

# **IMPLEMENTATION COMPLETION REPORT**

**Region: LCR**

**Country: Ecuador**

**Project ID:P057025**

**Grant No. TF021769**

**GEF Medium-Size Project:**

**MONITORING THE GALAPAGOS ISLANDS PROJECT**

**APRIL 30, 2003**

Bolivia, Ecuador, Peru and Venezuela Country Managing Unit  
Environmentally and Socially Sustainable Development Sector Unit  
Latin America and the Caribbean Region  
The World Bank Group

**IMPLEMENTATION COMPLETION REPORT**  
**ECUADOR**  
**MONITORING THE GALAPAGOS ISLANDS PROJECT**  
**GEF-MSP Grant No. TF021769**

**ABBREVIATIONS AND ACRONYMS**

|         |  |
|---------|--|
| FN      | Fundación Natura   |
| GSL     | Special Law on the Conservation and Sustainable Development of the Province of Galapagos (Galapagos Special Law) |
| ME      | Ministry of the Environment  |
| MT      | Ministry of Tourism  |
| GNPS    | Galapagos National Park Service  |
| CDF     | Charles Darwin Foundation / includes references to Charles Darwin Research Station                               |
| CEDENMA | Ecuadorian Committee for the Defense of Nature and the Environment   |

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**MONITORING THE GALAPAGOS ISLANDS-GEF MEDIUM-SIZED PROJECT GEF-  
MSP Grant N. TF021769**

**MSP COMPLETION REPORT**

**I. Basic Data**

**1. Date of Preparation of Completion Report:** December 30, 2002

**2. Title of GEF Medium Sized-Project:** Monitoring the Galapagos Islands

**3. GEF Allocation:** US \$ 941,350.00

**3a. Period of Project Implementation:** January 1999-June 2002. (First disbursement received in April 1999).

**4. Grant Recipient:** Fundación Natura

**5. World Bank Task Manager/Task Team:** Gabriela Arcos

**6. Goals and Objectives (include any changes in the objectives):**

The goal and objectives were not modified during project implementation.

The goal was to conserve globally important species and ecosystems of the Galapagos Islands through the establishment of a system to monitor the status of critical ecoregions and the assessment of the effectiveness of the implementation of governmental legislation and policy framework related to conservation and sustainable management of the Galápagos.

The specific objectives were: i) To establish a sound monitoring system to measure the well being of the ecoregions of the Galápagos Islands; ii) to monitor the key sustainability variables of the Galápagos Islands, and iii) To provide information to local stakeholders and policy makers for the adequate management of the Galápagos ecoregions.

**7. Financial Information**

A GEF disbursement of US\$ 33,390 was received on March 15, 1999 for eligible expenditures incurred between April 1, 1999 and June 30, 2000. No further disbursement was made after June 30, 2000. However, the project continued to execute programmed activities until April 10, 2001, when we received the second disbursement of US\$ 268,641.47. The third disbursement, of US\$ 339,318.53 was received in November 6, 2001.

| <b>Period covered by the Disbursement</b> | <b>Date received</b> | <b>Amount</b>     |
|---|----------------------|-------------------|
| January to June 1999                      | 15-mar-99            | 333.390,00        |
| December 1999 to June 2000                | 10-abr-01            | 268.641,47        |
| December 2000 to June 2001                | 6-nov-01             | 339.318,53        |
| <b>TOTAL</b>                              |                      | <b>941.350,00</b> |

At the initial stage of project implementation and during the first year, two main financial management issues were identified:

1. Payment of local taxes from the Special Account

2. Delay, lack of accuracy and insufficient support documentation in financial reporting by the Charles Darwin Foundation, which in consequence caused a delay in the presentation of financial information by Fundación Natura. The Charles Darwin Foundation received, through an agreement with Fundación Natura, a total amount of US \$ 420,000 to carry out the fisheries and biological monitoring.

These issues were properly addressed and solved during the second year of project implementation.

Also, an extension of the project was approved on September 12, 2001. The closing date was established at June 30, 2002. The funds were reallocated as follows:

| <b>Expenditure Categories</b> | <b>Original Allocation of Grant Proceeds</b> | <b>Reallocation as of September, 2001</b> |
|-------------------------------|--|---|
| Goods                         | 50,110                                       | 34,992                                    |
| Technical Assistance          | 792,039                                      | 811,569                                   |
| Operational Costs             | 99,201                                       | 94,789                                    |
| <b>TOTAL</b>                  | <b>941,350</b>                               | <b>941,350</b>                            |

The original financing plan, including co-financing by WWF, Fundación Natura and Charles Darwin Foundation as stated in the Project Brief was as follows:

|   | <b>GEF</b>    | <b>WWF</b>    | <b>F. Natura</b> | <b>ECChD</b>  | <b>TOTAL</b>   |
|---|---------------|---------------|------------------|---------------|----------------|
| <b>Expected outcome 1: Impact of fishing activities</b> | 104000        | 15000         |                  | 62000         | <b>181000</b>  |
| <b>Expected outcome 2: Biological monitoring system</b> | 326600        | 45000         |                  | 75000         | <b>446600</b>  |
| <b>Expected outcome 3: System to monitor tourism</b>    | 130650        | 20000         |                  | 15000         | <b>165650</b>  |
| <b>Expected outcome 4: Monitoring social status</b>     | 118700        | 68000         | 79200            |               | <b>265900</b>  |
| <b>Expected outcome 5: Strengthening local capacity</b> | 173400        | 15000         | 19800            |               | <b>208200</b>  |
| <b>Expected outcome 6: Flow of information</b>          | 88000         | 19500         | 40700            |               | <b>148200</b>  |
| <b>TOTAL</b>  | <b>941350</b> | <b>182500</b> | <b>139700</b>    | <b>152000</b> | <b>1415550</b> |

In the case of WWF and Charles Darwin Foundation, co-financing was planned as in-kind. Co-financing provided by Fundación Natura was planned about 50% in kind and 50% in cash. The in kind portion co-financed technical assistance, while the portion in cash co-financed project's operational costs. During project implementation, the total amounts of co-financing increased in about 54 % (257,665), as shown in the table below.

|                  | <b>As stated in the Project Brief</b> | <b>Actual cofinancing</b> | <b>Origin of funds</b>   |
|------------------|---------------------------------------|---------------------------|--|
| GEF              | 941.350                               | 941.350                   |  |
| WWF              | 182.500                               | 257.664                   | Studies and policy proposals for migration issues, Support to the Educative Reform.  |
| Fundación Natura | 139.700                               | 151.954                   | Solid waste management project in Santa Cruz, emergency funds raised for the Jessica emergency, studies and policy proposals for migration issues. |
| CDF              | 152.000                               | 322.247                   | Biological and Fisheries monitoring.   |

## II. Project Impact Analysis

### 1. Project Impact

#### **Outcome 1: Establishment of a system to monitor the impact of the fishing sector in the ecosystem**

##### ***a. Participatory monitoring system of fisheries catch in Santa Cruz, Isabela and San Cristobal Islands.***

This activity aimed to strengthening the Participative Fisheries Research and Monitoring Program that was launched by the Charles Darwin Foundation (CDF) in year 1997 and is executed by the CDF, the Galapagos National Park Service (GNPS) and fishermen from the four fishing cooperatives of the Galapagos. In the same year, Fundacion Natura (FN) signed an agreement with the CDF in order to support the monitoring program and to impulse the search for connections between the fisheries and marine biodiversity in the Archipelago.

The headquarters of the Program, where all databases and equipment are hosted, are located in the CDF in the Island of Santa Cruz. The Monitoring Program developed a system that monitors catches, places, and actors in the finfish fishery, that takes place year-round, and the lobster and sea cucumber fisheries, that occur only in authorized seasons. This information is cross-referenced with the GNPS, which keeps databases on ships, fishermen, and fishing coops.

Indicators obtained are delivered to the Participatory Management Board (PMB) and the Inter-institutional Management Authority of the Marine Reserve (IMA) which use them to define policies on fishing seasons, the sustainability of artisanal fishing, the regulation of the growth of the fishing fleet and personnel, etc. The GNPS uses the information to plan its patrolling activities within this extensive area. Summary reports of the monitoring were delivered to FN and published in the Galapagos Reports.

