



Analysis of the Socio-Economic Contributions of CORCOVADO NATIONAL PARK AND CAÑO ISLAND BIOLOGICAL RESERVE

“The biological, archaeological, cultural richness of the South Coast mediated by the dynamism of its villagers” 2008

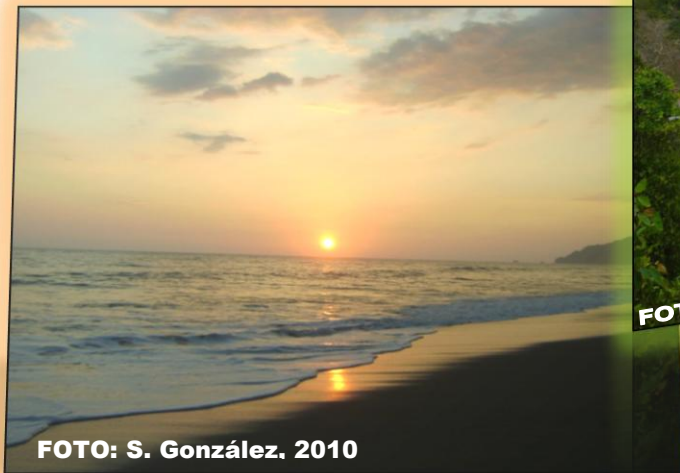


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LIST OF ACRONYMS

AC	Conservation Areas
ACOSA	Osa Conservation Area
ASP	Protected Wildlife Area
ELAP	Latin American School of Protected Areas
ICT	Tourism National Institute
INBio	Biodiversity National Institute
MINAET	Minister of Environment, Energy and telecommunications
MIRENEM	Minister of Natural Resources, Energy and Mines
PNC	Corcovado National Park
PNRB	National Parks and Biological Reserves
RBIC	Caño Island Biological Reserve
RFGD	Golfo Dulce Forest Reserve
SINAC	National System of Conservation Areas
TNC	The Nature Conservancy.
UCI	University for International Cooperation

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1. EXECUTIVE SUMMARY

Costa Rica has distinguished itself as a country that considers the nature and natural resources as vital factors to their socio-economic development. However, few studies-and partially-systematize and quantify the contribution of protected areas to economic and social development of the country. The National Parks and biological reserves are characterized by allowing both the development of a series of complex ecological functions like providing multiple socio-economic benefits. This study contributes by estimating the economic contribution of Corcovado National Park and Caño Island Biological Reserve to the socio-economic development of the country, the availability of information to improve the management of these conservation areas and their local communities and as well as to make recommendations in the field of environmental policy.

This document is elaborated in the framework of the Project “**Systematization and Analysis of the Contributions of National Parks and Biological Reserves to the Economic and Social Development in Costa Rica, Benin and Bhutan**”, developed by CINPE and executed under the Program of South-South Cooperation (financed by the Kingdom of the Netherlands and administrated by Fundecooperación).

The study is based on the approach known as cluster and value chain as a methodology to identify, systematize, estimate and quantify the socio-economic contribution of Corcovado National Park and Caño Island Biological Reserve for the country. We start from the premise and the fact that both conservation areas exist with very clear objectives for the conservation and protection of biodiversity and natural richness in the area, with the possibility of being visited and appreciated for recreational purposes under certain rules and restrictions. However, around them have been managed a series of activities that support the visitation, we refer to particular commercial activities that have direct and indirect relation to tourism.

The cluster analysis is understood as a set or conglomerate of economic and social activities, in this case related to tourism, formed as a support structure among economic activities such as hotels, guides, restaurants, tour operators, related activities, etc., activities of own management from-MINAET SINAC, recreational activities and research and education, while promoting backwards and forwards chainings to other activities not exclusively at local level but also at regional and national level.

Based on the cluster approach and on its conception was estimated a total economic contribution of both ASP to the socio-economic development in the amount of \$91.590.697, 47 for 2008.

2. INTRODUCTION AND ANTECEDENTS

This case study named: “Socio-economic contributions of Corcovado National Park and Caño Island Biological Reserve “The biological, archaeological, cultural richness of the South Coast mediated by the dynamism of its villagers” has been developed in the framework of the project: **“Systematization And Analysis Of The Contributions Of National Parks And Biological Reserves To The Economic And Social Development In Costa Rica, Benin And Bhutan”**, Code: 03-T-07., the project is executed under the South-South Cooperation Program (financed by the Kingdom of the Netherlands and administrated by Fundecooperacion). The study has been developed from the International Centre for Economic Policy from the National University (CINPE-UNA).

The project is developed in parallel in two countries, one of them in the African Continent, Benin; and the other in the Asian Continent, Bhutan. The purpose is to apply and adapt the methodology developed in Costa Rica to the conservation areas of both countries. For its part, in Costa Rica at the same time of this research are carried out two additional case studies, one in Rincon de la Vieja National Park (Salas, M. et al 2010) and the other one in Palo Verde National Park (Moreno, M. et al 2010 b). Additional to these case studies was developed the study of the Contributions of National Parks and Biological Reserves at national level (Moreno, M. et al 2010 a).

In Costa Rica, a group of experts selected as case study the Corcovado National Park and Caño Island Biological Reserve. This document is intended to make a monetary estimation of the contribution to the economic and social development that both Conservation Areas generate at local, regional and national level, through the different productive activities that are gestating linked to the existence of both the PNC and the RBIC.

Costa Rica has distinguished itself as a country that considers the nature and natural resources as vital factors to its socioeconomic development. However, few studies-and partially-systematize and quantify the contribution of protected areas to the economic and social development of the country. The National Parks and biological reserves are characterized by allowing both the development of a series of complex ecological functions like providing multiple socio-economic benefits. This case study seeks to contribute, by estimating the economic contribution of Corcovado National Park and Caño Island Biological Reserve to the socio-economic development of country, information to improve the management of these conservation areas and their local communities as well as, to make recommendations in the field of environmental policy.

