant making, but replenish or increase the original capital by revenue from taxes, fees or other income.

An EF can combine two or all three of these types of funds in its overall financial structure.

The Global Environment Facility, in its evaluation of experience of experience with conservation trust funds, distinguishes “parks” funds and “grants” funds. A parks fund supports specific protected areas within a national protected areas system. A grants fund supports a broad range of conservation and sustainable development projects carried out by NGOs and community organizations (Global Environment Facility, 1998).

EFs are appropriate for conservation when the issues or threats being addressed are long term and require a sustained response over an extended period of time. They are not the answer when a significant amount of funding is needed in response to an immediate and urgent threat. The GEF evaluation considers the fulfillment of four conditions essential to the success of an EF:

- (a) The issue to be addressed requires a commitment of at least 10-15 years.
- (b) There is active government support for a public-private sector mechanism outside direct government control.
- (c) A critical mass of people from diverse sectors can work together to achieve biodiversity conservation and sustainable development.
- (d) There is a basic fabric of legal and financial practices and supporting institutions (including banking, auditing and contracting) in which people have confidence.

The GEF evaluation furthermore emphasized that these funds are not simply *financial mechanisms*, but must be viewed as *institutions* that have several roles to play in addition to channeling funds. These include roles as key actors in the development of national conservation strategies, as technical experts who can work with public and private agencies to develop agile and effective management approaches, and in some countries,

as capacity builders and nurturers of an emerging group of non-governmental organizations becoming involved in biodiversity conservation.

Legal structure and governance

In civil law countries the legal structure of an EF is most commonly a private not-for-profit foundation. A foundation has its own legal personality and has the capacity to own property. Foundations are usually under strict governmental supervision and sometimes a government official may even sit on the board. They may be subject to audits to ensure that their assets are being used for non-profit purposes consistent with the objectives stated in the statutes of the foundation.

An EF established as a private foundation is managed by a board of directors. The statutes of the foundation determine the minimum number of board members and sometimes the composition of the board. The experience is that boards should include representatives from both the public and private sectors. Diversity in board membership increases specialized expertise and leadership qualities of the board. Boards, whose members serve in their personal capacity, as opposed to *ex officio*, tend to develop a stronger sense of ownership of the fund as an institution and work more effectively to implement the fund's mission. Periodic rotation of board members is healthy in moderation, *i.e.*, as long as institutional continuity is guaranteed. A board should assess its own strengths and weaknesses and pay attention to ongoing board development in order to improve performance and effectiveness.

Operational issues

In designing an EF, it is critical to develop a basic vision of the fund and its strategic focus. In the case of a "parks" fund the focus will be easier determined than with a "grants" fund or a mixed fund. If the focus of a grants fund is too broad, the fund may be inundated with requests for support; if it is too narrow, the strategic impact of its support may be too limited. The fund should establish transparent processes and clear criteria for selecting project activities. Most funds have set up technical advisory committees to assist their boards in the review and selection of proposals. The fund needs to attract highly qualified staff but at the same time attempt to keep management staff small in order to limit operating costs and maximize funds available for program and project support.

Most funds have operating expenses in the 20-30% range. Funds that have a limited scope (*e.g.*, recurrent costs of protected areas) incur lower operating costs than those having more open, competitive programs. Donors have not always given clear guidance on the issue of operating costs. The GEF evaluation concludes that EFs incur three types of costs only one of which is considered operating costs proper. The three types are:

- (a) *Operating costs* (proper). These are the day-to-day costs of the fund "doing business" and include staff salaries, costs of board meetings, office expenses, equipment and maintenance, asset management costs, and program management costs (project selection, monitoring and evaluation). Operating expenses may also include constituency building for biodiversity conservation, dissemination of experiences and lessons learned, networking, and fund raising.
- (b) *Institution building costs*. These include the start-up costs of the fund, the capacity building of staff, development of planning documents and operational manuals, legal fees, and orientation for board members.

- (c) *Program support costs.* These are the services provided to build capacity of recipient organizations, share technical expertise, and support recipients and potential recipients in ways other than direct supervision.