The monitoring effort compiles information from fishing sites along the archipelago. A total of 19,542 fishing sites were reported between 1997 and year 2001. More than 100 marine species were monitored and very detailed information was obtained on commercial species: sea cucumbers (which started to be legally fished in 1997), spiny lobsters and slipper lobster. Monitoring of other species that are caught for local consumption (octopus, snail and chitons) started during year 2002.

##### ***b. Analysis of fishing activities & trends in: (a) vulnerable coastal species; (b) benthic biodiversity of samples of various marine bio-geographic zones.***

The definition of a baseline against which to measure changes in marine biodiversity took place between May 2000 and December 2001, after all stakeholders agreed on a zoning of the marine reserve. The CDF studied the composition of the marine biota, especially non-commercial species, around the archipelago. Using remote sensors, basic oceanographic variables (superficial temperature and chlorophyll concentration) were incorporated to the study. The CDF produced a report during year 2002, correlating fish and invertebrate diversity with oceanographic variables. The same report compares these variables with registered captures and fishing effort of lobster, sea cucumber and *bacalao* between 1997 and 2000.

The baseline consisted of censuses of endemic and non-endemic large invertebrates (echinodermata, mollusks and crustaceans) taken in 485 transects; and of fishes in 535 transects. A first important conclusion was that there exists a large concentration of endemic fishes in the

western area of the archipelago. Around ten times more endemic species of fishes were registered around Fernandina and the west of Isabela, than in the Darwin and Wolf Islands.

The study confirmed the existence of a strong correlation between the El Niño phenomenon (ENSO) and the lobster population. The populations of lobster of commercial size increased approximately two years after the 1997-1998 ENSO and have decreased ever since, probably due to an increase in the number of active fishermen.

Regarding sea cucumber, it seems that this species prefers the cold, chlorophyll rich waters in the west of the archipelago, where most endemic fishes are. This indirectly threatens the conservation of this biodiversity. A case in point is that of the endemic scallop (*Nodipecten magnicus*). Anecdotal reports state that its abundance has lowered during the last decade, probably due to a combination of the impacts of the ENSO and its capture by fishermen as they look for sea cucumber. Big amounts of scallop shell were found in illegal fishing campsites in Isabela during the nineties.

The study also concludes that the Capture by Unit of Effort (CPUE), indicator used to estimate population densities of sea cucumber, is inadequate because divers search extensive areas when capturing this species, thus “compensating” its low density. CPUE values could stay misleadingly low until there are practically no more animals left.

## **Outcome 2: Establishment of a biological monitoring system**

### ***a) Key indicators for the monitoring system fully defined and tested by the end of year 1, with a brief summary of recent available data for each.***

The CDF had difficulties in producing a definition of indicators but at the end of the second year of the project elaborated a five-year plan for the ecological monitoring of the Archipelago. This delay, as some senior scientists admitted, was related to the weakness of CDF regarding monitoring activities. The plan was an accomplishment that strengthened and focused their monitoring efforts.

The primary goal of the plan is *the preservation of the biological diversity of the Galapagos archipelago in its natural state*. Secondary goals are to evaluate changes in the biological diversity and to respond appropriately to them. The plan includes a detailed list of key vertebrate, vegetal and invertebrate species.

### ***b) From Year 2 onwards, annual summaries of (a) the flora and fauna of a small sample of the 102 smaller islands; (b) new colonizations of at least 2 of the 6 most pristine larger islands; (c) new introductions and major changes in distribution of a selection of the most invasive or harmful introduced species on at least 2 of the remaining 8 large islands.***

Although databases for the storage of data exist, this project did not anticipate the need to implement databases for the register of monitoring activities. Thus, the CDF had difficulties when trying to link the results of monitoring to the extensive list of activities that they agreed to execute for this project and for this specific Expected Impact. Most reports of monitoring activities still follow the anecdotal format of classic “Trip Reports”.

Monitoring efforts during the three years of the project successfully detected a variety of changes at different temporal scales. Two introductions of goats (Santa Fe and Marchena islands) were discovered early and the founding populations easily eradicated. Populations of alien species of frogs that became established in Galápagos during the 1997 – 1998 El Niño increased dramatically on Isabela (Puerto Villamil) in 2001, while they apparently declined on San Cristóbal and Santa Cruz. A rapid response prevented their spread on Isabela, but efforts to eradicate them were unsuccessful.

Monitoring activities also documented more “favorable” changes in some populations of alien species. Smooth-billed anis (*Crotophaga ani*) invaded Fernandina and Genovesa, two relatively pristine islands during the 1997 – 1998 El Niño. By 2001 both of these new populations of anis appeared extinct. Fire ants (*Wasmannia auropunctata*) were detected for the first time on several small islands (Champion, Albany and Cousins); an eradication program will be initiated in 2002.

Recent baseline surveys of poorly monitored areas revealed several species that were previously unrecorded in the archipelago: 130 alien plant species in the agricultural zone, bringing the total to over 600 and the number of alien insects recorded has increased from 292 to 327. This baseline data permitted the detection the recent invasion of species such as the highly aggressive tomato borer (*Neoleucinodes elegantalis*). An emergency program was initiated to prevent its establishment. In addition to detecting alien species, surveys on uninhabited islands found at least 20 native insect species new to science and many new island records.

**c) *From Year 2 onwards, annual summaries of the status of selected populations of key endemic species.***

Monitoring activities within the 1999 to 2001 interval included populations of repatriated tortoises (*Geochelone* spp.), land iguanas (*Conolophus subcristatus*), and two species of critically endangered plant (*Scalesia atractyloides* and *Linum cratericola*). Most monitoring of repatriated tortoises was carried out on Española. Geographical information system (GIS) based analysis of data, collected with Global Positioning System (GPS) receivers, confirmed that repatriated tortoises disperse very slowly and that roughly 70% of the island provides preferred habitat, but less than 10% of that is occupied by tortoises. The first offspring of repatriated tortoises was also found, confirming successful reproduction.

Monitoring of repatriated land iguanas concentrated on the populations of Isla Baltra, Cartago Bay (Isabela), and Cerro Dragon (Santa Cruz) (Salazar 2001). The restored populations of Cartago Bay and Cerro Dragon are increasing due to in situ reproduction, but the population of Baltra appears to be declining in spite of successful in situ reproduction. Vehicle-induced mortality of adult iguanas on Baltra seems to be the primary cause of the decline.

Monitoring of the *Scalesia* and *Linum* took place monthly, at all known populations, in order to investigate reproductive biology and population dynamics. Although the total population of adult *S. atractyloides*, on Santiago Island, appears to be stable, recruitment is variable and low, probably as a result of depredations by goats. The only known population of *L. cratericola*, on Floreana, was found to undergo marked fluctuations, even within the 2-year initial study period, for as yet unknown reasons. The establishment of a monitoring program of Lepidoptera along an altitudinal gradient in Santa Cruz has permitted us to study their phenology and patterns of distribution, many of which can be used as bio-indicators. This program has revealed the recent arrival by natural means of two species.

An evaluation of the threat status of all the endemic plant taxa was finished after 3.5 years' work. It allowed the identification of the most threatened species, and of those for which more survey and monitoring work is needed. This provides a basis for planning future monitoring activities and conservation action for threatened plant species.

**d) *Data compiled on possible causative factors of the trends observed.***

Clearly the short time frame of this project, three years, is insufficient to draw definitive conclusions about the existence of trends in the terrestrial biodiversity, and about the possible causes of detected variations. It would have been more realistic to predefine possible causative factors of already detected trends (e.g. the El Niño phenomenon, fisheries, tourism,

transportation, agriculture, roads, etc.) and clearly specify which of them would be followed up during the execution of this project.

The longest running monitoring program in Galapagos (water and air temperature and rain levels) confirmed that a global trend towards more frequent and possibly more intense El Niño events is also occurring in the Galapagos. This phenomenon bears influence over a wide range of plants and animals, both at land and at sea. The clearest correlations have been reported in the Galapagos Reports and other publications. The CDF affirms that human activity in the Galapagos marine environment could affect the fluctuations in populations caused by the El Niño events but draws no definitive conclusions about this.

Other changes detected were easily linked to human intervention, like the new introductions of goats to Marchena and the increase in the number of introduced species.