The general objective of the project of which this document is part is to estimate and systematize the additional contributions (economic and social ones) of National Parks and biological reserves to the socio-economic development in Costa Rica

The objectives of this study are the following:

- To identify the cluster generated around Corcovado National Park and Caño Island Biological Reserve.
- To systematize and analyze the quantitative and qualitative contribution of PNRB to the economic and social development of Costa Rica at national, regional and local level
- To make policy recommendations for an integrated approach to conservation and development in the PNRB of Costa Rica.

It should be noted that the study does not intend to analyze the benefit of PNRB in relation to the cost of maintenance of them; such a cost – benefit analysis. It seeks to estimate the total incomes generated by activities linked directly or indirectly with the PNRB and their distribution at the local, regional and national level.

In no way is the interest of researchers to conduct an approximation of the total economic value of PNRB, in this particular case of the PNC and RBIC, due to this implies an identification not only of direct and indirect usage of values, but also of non-usage values, in both cases with serious limitations and restrictions in relation to the methods and approaches available. That is why in this sense, it seeks to systematize the socio-economic contribution associated with the activities that are traded in the market, that is, that have a market and that support tourism in the area.

Finally, the estimations should not be considered as a parameter that can be compared in terms of economic analysis, with the profitability of other type of activities, that is, is not an economic analysis of the best alternative to PNRB. It is necessary to be clear that PNRB were not created with the aim of generating economic resources or improving the social conditions of the surrounding communities, they were created with objectives to protect and conserve, but obviously a number of activities are positively benefited from their existence, impacting positively on the socio-economic structure of the region and country.

The third section of this case study is devoted to a brief methodological review of the methodological approach and research instruments applied to the case study. In the fourth section is made a general description of ACOSA, so as to enable the reader to contextualize in time and space, also, a detailed description of the PNC and the RBIC and the binding socio-economic dynamics.

A cluster analysis identified for both ASPS is presented in the fifth section, which includes an identification, classification and analysis of the activities carried out around the PNC-RBIC and that are taken into account directly or indirectly from its existence. The sixth section presents the results of gathering information, where incomes are estimated as result of the existence of the PNC-RBIC for 2008; the results are presented per activity and according to their contribution to local, regional and national development. The seventh section is devoted to an analysis of strengths, weaknesses, opportunities and threats, taking the last section for conclusions and recommendations.

3. GENERAL METHODOLOGY¹

This document is based on the approach known as *cluster and value chain* (Porter,1990;1999) as a methodology to identify, systematize, estimate and quantify the socio-economic contributions of Corcovado National Park and Caño Island Biological Reserve to the country. We start from the premise and the fact that both conservation areas exist with very clear objectives for the conservation and protection of biodiversity and natural richness in the area, with the possibility of being visited and appreciated for recreational purposes under certain rules and restrictions. However, around of them have been managed a series of activities that support the visitation, we particularly refer to commercial activities that have direct and indirect relation to tourism.

The *Cluster* analysis is understood as a set or conglomerate of economic and social activities, in this case related to tourism, formed as a support structure among economic activities such as hotels, guides, restaurants, tour operators, related activities, etc., activities of own management from SINAC-MINAET, recreational activities and research and education activities (see Figure 1), while promoting backwards and forwards chainings (Hirschman,1973) from other activities not only locally but also at regional and national level, dependent aware or not on the existence of the protected wildlife areas.

The PNRB as natural capital, provide positive externalities as result of their protection and conservation, reflected in a number of environmental and ecological services of an invaluable nature. Additionally, they generate other positive externalities since a conglomerate of economic activities around these areas take advantage of these environmental and ecological services at the local level to generate economic benefits through tourism. So that is this latter positive externality the one that proposes to quantify in this investigation the estimation of economic (in terms of income) and social impact that tourist activity generates at local level. On the other hand, these services are also used by a chain of socio-economic activities in the micro regional, regional, national and international scale. We can then speak of a socially positive externality due to the existence of PNRB, potentially leading to a process of vertical and horizontally linked development (Furst, *et al.* 2005).

To estimate the contributions of the PNC-RBIC, first was performed an exploration and bibliographic review of the material and existing information on the Web and on different agencies or organizations involved in conservation areas mentioned. Second, given the nature of the research was required a large amount of information obtained through observation and application of different instruments in the field.

For the collection of information were made four fieldtrips at different times of the period 2009-2010². The first one takes place from April 30th to May 4th, 2009, when is performed a recognition of the PNC and the RBIC, as well as their surrounding communities and the identification of the main economic activities developed. In addition, various tests of the

¹ This methodological section is based on the first version of the study, which is found in Furst et al (2005).

² For more information see the methodological annex of this document.

instruments are made, as well as interviews with local experts and visits to businesses primarily in the area of Drake.

The second fieldtrip was performed from July 27th to July 31st, 2009, aiming at collecting data in Puerto Jimenez, OSA, Golfito, Matapalo and Carate by surveying the population of hotels and cabins, restaurants and coffee bars, related activities (Internet Café, supermarkets, etc), tour operators and key actors. In the case of Drake Bay, the collection of the information was performed from December 2nd to December 6th, 2009 taking into account all commercial activity related to tourism, as well as in deep interviews with local actors. Chart 1 show the detail of the surveys applied per economic activity, a total of 135 surveys were applied, which reflect the population in terms of tourism-related economic activities that are developed at local level.

Chart 1:
Surveys Applied per economic activity.
Puerto Jiménez – Drake. Year 2009

Surveyed Activities	Place	
	Puerto Jimenez	Drake
Hotels	36	23
Restaurants	21	3
Tour Operators	6	1
Related Activities	17	4
Local Actors	12	4
Transportation	1	7
Total	93	42

Source: Own elaboration.

In the case of tourists, we proceeded to apply a survey to determine the profile of the tourist and their average expense in the PNC-RBIC. To determine the sample size is taken as reference the data of visitation provided by the office of PROESA-SINAC (Sustainable Ecotourism Program of Osa Conservation Area, National System of Conservation Areas) depending on their daily records of entrance to Corcovado National Park and Caño Island Biological Reserve. Since the largest number of visitors that the park and the RBIC receive is from December to April (see methodological annex), it was decided to make the gathering of information during the month of January 2010. Additionally, it is not considered the gathering of information during the low season due to the following reasons: 1 -) a lower number of tourists per season, 2 -) bad weather conditions (rain in particular) and 3 -) difficult access to the Park.