A grants fund may have to spent considerable time and resources to assess the absorptive and operational capacity of recipient organizations and should adopt a long-term strategy for building capacity among grantees through small grants and technical support. The fund can play a direct role in capacity building or be more distant and enter into agreements with specialized organizations.

Finally, in its operations the fund should adopt procedures of rigorous record keeping, transparency, contracts, banking and auditing. The fund should develop an investment strategy to match its financial needs and objectives and select a professional asset management firm.

Capitalization of the fund

Developing a fund raising strategy is a top priority for EFs. In order to develop such a strategy, the fund must:

- (a) Examine the mission, goals and objectives of the fund and the ways in which the fund will address the issues and problems related to conservation.
- (b) Estimate the medium to long-term needs for program and project support.
- (c) Identify and research potential funding sources.
- (d) Define a fund raising strategy based on potential sources identified.

Potential sources for support in capitalizing of the fund include primarily multilateral agencies, bilateral aid agencies, debt conversions, international foundations, and in-country sources of revenue. Multilateral agencies (e.g., World Bank, International Finance Corporation, Development Banks, European Community) are providing support through grants and loans. The Global Environment Facility has been a major multilateral funding source for EFs and has provided endowment capital to about 13 funds with an equal number under consideration for support. Bilateral donor support typically consists of direct hard currency or local currency donations as part of official debt conversions. The US Government launched the Enterprise for the Americas Initiative to reduce the debt burden of Latin American and Caribbean countries while promoting environmental protection. Some countries have established special debt reduction facilities. Debt conversion mechanisms are discussed in more detail in Annex IV. International foundations are not normally a source of endowment capital, but may support specific elements of a fund's program. International foundations have also played an important role in the realization of debt conversions. In-country sources of support are matching funds as may sometimes be required by an international donor. Other sources include revenue include revenue from taxes, user fees and surcharges.

Main steps in the creation of an environmental fund

(After Norris, 1999)

1. Define general vision: who and what will the trust fund support, and why. Should be done in consultation with all institutional stakeholders (potential partners and beneficiaries in the fund), including Government, NGO and private sector.

2. Organize a steering committee. It needs to include both “workers ”—people who have the expertise and time to work out the detailed design, and people with clout, who can secure the necessary high-level agreements and meetings (government ministries, international donors, etc.). The committee should be representative of stakeholders.
3. Develop a list of potential donors. Government, together with influential members of steering committee, should establish contact with donors and begin meetings.
4. Secure financial support for planning/development phase. This may require at least US \$100,000 not counting the time of people on the steering committee. Expenses generally include consultant and legal fees, meeting expenses, and travel for fundraising and other purposes.
5. Develop a more specific vision and strategy. This should be done by the steering committee in an open process with stakeholder participation. Questions to address are:
 - Role of the trust fund in the national context (relation to national plans and strategies, government, private sector, etc.).
 - Legal structure of the fund (trust, foundation, fideocomiso, etc.).
 - Governance (structure and composition of governing body).
 - If the fund is to include grant making: the focus of grant-making program (purpose, objectives, who is eligible to receive grants, criteria for selecting them). The initial focus will change and develop over time but a well-developed starting point is essential.
 - Financial projections: how much money will the fund need? What percentage will be endowment, what percentage long-term sinking or revolving funds? This should be commensurate with the objectives of the grant-making program, *i.e.*, enough to achieve a reasonable percentage of the objectives. If that seems impossible figure, the objectives may have to be narrowed.
6. After thorough discussion of the above points, draft conclusions into a proposal for the establishment of the fund. Consultations with donors should have been ongoing through the process. The committee is now ready to present the proposal to them. This may involve meetings with in-country officials as well as at the donors’ own national or international headquarters.
7. AFTER there is reasonable expectation of a donation (*i.e.*, it’s in process with the donor) hire a lawyer to draft papers of incorporation and statutes or by-laws. These will define the processes for electing the governing body.
8. Incorporate the fund and elect the governing body (which should include mostly people who have served on the steering committee).