***e) GIS and database systems set up and operational for storage and analysis of monitoring data.***

The ability of CDF to produce and manage data increased greatly during the last three years, largely due to the development of a GIS and cost-effective GPS data recording. However, several of the changes detected stemmed from serendipitous or opportunistic monitoring activities rather than the results of systematic, replicated surveys.

***f) Summary reports of the monitoring results and their correlation with possible causative factors, plus complementary scientific publications.***

Summary reports describing the situation of endemic flora and introduced mammals were timely delivered and published in the Galapagos Reports. However, the CDF had delays and difficulties to deliver other reports about the execution of the extensive list of activities for this project. The evaluation mission of the Bank, carried out in March, 2000, was very helpful in explaining the CDF about the importance of delivering the products as stated in the agreement. The reports are largely anecdotal and they still don't establish a clear link between the activity as defined in the agreement, and the actual activity reported.

Scientific articles and technical reports based on the monitoring activities were produced for a variety of scientific journals, the PMG, the IMA, other authorities and donors.

**Outcome 3: Establishment of a system to monitor tourism on the Galapagos Islands**

***a) Data obtained on presence of alien species at or close to terrestrial visitor sites in ecologically important locations.***

Direct biological monitoring by CDF of sites visited by tourists within the archipelago was limited; the CDF did not plan for actions specifically aimed at this but treated this activity as part of biological monitoring. However, analysis of existing data suggests a potential large-scale consequence of human activity associated with tourism. Uninhabited islands frequently visited by tourists have apparently higher percentages of alien species than uninhabited islands without tourist sites. Furthermore, some 15 uninhabited islands without tourist sites have no alien species recorded while all uninhabited islands with tourist sites have alien species.

In order to overcome this lack of specificity, during the second and third years of the project, FN supported a plan to specifically monitor the impacts of tourism in visiting sites, that was elaborated by the GNPS after a year of design. The monitoring includes biological, physical, social and management indicators. Biological indicators are "Presence of introduced plants" and "Presence of exotic invertebrates" and its monitoring is done in collaboration with the CDF, which identifies specimens collected in the visit sites by GNPS personnel. Social indicators

include visitor's satisfaction, which is measured with a survey that is applied in the site, and crowding of visitors, which is calculated using the database designed by FN.

In 2000, the GNP initiated monitoring at the five most-visited sites, which were assigned priority by its Tourism Unit: El Garrapatero (Santa Cruz), Punta Cormorán (Floreana), Plaza Sur, Bartolomé, and Punta Suárez (Española). In 2001, the monitoring expanded to take in five additional sites: Wolf Island (San Cristobal), Seymour Norte, Darwin Bay (Genovesa), and the Prince Philip's Stairs (Genovesa). In 2002, the monitoring included seven additional sites: Sullivan Bay (Santiago), Playa Espumilla (Santiago), Puerto Egas (Santiago), Punta Espinosa (Fernandina), Tagus Cove (Isabela), Urbina Bay (Isabela), and Punta Moreno (Isabela). Two articles summarizing the results were published in the 2000-2001 and 2001-2002 Galapagos Reports.

Based on the monitoring, the GNP will not authorize changes in the itineraries to those sites that have the most crowding (per day), and will assign alternative visiting sites where there is no crowding.

***b) Systematization of the historical information on ship's itineraries and reports of the tourist guides;***

A database for the register of guides' reports was designed and installed in a computer donated by the project to the GNPS. During one year, the project paid the salary of a clerk to introduce data into the database. This database allowed the GNPS to reprogram the itineraries of tourism vessels so as not to overload the most popular visit sites. Regarding the sustainability of this activity, the GNPS decided to hire this person, who is now part of the regular employees of the Park.

The methodology adopted by the GNPS used data from a sample of real visits obtained from the database and detects few, if any, overuse. (Probably both methods produce fewer than exact results). FN's recommendation was to reinforce a newer, more complete monitoring methodology applied in the most popular visit sites – detected not only overuse but also actual human-related changes in the sites, thus enabling the GNPS to take more informed decisions on its management.

***c) Implementation and analysis of quarterly polls on visitor's satisfaction.***

FN supported the monitoring of impacts of tourism in visiting sites, that includes applying these surveys in the visit sites. Unfortunately, this methodology is costly and cumbersome and the monitoring cannot cover a great number of sites. The survey can be applied only once or twice a year on each site. In total, 1106 surveys were applied (373 in year 2000, 342 in year 2001 and 391 in year 2002).

***d) Analysis of tourism revenues, including its distribution among the Galapagos and the continent.***

Tourism revenues have been analyzed and reported yearly in the Galapagos Reports. Prior to 2000, we estimated tourist spending in Galapagos using the results of a study by De Miras (1995). De Miras assumed that only 6% of all expenditures by tourists actually entered the Galapagos economy. More recently, a study by Willen and Stewart (2000) surveyed Ecuadorian and foreign tourists in November-December 1998 and July-August 1999 in order to estimate the distribution of tourist spending between the economies of Galapagos, mainland Ecuador and the rest of the world. Due to the rigour of Willen and Stewart's analysis, FN decided to use its findings instead of the earlier estimates made by De Miras.

According to these authors, the foreign tourists who visit Galapagos spend approximately US\$ 3,670 per capita on their vacations, while Ecuadorians spend, on average, US\$ 923. Approximately 66% of what is spent by foreign tourists enters the Ecuadorian economy (51% to mainland Ecuador and 15% to Galapagos).

**Outcome 4: Establishment of a system to monitor social and economic status of the local population (migration rates, poverty levels and income levels)**

***a. Systematization of the indicators designed and the information compiled in the Phase I of the Project, using GIS capacity and database analysis (population, agricultural sector, public services, public expenditure, etc.);***

The SIGGAL Agreement provided several institutions, among them Fundacion Natura and the CDF, with a very basic Geographic Information System. FN produced a detailed GIS that includes georeferenced cartography, vegetal cover, meteorologic data, and Landsat photographs. The related database includes data from the 1990 and 1998 censuses, tourism, migration, education, health, public finances, and electoral results.

The GIS was delivered with training to the local municipalities, the Provincial Council, the INGALA, the Agricultural Direction, the Galapagos National Park Service, and the Charles Darwin Station. In total, 31 persons of 9 institutions were trained in the use of the GIS and 15 delegates attended a shorter workshop on GIS.

GNPS park rangers received a special training in the use of GPS and received three GPS as a loan during one year. They used these devices to improve the accuracy of the registered limits between the populated areas and the national park territory.

***b. Identification and development of applied research activities related to the monitoring systems (cost of living estimates, consumption and quality of life, employment and salaries).***

Key social and economical indicators were identified and studied through official sources and applied research carried on directly by Fundacion Natura. The results of the monitoring were delivered periodically to all interested sectors.

With small variations, the survey on **public opinion** and attitudes towards conservation has been applied yearly since 1997. This enabled FN to follow up on the attitudes of the “galapagueños” towards the restrictions they must face to live in this unique environment, and to differentiate this attitudes between islands. In general, the attitudes of the population towards the restrictions have not changed during these years: around 60% of galapagueños accept to limit their activities (fishing, native tree logging, entry of members of their family) for the sake of conservation. Isabela is the most worrisome island: only 45.5% of its population accept the restrictions. Regarding knowledge and understanding of the Galápagos Special Law, it is striking to see that only 36% of the population know about it; of those who do, only 60% think it is beneficial to them.

Two surveys on **family income** were applied in years 2000 and 2001, in order to document the percentages of people working in the most important economic activities (commerce, tourism, public employees, fisheries, etc.) and estimate their per capita monthly income and seasonal variations. The first survey showed that commerce and tourism together occupy most of the workforce in Galapagos (36%); 12% of the workforce works in state and defense jobs and 11% in fishing. Also mobility from agriculture and other economic activities to fishing activity was documented.

In year 2001, FN surveyed **family income** and the composition and cost of a basic basket of goods and services, used as a proxy variable for consumption. The cost of the basic basket in Galapagos is of 513 dollars. In November 2001, the cost of the basic basket in Ecuador was 310 dollars. This means that basic goods and services cost 65% more in Galapagos than in continental Ecuador.

FN's estimation of the level of poverty was improved on the last survey. The price of goods was incorporated into it, estimating the real amount that families spend in their concrete consumption. With this method, 39% of the population is poor. Poverty levels in continental Ecuador are much higher, around 56%.