Considering the total visitation during the month of January 2008 in both conservation areas was calculated a sample of 267 tourists with a reliable level of 90%. The surveys were applied from January 20th to January 25th, 2010 at Sirena, La Leona and San Pedrillo Stations. In the case of the RBIC, the gathering of information was coordinated with the administrators of it.

4. GENERAL INFORMATION ABOUT THE CASE STUDY

Costa Rica is a country that has given a great boost in the creation of protected natural areas through the different categories of management of Protected Wildlife Areas (ASP). Within each Conservation Area, you can find different categories of Protected Wildlife Areas such as National Parks, Biological Reserves, National Monuments, Wildlife Refuges, Forest Reserves, Protected Zones and Wetlands which generate not only ecological benefits being regulators of the climate, the atmosphere and oceans, but also economic, social, cultural and educational benefits to the towns that are in the vicinity of the ASP; this through activities related to recreation, ecotourism, rural tourism, species protection and respect for nature.

There is a total of 168 Protected Wildlife Areas which cover a total of 26.53% of the country. The maritime protected area is approximately of 17.27% of the territorial waters of Costa Rica, according to data from SIG and SINAC 2008 (Jimenez, com. pers, 2009.).

With only 0.03% of the global terrestrial surface and 589.000 km² of territorial water, the country is considered one of the 20 countries with greatest biodiversity in the world. The more than 500,000 species that are found in the country represent nearly 4% of the total of species estimated worldwide. Of these 500,000, more than 300,000 are insects (INBio 2008 in http://www.inbio.ac.cr/es/biod/bio_biodiver.htm).

The Biodiversity Law defines the institutional framework for the administration of the ASP of Costa Rica. The Ministry of Environment, Energy and Telecommunications (MINAET) is the governing body of SINAC (SINAC-MINAE b, 2006). According to the same Law in Article 28, it defines the conservation areas "Territorial units of the country, administratively delimited, governed by the same development and management strategy, properly coordinated with the rest of the public sector. In them are interrelated private activities with the state ones regarding conservation matters and include both urban and rural human settlements and lands for production like protected wildlife areas (SINAC-MINAE a, 2006).

4.1 OSA CONSERVATION AREA

Osa Conservation Area (ACOSA) was created in 1991 by Executive Decree No. 20790-MIRENEM (Gazette N. 210, 1991). ACOSA is located in the province of Puntarenas on the South Pacific side of Costa Rica. The most important terrestrial route to the Osa region where you will find both Corcovado National Park and Caño Island Biological Reserve (RBIC), is the Inter-American-Route that crosses the entire country reaching Panama; also the access can be aerial through airports located in Golfito, Puerto Jiménez, Palmar Sur, Coto 47 and Drake (ELAP-TNC-ACOSA-UCI, 2005).

The total area of ACOSA is 4.304.8 km² (8.6% of the national surface). Just under half (40.4%) of the surface of ACOSA is under some category of management as a protected wildlife area (ASP) or as an Indian Reserve, so 88% of forests of ACOSA are to some extent protected (See Map 1). Indigenous reserves cover 24,574 hectares with a total population of approximately 2,800 inhabitants that belong to the Guaymi or Ngöbe and Brunka or Boruca ethnic groups (ELAP-TNC-ACOSA-UCI 2005).

ACOSA is one of the AC with higher biological riches in both terrestrial and marine species. Due to its geographical position it constitutes a natural bridge between north and south species of the American continent, which is considered as an important genetic bank of species of flora and fauna, showing a variety of ecosystems ranging from the ocean to the foothills of the Cordillera de Talamanca. (SINAC, 2007)

It is estimated that the Osa Peninsula has 375 species of birds of which 18 are endemic, 124 species of terrestrial mammals (58 are bats), 61 species of freshwater fish, about 8,000 species of insects, 71 species of reptiles and 46 amphibian species. Species recorded in this zone are between 30% and 50% of species known in Costa Rica (Cuello Nieto 1998 in ACOSA-TNC-ELAP-UCI, 2007).

BOX 1. ACOSA

Location: it is located in the province of Puntarenas, on the South Pacific side of Costa Rica.

Year of creation: 1991 by Executive Decree No. 20790-MIRENEM (Gazette N. 210, 1991)