9. If the fund will be wholly or partly endowment, hire an asset manager and develop an investment and asset management strategy in accordance with the World Bank asset management model.
10. Receive initial funding, hire staff, open office, invest funds and initiate grant program. If there is a delay between steps 8 and 9, and if there is sufficient start-up money, this period can be spent developing the board, preparing the operating manuals, drafting the terms of the first call for proposals, developing application forms, etc. Public meetings for interested parties and potential recipients explaining the purpose and operation of the fund should also be ongoing during this period.

Annex IV. Debt conversions (debt for nature swaps)

(After: Kaiser and Lambert, 1996)

Introduction

Most managers in environmental NGOs believe that debt conversions are extremely complicated transactions that need the expensive support of specialized lawyers and financial experts. Although debt conversions can be complex transactions, Kaiser and Lambert (1996), in the preface to their handbook on debt swaps for sustainable development, conclude that:

- (a) Swapping debt is less complicated in practice than it appears in theory.
- (b) Although there are general financial and economic principles applicable to all debt conversion operations, there is no single recipe applicable to all swaps, every swap having its own peculiarities.
- (c) Debt swaps often require joint initiative of NGOs in both the creditor and the debtor country.

A debt for nature swap is a financial transaction whereby an NGO buys discounted debt on the secondary market³⁷ (in the case of debt to a bank) or obtains debt at no cost through a developing country's debt reduction scheme (in the case of bilateral debt); the debtor government agrees to buy the debt for local currency in an amount exceeding the price the NGO paid -in exchange for cancellation of the full value of the debt- and the NGO agrees to spend the local currency on an environmental program.

For example an NGO in a developing country needs funding for a conservation program. The government of that country has been unable to meet its obligations as a debtor and the debt is worth only 30 cents to the dollar. The NGO buys US \$ 10 million worth of debt for the discounted price of US \$ 3 million (of course, the NGO needs to find the US \$ 3 million first). The debtor government agrees to pay US \$ 5 million in local currency in exchange for a full cancellation of the US \$ 10 million debt and the NGO gets the equivalent of US \$ 5 million³⁸ to carry out its conservation program. Even the creditor gains, provided that the original debt was considered non-collectable.

Debt conversion has been used to reduce debt of developing countries since 1985. Between 1987 and 1994 a total of US \$ 177.56 in debt was eliminated around the world through debt for nature swaps. In Latin America the value of converted debt per swap ranged from US \$ 250,000 to \$ 33 million. Initially debt swaps were undertaken exclusively with commercial debt, *i.e.*, debts purchased from or donated by commercial banks. Since 1991 debts swaps have also included bilateral debt (debt development aid agencies) as several countries established official "debt reduction facilities". Simply put, such facilities include special funds in development aid budgets of creditor countries to finance debt for development swaps (including debt for nature swaps).

³⁷ A financial market where debt securities are traded. The price is determined by supply and demand: it will be low for countries likely to be unable to pay their debt or where the demand is low and the offer is high.

³⁸ In reality this amount is slightly less because of bank fees and taxes.

Which debts are available for conversion?

In principle any kind of debt can be converted except multilateral debt (debt to international financial institutions such as the World Bank and the International Development Banks). Multilateral debt is not available for conversion simply because the international financial institutions have so decided and have the power and political backing of creditor governments to maintain that position. This does not mean that they are opposed to debt conversion. On the contrary, they have often expressed their support for debt conversion schemes and the World Bank has even provided soft loans for debt buy-backs.

Commercial debt (debt owed mostly to western private banks) is available extensively on the secondary market. This functions according to common market principles. When a bank realizes that certain debt may be non-collectable, they may be willing to sell it below face value.³⁹ Normally there are no restrictions on the sale and the transaction depends simply on the buyer and seller agreeing on a price and on the establishment of a convenient procedure for the conversion with the debtor government.

Opportunities to convert official bilateral debt vary from country to country. The so-called Paris Club (a consortium of western creditor governments) maintains the principle that Official Development Aid can be converted without limitation and is only dependent on the creditors policy towards conversion. The Paris Club established special terms for non-concessional⁴⁰ debt conversions for SILICS (severely indebted lower-income countries) and SILMICS (severely indebted lower middle-income countries), which allow them to convert US \$ 20 million and 10 million respectively. For moderately or less indebted countries the Paris Club regulations (“Standard Terms”) foresee no debt conversion option⁴¹.