Regarding **gender issues**, during years 2000 and 2001 two specific researches were executed. The results of the 1998 census were examined in order to define the importance of women within the labour force, demographic and migratory aspects. Also a proposal for policies and indicators regarding gender issues was elaborated. Finally, a detailed research on reproductive and productive roles of women in the Galapagos, and their knowledge and attitudes regarding their environment, was executed with the help of ProGenial, a World Bank project that supports the management of gender issues in projects executed through the World Bank. The results were published in the Galapagos Report and delivered to local women's groups of Santa Cruz, San Cristobal and Isabela.

Regarding the **monitoring of agricultural activity**, Fundacion Natura published the results of a detailed study on the agricultural production and marketing in the island of San Cristobal. The situation of agriculture in the Islands is fairly well known – investment and productivity are low, there is a growing number of abandoned plots and invasive species difficult cultivation. These aspects were treated in the Regional Plan and strategies to solve them were incorporated to it.

*c. Evaluation of migratory dynamics and results of the implementation of policies related to migration control.*

**Migration** has been extensively studied by this project. A population and housing census was executed in Galapagos during 1998. Fundacion Natura and The Nature Conservancy carried on a detailed study of its results and produced a report that has been widely used by interested parties. The study confirmed the accelerated growth of population in the Galapagos.

The study proposed several policy measures and its results were directly delivered to leaders in the Galapagos. It was followed up by periodic analyses of migratory data produced by the Migration Committee of the INGALA. Preliminary data of the 2001 National Census were also analyzed and the results prove that the strict migratory regulations established by the Galapagos Special Law have not been thoroughly applied yet.

The population of Galapagos continues to grow because of immigration, both legal and illegal. Around 800 persons were forcefully expelled from Galapagos during year 2000 and around 1,069 entered Galapagos legally as temporary immigrants. Lack of high-quality education for the local population deepens the migratory problem, as imported professionals must occupy demanding positions for science, conservation, government and middle- and high-level management in any institution or business. On the other hand, low-skilled workers are attracted to Galapagos, due to the high wages charged by local workers for agriculture and construction. Artisans for furniture building, home repairs, mechanics, etc., are also attracted by the high prices paid for this type of work.

**Outcome 5: Strengthened capacity of local organizations to ensure the compilation and use of information by local stakeholders (representatives of fishing cooperatives, recycling groups, local artisans, farmers and tourism guides).**

*a. Training and capacity building activities with the local institutions, developing their management capacities of the available information, and setting the basis for future transference of the project components;*

This activity was completed indirectly through supporting to the completion and issuing of the Regional Plan, that reinforces the role of INGALA as the regulating agency of human activities within the Galapagos. The Plan establishes the obligation of all local institutions to deliver information on their plans and budgets to the INGALA. A more detailed description of this complex process can be found under Expected Outcome 6.

Fundacion Natura provided technical assistance for the design of a new database for all the information gathered by the Fisheries Monitoring Program, which is in a better software and in a safer format. Local officers are using the database and further developing an application to show some results in the Internet. The CDF hired the same consultants that designed this database in order to continue with this work.

The databases installed in the GNPS for the management of information regarding tourism and tourism impacts are mastered by park officials, who have even made modifications in the bases, some with direct support from Fundacion Natura and some without.

A database for the management of information on fishermen and fishing vessels was also designed, installed and improved by Fundacion Natura in the GNPS and is managed by its officers. Another database for the management of fishing quotas of sea cucumber was designed and installed to help the GNPS in the management of the year 2000 sea cucumber fishery. Copies of this database were installed in the fishermen's coops, in order to help each coop keep track of the number of sea cucumbers caught by each member.

A database registering information on immigration permits was designed and delivered to INGALA, that used it for more than a year but afterwards hired the design a different database and linked it to the new residential cards issued to permanent and temporary residents.

FN provided the Galapagos Tourism Chamber with a database for the management of its associates that is managed completely by them. This allowed the connection with some of the most influential leaders of the province, with whom we exchange information and debate policy issues permanently. The Tourism Chamber takes part both in the Council of INGALA and the IMA.

*b. Training of community leaders and support for the participation of representatives of organizations in policy dialogues related to conservation in the Galapagos;*

Training activities through the projects focused on was technical staff of all the local institutions that participated in the project. Training was provided during the process of identification and definition of indicators, collection of relevant data and design and operation of the databases.

As parts of the training efforts, more than 30 leaders from all local institutions and all inhabited islands were invited to be informed and discuss the main results of the monitoring activities and the contents of the technical articles prepared as basis for the yearly Galapagos Report.

More specifically, a forum on tourism in the Galapagos was organized, with active participation of local authorities and stakeholders of Galapagos (Heads of the Galapagos National Park, the INGALA, the local office of Tourism, the CDRS, a representative of the Fishing Coops of

Galapagos, head of the Provincial Chamber of Tourism). Also national authorities attended the meeting (Minister of the Environment, Subsecretary of Tourism, members of the National Congress) as well as tourist operators from continental Ecuador. In total, approximately 60 persons debated about this issue and the memories of the event were widely distributed.

Fundación Natura and the WWF also provided technical and financial support to the Provincial Directorate of Education and the INGALA for the implementation of the Educative Reform. Political struggles and differences amongst the Educative Direction and the INGALA brought this process to a standstill. With funds from WWF, a specialist in educative planning that provided technical advice to the Undersecretary of Education and the Provincial Education Director was hired. FN also financed the execution of a local educational planning workshop that helped to clear some issues and gave new impulse to the reform. However, the deep weaknesses of the educational structure of Galápagos - its badly prepared teachers, the lack of means to ensure their permanent training and education, trade unions, the negative attitude of teachers towards conservation, the weakness of the educative direction – make it very difficult to obtain concrete results and real improvements in education. A commitment of all local and national organizations to prioritize the improvement of education was reached in the final discussion of the Regional Plan.

*c. Support of the Participatory Management Unit and the Inter-Institutional Management Authority of the Galapagos Marine Reserve.*

As part of CEDENMA, Fundación Natura coordinated the Galápagos Workgroup of CEDENMA, where environmentalists and NGOs discuss strategies to strengthen the conservation of the Reserve through the participation of CEDENMA in the AIM. Fundación Natura lobbied actively during the weeks preceding the incorporation of the Galapagos Marine Reserve to the World Heritage list of the UNESCO. Together with WWF and WildAid (an American NGO involved in direct help to the GNPS in the patrolling of the Marine Reserve) FN organized a ceremony to celebrate it. Information was disseminated to the media regarding the importance of this success, in order to contest claims against it made by the industrial fishing sector, and FN is constantly lobbying against the reopening of the Galápagos Marine Reserve to industrial fishing.

Fundacion Natura also provided information and technical assistance to the CDF regarding the social and economical monitoring of the fisheries. A fast socio-economical assessment of the fishing sector was executed during November 1999 and its results were presented to the Participatory Management Board of the Galapagos Marine Reserve. Social and economical indicators were followed up during year 2000 and its results were delivered to the Participatory Management Board of the Galapagos Marine Reserve. An improved proposal for the monitoring of these aspects was produced during year 2002.

An information system for the four fishermen's coops was designed but was not installed because of lack of interest from the coops, which are still reluctant to use technology and feared that somehow we would rob them of their information when installing the database. The coordinator of the Participatory Management Board is aware of this development and encouraged the coops to accept this technical contribution. As this report is written, conversations with the manager of the COPROPAG coop of Santa Cruz are under way. Fundación Natura will participate in the strategic planning of the Cooperative and will sign a MoU with it, regarding the delivery of this information system and the training of the managers of the coop in its use.

Also an information system for Port Captain's offices (in Santa Cruz, San Cristobal and Isabela) was designed, in order to keep track of fishing vessels leaving port, the names and occupations of its crew and the islands that they were headed. Unluckily the systems could not be delivered because the officers in charge asked that the systems be installed in computers dedicated

exclusively to this task. WWF donated CPUs for this purpose, but there is still the need to find keyboards and monitors for the computers. The Fisheries Monitoring Program of the CDRS is also looking for this equipment.