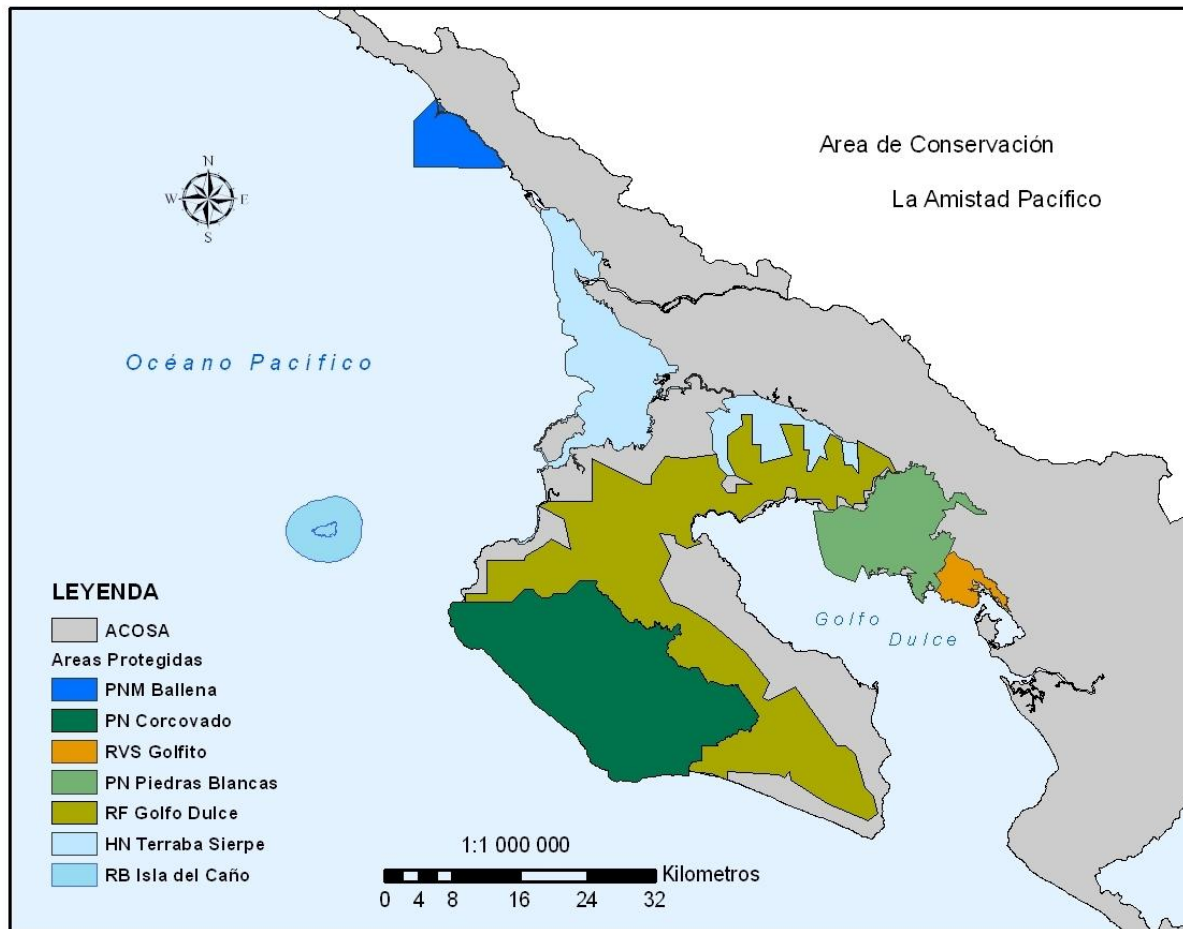
Total extension: The total area of ACOSA is 4.304.8 km² (8.6% of the national surface and 36.4% of the surface of the province of Puntarenas)

Cantons: Osa, Corredores and Golfito, whose respective headwaters are in Puerto Cortés, Ciudad Neily and Golfito.

Richness: ACOSA is one of AC with the most biological richness in both terrestrial and marine species

Source: Own elaboration

Map 1
Osa Conservation Area



Source: ACOSA-TNC-ELAP-UCI (2007)

Large number of species inhabits the terrestrial area such as lapa or red macaw (*Ara macao*), the wild pig (*Tayassu pecari*), jaguar (*Felis onca*), the caiman (*Caiman crocodilus*) and crocodile (*Crocodylus acutus*), the tapir (*Tapirus bairdii*), the marmoset monkey (*Saimiri oerstedii*), jaguar (*Pantera onca*) and the giant ant bear (*Myrmecophaga tridáctila*) American crocodile, the peccaries, the jaguar and several birds. (SINAC s.f); while referring to flora we have garlic (costarican *Caryocar*), the Ojoche (*Brosimun costaricanum*) and caracolito cedar (*Ruptiliocarpon caracolito*) where the latter is a "scientific finding dating from November 1993 because it constitutes a new gender and specie for the world and it establishes a new botanical family for the Neotropical "(SINAC s.f.). Osa is one zones of the country with the highest biological richness and scenic beauty, known worldwide for its biodiversity and conservation efforts that are made around it"(Pujol R, 2008).

4.2 Corcovado National Park

4.2.1 Location and creation

In 1930, the banana company United Fruit Company abandoned the lands from the Atlantic moving to lands from the Pacific, period in which also was discovered gold in the Peninsula of Osa bringing the migration of inhabitants to the area; causing problems of deforestation due to the opening of farms (PROESA-SINAC, 2009) and increasing the exploitation inside the lands that are comprised currently the PNC by goldsmiths.

Corcovado National Park (PNC) was created in 1975 by Executive Decree # 5357-A 31-Oct-1975. (SINAC s.f), later it was expanded by Executive Decree No. 11148-A 15-Feb-1980 as both decrees ratified by Laws (By Law No 6794)³ (ACOSA-TNC-UCI-ELAP, 2007). PNC belongs to the Osa Conservation Area in the province of Puntarenas (cantons of Golfito and Osa) located in the southwestern corner of Costa Rica with an extension of 42 571 terrestrial hectares and 1913 marine hectares (See Map 2).

There are several versions about the origin of the name “Corcovado”, one is the shape of a rock located at the beach, which has a curve similar to hump; while the other version is about the shape that Corcovado River has, which makes several curves, similar to horse when humps. PROESA-SINAC, 2009.

4.2.2 Biophysical Characteristics

In the PNC, there are three life zones: tropical wet forest, tropical wet forest transition to premontane and very wet premontane forest transition to basal (Arias Castillo 1996 in ACOSA-TNC-ELAP-UCI, 2007). Corcovado includes thirteen different habitats such as primary forest, the area of cloudy forest, the height forest, swamps, beaches, mangroves, the lagoon, among others and besides, it has a great variety of biological species and terrestrial and marine ecosystems which attracts large number of national and foreign researchers (Corcovado National Park, South Puntarenas, s.f).

³ According to Hurtado de Mendoza (1988) cited by Sierra C., Castillo E., Arguedas S. (2006), the creation of the Park is the result of National and international campaigns occurred during the 70s to preserve the biological resources of the basin of Corcovado as result of threats from agriculture, cutting of trees and development of Osa Forest Products.

The dry season goes by from mid-December to mid-April, with sporadic rainfall while the rainy season goes by from mid-April to mid-December. According to historical data of SINAC (s.f), Corcovado National Park stands out on the other parks because it has the last portion of tropical wet forest of the Mesoamerican Pacific.



Photo 1: Corcovado National Park
La Leona Station

BOX 2
CORCOVADO NATIONAL PARK

Extension: 42 571 terrestrial hectares and 1913 marine hectares.