How to pay for the debt conversion?

Most NGOs in developing countries will not have the financial resources to finance a debt conversion. The NGO then has the following options available.

- (a) In the case of debt to a commercial bank the NGO can try to get the debt donated. A commercial creditor may be inclined to do so because of tax benefits and positive publicity.
- (b) The NGO can try to get a “debt assignment”. This is an operation whereby a creditor (usually a public creditor) donates (“assigns”) the debt to an NGO under certain conditions. This could take place by including the NGO in an official debt conversion scheme financed by the aid budget or debt reduction facility of the creditor country.
- (c) The NGO can try to find a donor or public fund money to buy the debt from the original creditor or on the secondary market.

Who can become a debt converter?

³⁹ Below the nominal value of the debt, *i.e.*, at a discount.

⁴⁰ A “concessional” loan has softer terms than a commercial loan (low interest rates, grace period, long repayment period).

⁴¹ It is not entirely clear what Kaiser and Lambert mean here. Since Colombia belongs to the MIMICS (moderately indebted middle-income countries) it needs to be investigated what exactly the implications of the Paris Club “Standard Terms” are.

Since trading debt is essentially a market operation everyone, who has the money to buy debt or can mobilize resources from a third party, can become a debt converter. For most NGOs in developing countries this means that they must be able to attract donor funds to buy debt or convince creditors to donate debt (see previous section). However, for NGOs to become successful debt converters, they must have a constituency at both the requesting and the receiving end of the pipeline. They must have political support, connections to the private or public creditors, qualified personnel, and the capacity to mobilize funds or get them donated. Southern NGOs that do not meet these criteria should consider entering into partnership with a northern NGO to assist in the debt conversion.

Main steps in realizing a debt for nature swap

1. Define the project or program and its financial needs, which are to be funded by a debt conversion. This is done usually by an NGO in the debtor country who wants to carry out a specific project or program but lacks the resources.
2. Obtain permission from the financial authorities (usually the Ministry of Finance) to initiate a debt conversion transaction.
3. Identify a strong partner NGO (often a northern NGO), which either has sufficient resources to buy debt, or has sufficient political backing and connections to creditors so that they can get funds donated to buy debt or get the debt donated.
4. Contact the financial authorities in the creditor country (Ministry of Finance, Export Credit Agency, Development Cooperation Agency) concerning their policy related to debt swaps. Some Development Cooperation Agencies have earmarked funds specifically for debt relief activities. Or contact private banks about their policy on debt conversions. Some banks want to get rid of small (by their standards) debts because the likelihood of getting them paid is extremely small and the management costs are high.
5. Find convertible debts. Convertible debt includes commercial private debt (owed to a private bank) and official bilateral debt. From a development point of view it is desirable to find debt that is non-concessional and being serviced as opposed to debt that is concessional and in arrears. However, the latter are easier targets because creditors are more likely to give them away. The main options to obtain convertible debt are:
 - (a) A commercial creditor (bank) donates the debt to an NGO and gets a tax benefit and positive publicity.
 - (b) The NGO is included in an official debt conversion scheme financed from the creditor country's aid budget or from debt reduction facility.
 - (c) The NGO purchases discounted commercial debt on the secondary market.
 - (d) The NGO agrees with the creditor government to purchase official bilateral debt at a discount or have it donated, and at the same time agrees with the debtor government on a conversion scheme.
6. Negotiate the face value of debt that will be converted and the discount rate or the percentage of debt that will be forgiven by the creditor government (for example if a creditor government forgives 70% of the face value of US \$ 20M bilateral debt the cost to the purchaser will be US \$ 6M).
7. Negotiate the redemption rate (the percentage of the face value of the debt that the debtor government will pay in local currency for the project or program proposed by the NGO in return for cancellation of the debt. The redemption price should be considerably higher than the purchase cost of the debt.
8. Establish the institutional and financial structure to receive, administer and disburse the funds. This will often be an environmental or conservation fund (see Annex III).

Annex V. Financing options with their advantages, disadvantages and potential for financing the MPA system

Annex VI. Survey results