**Outcome 6: Improved flow of information to policy makers, and National Park and Marine Reserve managers, allowing more informed management of Galapagos Ecosystems.**

***a. Establishment of Inter-institutional cooperative agreements for the exchange of information, and exploration of long-term financing mechanisms for such services, including fee-based.***

The project confronted several problems regarding this activity. With the goal of reaching an inter-institutional agreement for the exchange of information, FN designed and distributed the GIS described before and taught officers from all concerned institutions about its use. However, apart from the cooperation among CDF, GNPS and fishermen for the fisheries monitoring, no other inter-institutional agreements could be reached during the first two years of the project.

With the exception of GNPS, CDF, the Chamber of Tourism and the Municipality of Santa Cruz, no institution has hardware and personnel dedicated to compile data or worse, analyze it. Institutions did not feel the need to develop capacities around this because they don't have to explain their production or performance to any stakeholder. Now that the Regional Plan is issued and provided that INGALA truly develops its ability to control, regulate and monitor the institutional budgets (as stated by the law), institutions will have to invest in the development of information – related capacities.

Exposing information also shows the technical or performance weaknesses of institutions and institutions were not in the disposition to share it because they feel that keeping information from other actors enhances their relative power.

The Charles Darwin Foundation (CDF), showed resistance to share “raw” fisheries monitoring data due to problems in the gathering of information (inappropriately designed surveys), in its register (inappropriately designed- and managed databases) and processing (errors in calculations, indicators, reports, etc.). FN assumed that the reluctance of the CDF to find a way to make the monitoring more transparent, e.g. posting its results in the Internet, was partially related to this technical weakness.

FN tried to overcome this obstacle by providing an improved design and software for the databases, something which “forced” people in charge of the monitoring to review the previous design and improve it, without “losing face” in front of us or other stakeholders. A first try to post some results and databases in the Internet was made and now this process is in the hands of the CDF. However, as can be seen under Outcome 1, the fisheries monitoring did get more participative and transparent along the three years of the project.

The problems FN confronted with the GNPS regarding the reluctance of the manager of the Tourism Unit to share information, probably stem from similar reasons. FN's indicators showed inefficiency in the management of carrying capacity. FN overcame this obstacle by contributing to a more comprehensive monitoring of tourism, but this manager is a good example of a general attitude towards exposing information to the public eye.

A more extreme example is that of the fishing coops. As has been said before, FN couldn't deliver a complete system for the management of associates, boats, quotas, etc. because of their lack of confidence on our intentions and their rather chaotic management. The database will be

delivered to one cooperative that hired a more capable, educated manager who feels more confident about his capacity to deal with computers and data.

FN decided that the only way of reaching interinstitutional commitments regarding the exchange of information was to include this issue in the Regional Plan, which as explained before, once issued, is mandatory to all local institutions. In agreement with the Bank, a modification of the target set for year 2000 took place, from “*an interinstitutional agreement for the updating and the exchange of information among key Galápagos organizations is signed*” to “*an inter-institutional agreement setting guidelines to update and exchange information among key Galápagos institutions is signed.*”

Finally, the plan was approved on October 2002 and includes a section on monitoring and evaluation that sets the guidelines for the delivery of information from all public institutions to the planning unit of the INGALA. INGALA should be informed and keep track of all investments, donations, grants, etc. delivered to all institutions of the Galapagos. In preparation for this, FN contributed to an in-depth gathering of financial information of all public and private local institutions, including projects financed by the IBD and GEF. This was mandated by the INGALA but still met with some reluctance on the part of local institutions.

***b. Dissemination of monitoring information and project results through the publication of three issues of the Galápagos Report, a public information campaign using the media and a series of short summaries on specific issues, and***

Regarding the dissemination of information, the 1999-2000, 2000-2001 and 2001-2002 Galapagos Reports were delivered to all stakeholders within and outside the Galapagos. Translations of the 2000-2001 and 2001-2002 Reports were produced and distributed by the WWF among international publics.

FN sought contact with the Coordinator of the Management System of the Presidency of the Republic. This is a project funded by UNDP that seeks to improve the follow-up of strategic issues within the Presidency. It keeps updated databases on conflicts, stakeholders and events around these issues and gives feedback to the presidential advisors.

Publications delivered, others than the Galapagos Reports, included a report on the results of the “Fabricio Valverde” solid waste management project, which was coordinated by Fundación Natura and consisted of the implementation of a recycling scheme. A book with the results of a study on migration financed by Fundación Natura, The Nature Conservancy and WWF was published, and was welcome by all institutions - 500 copies were promptly finished. All the local institutions included in the AIM and the Ingala Council received copies of the GIS. Another study on the evolution of fishing gear in the Island of Isabela was also financed by the TNC and published by FN and the TNC.

During the emergency caused by the oil spill of the tanker “Jessica”, FN implemented an emergency campaign to disseminate information about the accident, to educate the population of continental Ecuador on the special conditions of the Galapagos, and to raise funds. A total of US\$35,132 was collected and delivered to the GNPS, which used them to cover operational costs of the clean-up.

***c. Provision of information and methodological support to the participatory planning processes in the Galápagos Islands, including the analysis of such information in relation to key problems for the appropriate management of the Archipelago.***

The Regional Plan is supposed to order and prioritize human intervention in Galapagos, giving preeminence to the conservation of its ecosystems. It must be elaborated by the INGALA and issued by the Presidency of the Republic.

This process started in year 1999 but underwent countless political and technical problems. The institutions that would be affected by the regional plan put political obstacles to its success. The Galápagos Special Law states that once the Regional Plan is issued by the Presidency of the Republic, all public institutions should follow up its dispositions. This means that the Galápagos National Park Service, the Provincial Council, the Municipalities, the Governor's Office and all local offices of ministries (health, education, agriculture, etc.) will be forced to present their budgets to the INGALA for approval. This is very compromising for institutions that are not used to even coordinate their work.

During year 2000, the newly appointed manager of INGALA started the process again. After more than one year of work, the consultants hired by the INGALA to produce a regional diagnosis delivered a deficient product. In October, 2000, under the leadership of the Minister of the Environment, the Technical and Planning Committee of the INGALA undertook the job of reviewing and improving this diagnosis and eventually, of producing the plan.

Fundación Natura took part in this Committee in representation of CEDENMA and had an outstanding presence both in debates and giving information and data to the committee; this information was relayed to the new team of consultants, which produced an improved document that was discussed in January 2002<sup>1</sup>. Fundación Natura also provided the INGALA with a project for the completion of the Regional Ordainment plan. The Regional Ordainment will strengthen the Regional Planning process and will help the relevant actors to achieve agreements regarding the exchange of information and the use of the small percentage of the surface of the islands that is assigned to human occupation. This project was incorporated to the Regional Plan.

After a long process of discussion and consensus building, the Regional Plan was approved by the Council of INGALA in October 2002 and will be promptly issued by the President of Ecuador. This is a milestone that will ease the implementation of sustainable development policies in the Galapagos, provided the INGALA is strengthened and can reinforce the control and monitoring of the plan. Just after the plan is issued, the INGALA will be restructured and a new unit for the management and monitoring of the Plan will be created.

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<sup>1</sup> Part of the information delivered was not part of the socio-economical database and had to be compiled and processed specifically for the Committee.

| <b>Project Goal</b>   | <b>Indicators in Project Brief</b>   | <b>Revised Indicators</b> | <b>Results</b>   |
|---|--|---------------------------|--|
| Conserve globally important species and ecosystems of the Galapagos Islands through the establishment of a system to monitor the status of critical ecoregions. | Strengthening of local organizations, allowing them to use the information available to promote and participate in multi-sectoral dialogues with all stakeholders regarding the conservation of the Galápagos. | No change                 | The Islands have a functioning monitoring system to help the monitoring of the biodiversity and the conservation of the different species of the Islands.  |
| <b>Project Objectives</b>   | <b>Indicators in Project Brief</b>   | <b>Revised Indicators</b> | <b>Results</b>   |
| To establish a sound monitoring system to measure the well being of the ecoregions of the Galápagos Islands.  | Trends of the principal sustainability variables are identified and analysed.  | No change                 | The monitoring system contributes to conservation through helping decision-makers with policy and strategy crafting through the provision of the results of the monitoring analysis.   |
| To monitor the key sustainability variables of the Galapagos Islands.   | Policy makers' and local stakeholders' decisions are increasingly based on the information provided by the monitoring system.  | No change.                | The monitoring system monitors biological variables and socio-economic and tourism aspects which have a direct impact on the biodiversity of the region. Although there were several institutions which were and still are involved in monitoring of the Islands, they lacked a systematic monitoring system. Through this project, a baseline data and the basic system for monitoring are established.   |
| To provide information to local stakeholders and policy makers for the adequate management of the Galápagos ecoregions.   |  | No change.                | Increasingly, local institutions are making use of the system in their decision including institutions such as INGALA, the CDRS, and the Galapagos National Park Service (GNPS). Ecuadorians, and particularly Galapagos inhabitants actively involved in conservation programs for the Galapagos Islands, awareness on the importance of conserving the Galapagos has substantially increased as a result of the information produced by the socio-environmental monitoring system. |
| 1. Establishment of a system to monitor the impact of the fishing   | Fisheries information collected, systematized and available in a database (monitoring of the catch   |                           | The project contributed to a substantial increase in the number of fishing trips monitored in each island (monitoring personnel boards the ships as they enter port).  |