Characteristics of the park:

1. It includes thirteen different habitats such as: the main forest, the zone of the cloudy forest, the height forest, the swamps, the beaches, the mangroves, and the lagoon, among others.
2. Variety of biological species which attracts a large number of scientists for projects of research.
3. System of terrestrial and marine ecosystems.
4. Corcovado and Carate beaches constitute places for spawning for turtles and habitats for the red crab and snails.
5. The dry season goes by about the middle of December to the middle of April, with few rain and rainy season: about the middle of April to the middle of December.
6. System of trails inside the park.

Source: Own elaboration

Corcovado hosts one third of tree species and half of the threatened plants of Costa Rica, Corcovado National Park "It has at least 13 plant associations defined in less than 50,000 hectares; in one hectare can be found around 169 species of vascular plants (Sierra C, et al., 2006) . In the Park is estimated about 140 species of mammals, 370 species of birds, 120 species of amphibians and reptiles, 40 species of freshwater fish and some 6,000 species of insects (ELAP-TNC-ACOSA-UCI, 2005), many of these are threatened species and endangered species (the Tapir, anteater, tepezcuintles, different species of cats such as Puma, Ocelot, Jaguar, the manigordo and the Caucel, reptiles, amphibians, among others).

In the area surrounding the Park, a large number of rivers flowing into the open sea are found (see map 2) such as Llorona River, Brujo River, Corcovado River, Sirena River, Pavo River, Claro River, Carate River; at the same time two lagoons: Corcovado Lagoon and Sirena Lagoon, and some famous beaches as Llorona beach, Corcovado beach, Sirena beach and Madrigal beach (Wille A., 1987). Park's soils are very susceptible to erosion caused by human activities such as logging, agricultural use and grazing, so as soils, including the Corcovado Lagoon, they are classified as of protection (Hurtado de Mendoza 1988, Soto and Jimenez 1992 in ACOSA-TNC-UCI-ELAP, 2007).

Corcovado National Park has a difficult access, however, it retains important characteristics that distinguish it both nationally and internationally, because species such as crocodiles and alligators are found there as well as various species of toads, quetzals and tapirs (largest land mammal in Central and South America), also birds such as red macaws, toucans, hummingbirds or purple doves, tapirs, sloths, pumas, jaguars and trees over 50 meters high.

A particular feature of the Park as well as the rest of the peninsula is the existence of gold of pleasure, the result of a complex process of mineralization. The gold is in the hills and as secondary deposits in the channels and slopes of rivers and streams (Hurtado de Mendoza 1988 in ACOSA-TNC-UCI-ELAP, 2007), which in the mid-seventies attracted large numbers of workers from Nicaragua, Panama and San Jose product of the gold fever, settled in the vicinity of the PNC.

Another outstanding feature of the Corcovado National Park is that the beaches are spawning sites for turtles and a habitat for red crabs and snails; in the depths of the waters there are a lot of reef, octocorals (sea fans and allies) which serve as habitat for marine animals as a mean of protection such as cambutes and lobsters. Even the Salsipuedes reef, protects one of the most extensive population of cambutes that have been able to survive beyond its exploitation. Likewise, Punta La Chancha has the ability to sustain many marine species. Another place where coral reefs inhabit is in the deep pools that are formed between the rocks; these individuals are easy to remove so it must be under constant surveillance in order to preserve the resource (ACOSA MINAE SINAC (2005-2006).

4.2.3 Accessibility and administration

The access to the park is by land (walking), by air and / or by maritime transportation, to any of the 4 stations that the park has: Sirena Station, San Pedrillo Station, Los Patos Station and La Llorona Station, the latter three located in the National Park boundaries. In the case of San Pedrillo Station is necessary to walk for about 3 hours from Drake Bay, to the Leona Station is possible to enter from Puerto Jimenez to Carate beach (two hours by car) or by means of a collective transportation that leaves twice a day from Puerto Jimenez to Carate, then walking along the beach from Carate to the station for one hour; these two stations have defined spaces for camping and basic infrastructure of toilets and drinking water.



Photo2: Drake Bay airstrip, arrival of tourists

The access to Sirena Station is both from the Drake Sector as from Carate we can access by walking on trails and beach, the journey is approximately 6 hours, or a boat trip can be done coordinating with the various tour operators dedicated to provide this service. It is the only station where additional to the services of camping it has also a hostel with bed, food service, electrical energy through solar panels, besides the basic services that the other stations have.

In most cases, the tourists get to Drake, Puerto Jimenez and Carate by air to then proceed by land or sea to the different stations. One of the main access centers to the PNC even to the Caño Island is Drake Bay. Mostly tourists enter to Drake by air through two main airlines: Nature Air and SANSA. Once the visitor arrives in the area, it is offered the transportation by land from the landing area to the Drake Center, and it costs \$ 8 U.S. dollars per person to foreigners and ¢2,500 colones to nationals for the service of taxi (Araya Franklin, 2009: Com. Pers). Then they wait for a boat hired by the staff of the hotel of destination, and this is because of the beach access is impossible and there are no roads to the hotel. It is worth mentioning that people who handle these boats and who are hired by hotels are neighbors of the zone, place where tourists are brought to a final maritime

BOX 3. SERVICES OF PNC

Services provided by the PNC:

1. Areas for camping in the 4 stations
2. Hostel with bed in Sirena
3. Food selling in Sirena
4. Drinking water
5. Toilets

Activities to practice around the park:

1. Horseback riding, Sport fishing,
2. Hiking on trails
3. Bird watching
4. Whales and dolphins watching out to sea
5. Snorkeling, diving

Source: Own elaboration

destination. Additionally, tourists can walk along trails to the San Pedrillo or Sirena Station or by maritime way with previous contact with any of the tour operators of the region.

BOX 4
PNC: ADMISSION, FOOD AND LODGING

Value of the ticket:

- Foreigners: \$10.
- National Adults: ₡1.600

Lodging:

- Right to camping: US\$4
- Lodging in the shelter US\$8

Food:

- Foreigners: US\$46
- Nationals: ₡11.000

Other services

- Anchorage less than 9 people: US\$2
- Anchorage more than 9 people: US\$9

Source: Own elaboration

To reserve space in the shelter of Sirena Station it should be done with 1 month in advance because the place manages a certain loading capacity. In 2008 the park received about 29,651 tourists, which represents a 28% less compared to the visitation of 2007. Of the total, in 2008 approximately 48% of visitors were recorded by San Pedrillo Station

The admission to the park is \$10 for foreigners and ₡1600 for Costa Ricans, while the camping area per night has a cost of \$4 for both. The anchorage costs \$2 if the boat transports less than nine people, if not you must cancel to the National Park \$9. If the visitor decides to stay in the hostel the payable amount is \$8 per night per person, while food for nationals has a cost of ₡3000 breakfast, ₡8000 lunch and dinner, while for foreigners is \$12 breakfast and \$34 lunch and dinner.

4.3 Caño Island Biological Reserve

4.3.1 Location and creation

Caño Island is located inside Osa (ACOSA) Conservation Area, established by Executive Decree N° 20790-MIRENEM, in November, 1991, it belongs to the canton of Osa, province of Puntarenas, approximately to 15 km from the coast, in front of Drake Bay (Government of Costa Rica 2003). Initially, it was created as an extension of the Corcovado National Park by Executive Decree N° 6385-A 30-sept-1976, and it was legally established as Biological Reserve by law N° 6215, on March 9th, 1978 (Sierra C., et al. 2007). The administration of the island was under protection of the Corcovado National Park, when in October, 2006 was separated from the administration of the park to manage it with all administrative components (Acuña Hidalgo, 2006 in ACOSA-TNC-ELAP-UCI, 2007).

4.3.2 Biophysical Characteristics

**BOX 5.
CAÑO ISLAND BIOLOGICAL RESERVE**

Location:

It is located within the Osa (ACOSA) Conservation Area, about 15 km from the coast, in front of Drake Bay.

Flora and fauna:

69 animal species, 31 species of birds, four species of amphibians, nine of reptiles and five of mammals, in terms of insects, it is possible to identify beetles, butterflies, moths. It is one of the richest reef zones in the Costa Rican Pacific coast (60 species of mollusks and several species of fish)

It has been found about 17 archaeological sites.

Source: Own elaboration

Most vegetable species are perennial, typical of tropical wet forest. It is estimated around 158 species of vascular plants and ferns (MINAE-SINAC, 1999 in Sierra C., et al. 2007). 69 animal species are known on the island, 31 species of birds (heron of cattle, the crab hawk, the osprey, the brown booby, among others), four species of amphibians, nine of reptiles and five of mammals. Referring to insects, it is possible to identify beetles, butterflies, moths and bees (MINAE-SINAC, 1999 in Sierra C., et al. 2007). The island has one of the richest areas of coral reefs and the best preserved on the Costa Rican Pacific coast, it has been identified 60 species of mollusks and several fish species (Guzmán and Cortés 1989, in ACOSA-TNC-ELAP-UCI 2007) .

Another point of interest and unique of the island are its cultural resources. 17 archaeological sites have been revealed in

areas where stone spheres and ceramics pieces are found. It is assumed that the ancient indigenous civilizations used the island for burial purposes (Finch and Honetschlager 1982, in ACOSA-TNC-ELAP-UCI 2007).

4.3.3 Accessibility and administration

The access to the Caño Island Biological Reserve is mainly from the area of Drake Bay and the hotels located along the coast from this area up to Corcovado National Park's boundary, because most of them offer diverse tours to enjoy the scenic beauty of the Reserve. Additionally, tours are organized from Sierpe and the zone of Dominical by maritime way.

The Biological Reserve is ideal for water sports like diving and snorkeling and at the same time turtles, dolphins, sailfish and coral reefs watching. The cost of the ticket is \$ 10 for foreigners, ¢ 1600 for nationals and \$ 4 to anchor which are canceled by the tour operator, who charges about \$ 75 per person.

**BOX 6.
ACCESS AND ACTIVITIES RBIC**

Access:

Mainly from the area of Drake Bay by boat

Activities to practice around the RBIC:

1. Diving
2. Snorkeling
3. Hikes
4. Whales and dolphins watching.
5. Observation of sea turtles, reefs and fish.

In the area of influence of the Caño Island there exists commercial, sport and craft fishing.

Source: Own elaboration

BOX 7
PNC: ADMISSION AND ANCHORAGE

Price of the ticket:

- Foreigners: \$10.
- National Adults: ₡1.600

Anchorage

- Anchorage: US\$4

Source: Own elaboration

Each tour operator must register in order to get to the island. Tourists enjoy doing different activities like scuba diving, whales and dolphins watching, most visitors are people from Europe and USA (Acuña and Solís, 2009; Com. Pers.). Periods of increased visitation to the island are during Easter and December, while the low-months are from May to October. On the island is forbidden to camp.

In the area of influence of Caño Island exists commercial, sport and craft fishing. On the industrial fishing there are no official records, but according to locals, fishermen and shrimp ships they are common figure around the island. For example, in Platanares Wildlife Refuge illegal techniques

such as trammel nets and lines are used (Workshop Matapalo 2005, in ACOSA-TNC-ELAP-UCI 2007). Several fleets from Puntarenas, Quepos, Nicoya Gulf and Dulce Gulf exploit the shrimp resources in the Osa (ACOSA) Conservation Area. In general, fishing is carried out illegally in protected waters of Caño Island, the mangroves of Sierpe-Térraba, in front of the coast of Corcovado National Park and surrounding areas of the Osa Peninsula and Dulce Gulf. Fishermen use handmade spears, gillnets, lines, superficial diving and cast nets.

Sport fishing has taken on importance in the Dulce Gulf and Pacific Ocean and is one of the tourist attractions offered by the area of influence of the Caño Island. Through sport fishing the extraction of 5,500 tons per year is identified. This extraction is carried out by 320 boats which represent 48 enterprises. It also distinguishes a daily flow of 120 boats that reach 40 miles. The annual cash flow is estimated at U.S. \$ 18 million, 80% of the national payroll (Amun Osa, Com. Pers, 2009, in Sierra C., et al. 2007).