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| sector on the ecosystem                            | rate of certain species, market-related information, change in the number of and follow-up on legal suites filed regarding violation of fishing regulations).  |  | <p>The total number of fishing trips monitored rose from 3,803 in 1999 to 4,200 in year 2001.</p> <p>The monitoring effort compiles information from fishing sites along the archipelago. A total of 19,542 fishing sites were reported between 1997 and year 2001. More than 100 marine species were monitored and very detailed information was obtained on commercial species: sea cucumbers (which started to be legally fished in 1997), spiny lobsters and slipper lobster. Monitoring of other species that are caught for local consumption (octopus, snail and chitons) started during year 2002.</p>  |
| 2. Establishment of a biological monitoring system | Biological information collected, systematized and available in a database (monitoring of the status of introduced species, application of quarantine system, change in status of endangered species, preservation of evolutionary processes). |  | <p>Monitoring efforts during the three years of the project successfully detected a variety of changes at different temporal scales. Two introductions of goats (Santa Fe and Marchena islands) were discovered early and the founding populations easily eradicated. Monitoring activities within the 1999 to 2001 interval included populations of repatriated tortoises (<i>Geochelone</i> spp.), land iguanas (<i>Conolophus subcristatus</i>), and two species of critically endangered plant (<i>Scalesia atractyloides</i> and <i>Linum cratericola</i>).</p> <p>The longest running monitoring program in Galapagos (water and air temperature and rain levels) confirmed that a global trend towards more frequent and possibly more intense El Niño events is also occurring in the Galapagos. Other changes detected were easily linked to human intervention, like the new introductions of goats to Marchena and the increase in the number of introduced species.</p> <p>Summary reports describing the situation of endemic flora and introduced mammals were timely delivered and published in the Galapagos Reports. Scientific articles and</p> |

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|  |   |            | technical reports based on the monitoring activities were produced for a variety of scientific journals, the PMG, the IMA, other authorities and donors.   |
| 3. Establishment of a system to monitor tourism on the Galápagos Islands.                  | Tourism information collected, systematized and available in a database (distribution of tourist fees, tourists per site, compliance with defined carrying capacity, degree of visitors' satisfaction). | No change. | <p>Direct biological monitoring by CDF of sites visited by tourists within the archipelago was limited; the CDF did not plan for actions specifically aimed at this but treated this activity as part of biological monitoring. However, analysis of existing data suggests a potential large-scale consequence of human activity associated with tourism.</p> <p>A database for the register of guides' reports was designed and installed in a computer donated by the project to the Galapagos National Park Service. This database allowed the GNPS to reprogram the itineraries of tourism vessels so as not to overload the most popular visit sites. Regarding the sustainability of this activity, the GNPS decided to hire this person, who is now part of the regular staff of the Park. Based on the monitoring, the GNP will not authorize changes in the itineraries to those sites that have a high number of visitors (per day), and will assign alternative visiting sites where there is no crowding.</p> |
| 4. Establishment of a system to monitor social and economic status of the local population | Socioeconomic information collected, systematized and available in a database (migration rates, poverty levels, and income levels).   | No change  | <p>The GIS was delivered with training to the local municipalities, the Provincial Council, the INGALA, the Agricultural Direction, the Galapagos National Park Service, and the Charles Darwin Station. In total, 31 persons of 9 institutions were trained in the use of the GIS and 15 delegates attended a shorter workshop on GIS.</p> <p>GNPS park rangers received a special training in the use of GPS and received three GPS during one year. They used these devices to improve the accuracy of the registered limits between the populated areas and the national park territory.</p> <p>Key social and economical indicators were identified and studied through official sources and applied research</p>   |

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|  |  |                  | <p>carried on directly by Fundacion Natura. The results of the monitoring were delivered periodically to all interested sectors.</p> <p>Migration has been extensively studied by this project. A population and housing census was executed in Galapagos during 1998. Fundacion Natura and The Nature Conservancy carried on a detailed study of its results and produced a report that has been widely used by interested parties. The study confirmed the accelerated growth of population in the Galapagos. The study proposed several policy measures and its results were directly delivered to leaders in the Galapagos.</p>  |
| <p>5. Strengthened capacity of local organizations to ensure the compilation and use of information provided by local stakeholders (fishing cooperatives, recycling groups, local Artisans, farmers, tourism guides, etc).</p> | <p>Improved capacity of local agencies and organizations in the utilization of relevant information.</p> | <p>No change</p> | <p>Several local institutions (especially the CDF and the GNPS, but also the Tourism Chamber, and the Municipalities of Santa Cruz and San Cristobal) have improved their capacity to collect, process, and exchange information and their equipment allows them to cover their basic needs. However, it was difficult to guarantee that all the target institutions mentioned were going to be fully capable to carry out monitoring by themselves. In some cases (e.g. the INGALA) their capacity was limited and could not be developed due to political, economical and structural reasons with solutions beyond the scope of this project.</p> <p>FN also provided technical assistance for the design of a new database for all the information gathered by the Fisheries Monitoring Program, which is in a better software and in a safer format. Local officers are using the database and further developing an application to show some results in the Internet. The CDF hired the same consultants that designed this database in order to continue with this work.</p> |

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| <p>6. Improved flow of information to policy makers, and National Park and Marine Reserve managers, allowing for a better-informed management of Galápagos Ecosystems.</p> | <p>Policy makers' provided with updated, accurate and relevant information to guide the decision-making for the sustainable management of Galápagos ecoregions.</p> | <p>No change</p> | <p>This component was achieved indirectly through FN's support to the completion and issuing of the Regional Plan, that reinforces the role of INGALA as the regulating agency of human activities within the Galapagos. The Plan establishes the obligation of all local institutions to deliver information on their plans and budgets to the INGALA.</p> <p>In 2000, the Technical and Planning Committee of the INGALA undertook the responsibility of producing the plan. Fundación Natura took active part in this Committee and had an outstanding presence both in debates and giving information and data to the committee.</p> <p>The plan was approved on October 2002 and includes a section on monitoring and evaluation that sets the guidelines for the delivery of information from all public institutions to the planning unit of the INGALA.</p> <p>Regarding the dissemination of information, the 1999-2000, 2000-2001 and 2001-2002 Galapagos Reports were delivered to all stakeholders within and outside the Galapagos. Translations of the 2000-2001 and 2001-2002 Reports were produced and distributed by the WWF among international publics.</p> |
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## 2. Project Sustainability

Capacity building and training programs have been implemented in all participating institutions, but with varying degree. As the CDRS and GNPS are the most important institutions in collecting and compiling data, the bulk of equipment deployment and training was focused on these institutions.

The continuity of the operation of the monitoring system requires adequate collection of relevant information, appropriate systematization and its use for evaluation processes. But in addition, it is crucial that the monitoring activities become part of the planning and policy implementing agencies' administrative routines.

Regarding fisherie monitoring, it is important to highlight that the number of participants grew from 11 persons active in monitoring in 1998 to 39 in year 2001. During year 2001, members of the families of fishermen were trained and incorporated to the monitoring. This mechanisms will ensure a permanent collection of data, without the direct support of experts. In addition, information has been obtained regarding catches. On-board monitors, usually local persons related to fishermen, will continue travelling with fishing boats and recording information on the spot. This is a strategy to increase the participation of fishermen, both in data collection and in the diffusion of the results of the program.