Photo 3: Dusk RBIC

5. CLUSTER ANALYSIS AROUND CORCOVADO NATIONAL PARK – CAÑO ISLAND BIOLOGICAL RESERVE

Both Corcovado National Park and the Caño Island Biological Reserve, as regards particular categories within the System of Protected Wildlife Areas, have been created with the aim to preserve and protect existing biodiversity within their boundaries, allowing a range of activities whenever they do not undermine the purposes for which they were created (see box 6). SINAC has defined as primary objectives for the creation, conservation, administration, development and monitoring of protected areas, the following:

BOX 8.
OBJECTIVES OF THE CREATION OF
CORCOVADO NATIONAL PARK – CAÑO ISLAND
BIOLOGICAL RESERVE

PNC:

1. Conservation, scientific research, environmental education and tourism. The area attracts much interest among Costa Rican and foreigners scientists because of genetic potential that Corcovado has in all that provision of living beings could provide a valuable benefit to agriculture, medicine and other fields of similar importance to the welfare of mankind.

RBIC:

1. Protection of flora and fauna, coral reefs and marine ecosystems.
2. Promotion of scientific research through the natural resources in the biological reserve.
3. Protection of archaeological sites, stone spheres and other archaeological objects located on the island.
4. Recreational opportunities to tourists properly targeted and regulated.

Source: Own elaboration based on Sierra C., et al., 2007.

- To preserve natural environments representing the different biogeographical regions and most fragile ecosystems, to ensure balance and continuity of ecological and evolutionary processes.

- To safeguard the genetic diversity of wild species from which depends the continuity of evolution, particularly the endemic ones, threatened ones or endangered ones.

- To ensure sustainable use of ecosystems and their components, encouraging the active participation of neighboring communities.

- To promote scientific research, the study of ecosystems and its balance, as well as the knowledge and technologies that enables the sustainable use of natural resources of the country and its conservation.

- To protect and improve aquiferous areas and hydrographic basin, to reduce and avoid the negative impact that poor management can cause.

- To protect natural environments and scenic sites and historical and architectural sites, national monuments, archaeological sites and places of historic and artistic importance for culture and national identity.

In particular is shown in Chart 2, where it is detailed the activities allowed for both within the category of ASP with category of Biological Reserve or National Park, any other activity to develop is prohibited by law.

Chart 2:
Management practices allowed in the different public ASPS of Costa Rica

Activities	National Park	Biological Reserve
Concessions / Permissions of use	X	
Research	X	X
Extensive Recreational Activities	X	
Interpretation and education	X	X
Infrastructure for research	X	X

Source: Own elaboration based on ELAP-TNC-MINAE-SINAC-UCI, 2005.

In particular, the creation of the PNC and the RBIC has encouraged tourism by developing a series of social and productive activities including lodging, meals, transportation, operator-tour and trade in general. The establishment of these activities has promoted the creation of jobs in Drake Bay and Puerto Jimenez, populations directly benefited by being in the zone of influence of both protected areas. However, it has also benefited indirectly tourism developed in the zone brings benefits to other communities of the Canton of Osa, such as Sierpe, Dominical, La Palma, Cañaza and Palmar.

The commercial activity linked to tourism is relatively incipient in the area, concentrated in a few areas and even without an explicit local empowerment. This implies that most of the medium and large businesses are held by foreigners, and nationals carry out smaller-scale activities. The population benefit of tourist activity since it is the main source of incomes, it is linked to low-paying activities and even there are few cases of local empowerment.

Two nuclei or poles are clearly identified from where it has gestated the development of various tourist activities and that support activities that are performed according to the PNC and the RBIC, these are the communities of Drake and Puerto Jimenez. Both places have very different characteristics, depending mainly on social and cultural elements, but that impact on the economic dynamics of each area. This for example, is reflected to some extent in the way that each community has been taking advantage of the benefits of tourist development and its ownership of this process.

In general terms there are no major tourist establishments, the Osa region is not characterized by mass tourism, for example, the offer of lodging is directed to cabins and hotels of small or medium size, most of them with a focus on ecotourism relatively far apart from each other. Most hotels are characterized by being in foreign hands, which is not the same case with the cabins. Ecotourism and nature tourism are features that distinguish the offer of lodging in Drake, Carate and Puerto Jimenez. Most establishments are clear about what the tourists are looking for is for a resting place where they can share with the biodiversity of the area without the luxury or attractive materials. Additionally, in one form or another, the sector has been linked to protection and conservation activities in some cases even maintaining private reserves under protection around their establishments, as this helps to improve the vegetation cover and maintenance of plant and animal diversity that tourists can observe without necessarily travel long distances.

Properly in the sector of Jimenez can be characterized as a place of overnight accommodation for those wishing to enjoy the Corcovado National Park and to a lesser extent the RBIC. In this

sense, most visitors are groups of young people and young adults (students and backpackers) adventurers, and whose objective is the Sirena Station where they will stay several days. This kind of tourist regularly arrives by land, in organized groups (tours) or directly by bus from San Jose, few cases arrive by rental car. The remoteness of the PNC, in relation to San Jose, makes them at least to stay two nights in Puerto Jimenez.

Moreover, there is a segment of tourists who come to Jimenez by air. This last group tends to stay mainly in hotels that are between Jimenez and Carate; they have previously acquired some all-inclusive package. Regarding the PNC, they can decide to visit the La Leona Station by its proximity, in some cases they take water tours where they can do diving, snorkeling, sport fishing, or visit the RBIC or the PNC, without staying in the latter one.

The offer of terrestrial transportation to Carate is extremely rudimentary; a cattle truck transports tourists who wish to enter the Park in the early hours of the morning, just as at four in the afternoon it carries out the return trip, offering the service to those who that day go out of the PNC. Additionally there is a taxi service from Jimenez but it quite is expensive.

In the case of Puerto Jimenez is important to note that many of its villagers, originally local but also people who settled coming from Panama, Nicaragua and the Central Valley, lived in a culture and dependent economy on Gold and Hunting, some of them still live on these activities. Once declared the PNC and the Golfo Dulce Forest Reserve and protected areas, their inhabitants saw mined its primary source of income (some of them expropriated from their lands) assigned to live illegally on the above activities, or to engage to field activities with few chances of improving their conditions and quality of life. Probably the previous context has served as a barrier to home-grown tourism development, with real social and productive value chains.