In relation to the biological and tourism monitoring, during the last year of the project, FN redesigned the monitoring database housed in the CDF. A completely new database in a stronger, safer software was designed and implemented. This database also furnishes Internet reports of the monitoring results, which are being implemented and tested now, with funds provided by the CDF.

FN produced a detailed GIS that includes georeferenced cartography, vegetal cover, meteorologic data, and Landsat fotografies. The GIS was delivered with training to the local municipalities, the Provincial Council, the INGALA, the Agricultural Direction, the Galapagos National Park Service, and the Charles Darwin Station.

Based on the information obtained regarding migration, INGALA has pursued the development of the migration control system: the President of the Republic signed a migration control regulation in December 2002 and a system to implement the control is under design. New identification cards for permanent residents are being issued, with securities that render them more difficult to duplicate.

The sustainability of migratory monitoring is being dealt with through WWF. WWF executed a detailed research on current incentives for immigration and disincentives for emigration. WWF and Fundacion Natura will use its results in the development of an educational campaign aimed at different segments of the population of Galapagos and mainland Ecuador, in order to discourage immigration to Galapagos. WWF has allocated a grant of 38,000 dollars for this project.

Regarding the sustainability of the monitoring of economic indexes like family income, composition and cost of the basic basket, employment, etc., several meetings took place with the National Institute of Statistics and Census (INEC) to sign an agreement that would finance the application of official surveys in Galapagos. The INEC does not execute any research in the Galapagos, apart from the national censuses. On the other hand, economic data obtained independently do not follow exactly the methodology prescribed by INEC, so comparisons are difficult and "unofficial" data are not as valued as those produced by this national authority. The best way to overcome these problems is to find a way that enables INEC to work in the Galapagos.

In order to keep the monitoring system operating in the long term, the regional plan was approved on October 2002 and includes a section on monitoring and evaluation that sets the guidelines for the delivery of information from all public institutions to the planning unit of the INGALA.

### **3. Replicability**

After 36 months of implementing this project, Fundacion Natura and the Bank's supervision team can confirm that designing and establishing a monitoring system which includes key variables such as the status of species and ecosystems, impacts of fisheries and tourism and socio-economic aspects, is a complicated process that requires a set up of local institutional capacity and the assurance of a long-term operation.

The methodology as well as the design of the monitoring system that has been established for the Galapagos Island, can be replicated in other protected areas of the state-administered National System of Protected Areas, as well as in privately owned reserves. The experience of this medium-sized project will be analyzed within the design of the monitoring system contemplated for two selected protected areas under the recently approved National System of Protected Areas Project. Most of the indicators identified for the Galapagos project will be extremely useful, including those developed for the Galapagos Marine Reserve, given that the Machalilla National Park includes an important marine area that requires a good monitoring system.

The monitoring system will also be the basis for the design of the monitoring system that will be developed within the Conservation of Biodiversity in Pastaza MSP.

The experience regarding local institutional capabilities within this project, will allow to carry out the necessary assessments prior the establishment of monitoring systems in any other region of the country.

### **4. Stakeholder Involvement**

Participation of local institutions and NGOs was achieved through the following strategies: a) participatory design of evaluation instruments (databases, GIS, indicators for policy monitoring); b) demonstrative meetings on analysis and use of the available information, showing its utility in practical terms, c) wide distribution of information, supporting the ongoing planning processes in the Galápagos, (Marine Reserve Management Plan, Participatory Management Plan of the San Cristóbal Municipality).

Each year, more than 30 leaders from all local institutions and all inhabited islands were invited to discuss the main results of the monitoring and the articles prepared for the Galapagos Report.

The results of the tourism monitoring first two measurements were presented at a workshop that included the participation of representatives of Fundación Natura, the Charles Darwin Foundation (CDF), the Ministry of Tourism, the Chamber of Tourism (CAPTURGAL), the Association of Naturalist Guides, and the Galapagos National Park (GNP). Their recommendations (increase the number of surveys on satisfaction, monitor the presence of exotic species during the two seasons, and get the guides to participate in collecting information) have been incorporated to the monitoring methodology. In addition, it was recommended that the format of the reports that the guides turn in to the GNP be revised, and that management plans be drawn up for each site with the participation of the various sectors tied in to tourism, coordinated by the Galapagos National Park.

A forum on tourism in the Galapagos was organized, with active participation of local authorities and stakeholders of Galapagos (Heads of the Galapagos National Park, the

INGALA, the local office of Tourism, the CDRS, a representative of the Fishing Coops of Galapagos, head of the Provincial Chamber of Tourism). Also national authorities attended the meeting (Minister of the Environment, Subsecretary of Tourism, members of the National Congress) as well as tourist operators from continental Ecuador. In total, approximately 60 persons debated about this issue and the memories of the event were widely distributed.

Regarding the dissemination of information, the 1999-2000, 2000-2001 and 2001-2002 Galapagos Reports were delivered to all stakeholders within and outside the Galapagos. Translations of the 2000-2001 and 2001-2002 Reports were produced and distributed by the WWF among international publics.

## **5. Monitoring and Evaluation**

Detailed performance benchmarks were developed during the preparation phase of the project, to complement the overall project objectives, outcomes, and activity and to allow the monitoring of progress and achievement of each activity and component. The performance benchmarks provided the basis for disbursement of GEF funds by the Bank during implementation. Previous to each supervision mission, Fundacion Natura prepared technical and financial progress reports, upon which evaluations took place. to the Bank on project execution. At the final stage of project implementation, and internal evaluation took place to assess overall performance and achievements, and to analyze prospects for long-term project continuity and follow-up.

## **6. Special Project Circumstances**

In relation to the tourism monitoring, at the beginning of year 2000, the manager of tourism at the GNPS denied FN the access to “raw” information on the use of visit sites, arguing that FN “miscalculated” the indicator on use of visit sites. In addition this person made some modifications in the structure of the database, including the register of more information that he regarded as important. He stopped the application of tourism satisfaction surveys that had been agreed with FN.

These problems were solved in two ways: first, FN asked this official to provide with his own calculations on the use of visit sites and stated, when publishing it, that the methodology had been changed and the results were not comparable with those of previous years. Second, FN provided technical and financial support to the monitoring of the impacts of tourism on visit sites, which included, as described before, both a calculation on the use of visit sites and of the satisfaction of tourists.

FN confronted several problems regarding the establishment of inter-institutional agreement for the installation and operation of the databases. FN designed and distributed the GIS described before and taught officers from all concerned institutions about its use. However, apart from the cooperation among CDF, GNPS and fishermen for the fisheries monitoring, no other inter-institutional agreements could be reached during the first two years of the project.

With the exception of GNPS, CDF, the Chamber of Tourism and the Municipality of Santa Cruz, no other institution has hardware and personnel dedicated to compile and analyze data. Institutions did not feel the need to develop capacities around this because they don't have to explain their production or performance to any stakeholder.

FN's efforts regarding the construction of an interconnected monitoring system were also hindered by the poor telecommunications technology in Galápagos. When FN designed the database for the management of the sea cucumber fishery (see under Expected Outcome 5), fishermen, the CDF and the GNPS agreed on interconnecting databases in order to ease the transmission of data between islands and to speed the production of daily reports. However, this could not be done because telephone lines are very deficient and the transmission of data

between islands is much more slow and difficult than the transmission between the islands and the continent. Even within the same institution, technical issues are uneven; for example, the GNPS central offices have dedicated lines for internet while its offices in San Cristobal, Isabela and Floreana have to get connected manually to “normal” telephone lines.

Part of the problem of transparency in the information is being solved without FN’s direct intervention. The Internet is now used by most central-government institutions to publish information. Census data, institutional budgets, information on project and investments can be reached through this means without even informing local institutions. However, this does not solve the problem of the incapacity of institutions to manage useful information.

## **7. Institutional Capacity/Partner Assessment**

The number of institutions involved and the type of monitoring activities to be established makes such undertaking complex for a project of this size. However, FN progressively achieved the results expected through phased approach to installation of the monitoring system and coverage of the different institutions.

In general terms, several local institutions (especially the CDF and the GNPS, but also the Tourism Chamber, and the Municipalities of Santa Cruz and San Cristobal) have improved their capacity to collect, process, and exchange information and their equipment allows them to cover their basic needs.

Policy makers’ and local stakeholders’ decisions are increasingly based on the information provided by the monitoring system: At local level the decision-makers are using the monitoring systems findings. Examples includes fishery, where the system has become instrumental in deciding the amount of sea cucumber to be fished and to ensure the quota are not surpassed; tourism, where sites that need additional patrolling are identified; biological, where introduction of new species are under full monitoring and inspection; and socio-economic, among which the status of immigration to the Islands is under close monitoring.

In spite of the efforts displayed by FN, it was difficult to guarantee that all the institutions involved will be fully capable of carrying out monitoring by themselves. In some cases (e.g. the INGALA) their capacity was limited and could not be developed due to political, economical and structural reasons with solutions beyond the scope of this project. The most adequate way of ensuring that all the institutions that were involved in the execution of the project, is through properly implementing the Regional Plan which contemplates the specific mechanisms for the long-term operation of the monitoring system.

## **III. Summary of Main Lessons Learned**

### **Uneven development of the capacities of actors**

Whenever a complex institutional framework is involved in project design, in addition to institutional assessments developed during the preparation phase, a deeper continued assessment during the implementation phase is highly recommended. In this way, the executing NGO will set up at the start-up phase a clear and realistic strategy to address institutional weaknesses detected and will periodically assess the effectiveness of such strategy for improvements. However, the institutional assessment did not reveal the degree of resistance to share information in Galapagos context.

This project aimed to strengthen the capacities of a wide array of actors that take part in the Council of INGALA, the IMA and the PMB. The project did not qualify their development (the baseline conditions) before designing its goals and activities. On the one extreme we have the GNPS, which even before the issuance of the Galapagos Special Law was the strongest and

better managed public institution in the Galapagos. On the other extreme we have the fishermen's coops, with practically no managerial abilities and very distrustful of technology and technical cooperation. In the middle we have the INGALA, which has fewer resources and lacks the political power that it needs in order to satisfy the responsibilities that the Galapagos Special Law gave to it.

A deeper, stronger intervention should have been anticipated for the weakest institutions, which are not those dedicated to conservation but rather those that manage and give leadership to human activities within the province and which have less opportunities to get funding for their institutional development.

### **Actors resist receiving help.**

This unexpected problem arose in several different instances. Cooperation can be rejected, resisted or not adequately received by two extreme situations: one, an enhanced capacity that convinces the local partner that it can go on independently without having to honor the exchange of information or to discuss its policies. Another, in which the local partner has such a limited capacity that it cannot even "receive" any help because it cannot plan what to do with it, how to implement it and how to follow up on it.

The improved management capacity and independence of the GNPS occasioned a reluctance to accept cooperation for the design and/or improvement of information systems, because local officers wanted to take control of these processes. This situation can be seen as positive: the GNPS is growing and needs to affirm its independence, even if this makes its work more difficult or lengthens some processes. These difficulties could be seen as "growing pains" of the most important, powerful and influential of all the institutions of Galapagos.

Second, actors fear that cooperation with another institution could expose their technical weaknesses, which they want to solve by themselves. This was the case with the CDF's fisheries monitoring system, as was told before.

Third, actors have the feeling that relying information on themselves to others could make them loose power or independence. The fishing coops' attitude towards the information systems offered by us is a case in point.

### **The project's goals should not be linked to developments that are not directly controlled by the project, even if all predictions assure that the expected development will take place.**

The INGALA, institution in charge of presenting the Regional Plan to the Council of INGALA and of setting the guidelines for human development in Galapagos, suffered almost no changes during the three years of implementation of the project. As this project was approved, it stated that the INGALA "*is being restructured to enhance its capacities to apply the Galapagos Special Law; this restructuring will include a change in its Board composition.*" Sad to say, the restructuring of INGALA is still pending, as stated before.

Regarding information, the INGALA has not been able to install a unit to manage and update information on the region. There exists only a Director of Planning without technical staff and there is no budget and capacity to meet the requirements of setting a monitoring facility within the INGALA. Seen from this viewpoint, the fact that a Regional Plan could be made in a very participatory fashion and with a respectable technical quality, is quite an achievement. Local and national stakeholders, including Fundación Natura and the WWF, had to reach an agreement to support the Regional Planing process in the face of the weakness of INGALA, and cooperation was "titrated" to meet the limited management capacity of the institution.

### **Institutions are reluctant to share information.**

Even if they appreciate the importance of the Galapagos Reports or have received technical help regarding the development of information systems, and have signed compromises regarding the exchange of information, institutions resist giving information on themselves and their work. Written compromises, such as Memorandums of Understanding, are not enough to pursue the achievement of the goals. Only when funds are provided to the recipient of the cooperation, such as was the case with the CDF, can the recipient be made accountable for honoring the agreements.

Another way of overcoming this is when the monitoring party asks the institutions to write the reports of the monitoring, concretely articles for the Galapagos Reports. However, the original articles were full of errors, generalities and badly written and demanded a very strong and cumbersome edition on the part of FN.

These are arguments towards maintaining an independent monitoring capacity in the Galapagos Islands. Only an independent party without stakes in local politics, projects, governing instances and in the close-knit social and institutional fabric of the Galapagos can attempt to execute monitoring in the most objective possible way.

### **CDF's administrative weaknesses**

The cooperation with the CDF met with a wide array of problems. Contrary to what was felt by the designers of the project, CDF had serious problems when delivering financial reports, and in meeting some of the compromises it made regarding specific products or activities of the project. Financial reports were delivered with technical errors and delays, especially during the first year of the project.

### **The bank's supervision is necessary**

The mid-term supervision mission was very useful. It helped us to correct problems, detect delays, and orient our main partner, the CDF. A supervision mission should take place right at the start of the project, to orient managers on the implementation and prevent errors.

## **IV. Financial Management Status**

### ***Audit reports covering April 1999 to March 2000 and April 2000 to December 2000***

The audit report was prepared in accordance with the Grant Agreement requirements. The auditors issued qualified opinions on the Statement of Sources and Uses of Funds; and a qualified opinion over the Compliance with applicable laws and regulations. The internal control was evaluated as not satisfactory, and the internal control assessment presents some recommendations. The audit reports were qualified, due to lack of information and the incorrect interpretation of the guidelines of the Bank. There were several recurrent topics that presented problems for the administration of funds. However, the projects' accounting and finance staff all demonstrated a willingness to promptly take corrective measures and promised to confirm these corrections in writing to the task manager.

### ***Specific Problem Areas***

Value Added Tax (IVA) - Although project staff understand that payment of value added tax (IVA) is not an eligible item, they still issued payments from the SA for the full amount of invoices that include IVA. They justified this management of funds by periodically reimbursing the SA for the IVA paid.

On a separate note - all the projects expressed frustration with the equivalent of the internal revenue service (SRI) of Ecuador for the delays in reimbursing IVA in cases where the project is exempt.

Investment of Special Account (SA) Funds - The project revealed that they planned to invest the funds maintained in the SA until the funds were required for payment of expenditures. Although was explained that the SA must be used for eligible expenditures and transfers out of the SA to investment accounts is not considered acceptable per Bank standards.

***Audit report covering January 2001 to December 2001***

The auditors issued qualified opinions on the Statement of Sources and Uses of Funds. A qualified opinion regarding the compliance with the Grant Agreement and with the applicable laws and regulations. The internal control was evaluated as satisfactory, however, the audit report presents some recommendations. The reasons for qualified opinions were:

1. Some expenditures were recorded in a different years from the year they originally belong to. (different period when transaction occurred)
2. The project carried out long term financial investments with the funds disbursed by the Bank.
3. In general, the auditors found that Ecuador – Monitoring of the Galapagos Project GEF-MSP and Fundación Ecuatoriana para la Conversión de la Naturaleza (NATURA) comply with the terms of the agreement and the applicable laws and regulations, however there is an incompliance of the clause 3.2 of the Grant Agreement. Therefore, the audit report was supposed to arrive on April 30, 2002, however, it arrives to the Bank four months afterwards, on September 05, 2002.
4. The Special Account Statement was utilized to cover tax payments.

**Final Audit Report:**

The final audit report arrived on April 1, 2003 and cover a period from January 1st, to June 2002. It has not been reviewed by the financial management specialist.