In Drake tourists practically enter by air, their lodging is mainly in the hotels located in the Terrestrial Maritime Zone which runs from Drake to the entrance of PNC (San Pedrillo Station), in this case the tourists are transported by sea. To a lesser extent, those who come by land have as a direct objective the PNC, staying at Drake to continue the next day with their trip.

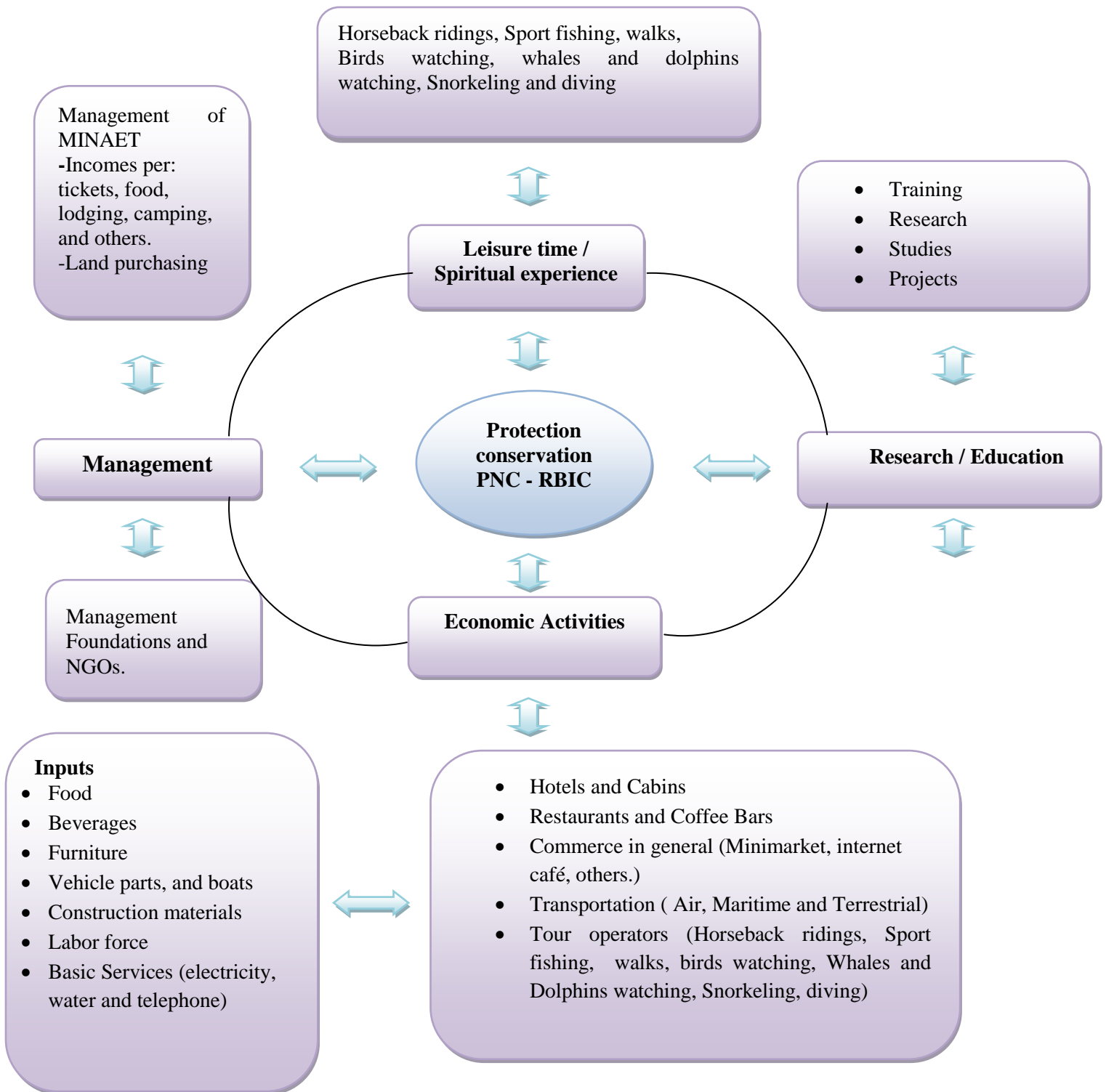
Although Drake does not present a major local commercial development, virtually all of its villagers live on tourism, unlike Puerto Jimenez. In one way or another, they work as wage-earners in hotels, they are cabin owners, they offer terrestrial and water transportation with agreements among the different hotels or they are operator-tour. It is important to mention that in this case the social organization has the possibility of a greater involvement and use of the benefits of tourism, as well as better preparation to provide various services.

Considering the above, based on the methodology of cluster of PNC-RBIC are identified and related various productive, commercial and institutional activities, having as the central axis the protection and conservation in both ASPs, as it is for this reason that they were created. Figure 1 shows the cluster PNC-RBIC.



Photo 4: Carrier, boat captain, Bay

Figure 1. Cluster of development around Corcovado National Park – Caño Island Biological Reserve.



Source: Own elaboration

5.1 Leisure time, experience and spirituality

Leisure time, experience and spirituality reflects the satisfaction and welfare derived from a non-use value, something that is not quantifiable in monetary terms but that is the motivation and purpose of the visit of tourist to these areas for their scenic beauty, its cultural value and its biodiversity.

5.2 Economic Activities

It is evident in the area of analysis that the main economic activity is tourism, from this; it will trigger a series of direct and indirect activities that provide employment and livelihood to many families in the region of Osa. Most of the inhabitants of both Jimenez and Drake Bay agree that tourism is the engine of development in the area because there is no other alternative source of employment. In words of a small owner businessman of Cabinas Pura Vida located at Drake, says that "*Tourism is everything in Drake*," there are no agricultural activities in the area, but tourism represents for us the major source of incomes.

Hotels and Cabins:

A lot of hotels and cabins provide support to the activities of visitation of the PNC and RBIC, mostly developed with a focus on tourism in harmony with nature, reason by which it is not found yet large hotel buildings. Its offer, as previously mentioned, it is geared towards ecotourism, adventure tourism and nature tourism.

In the area of Drake, it is identified about 37 lodging options, as many hotels are located on the shoreline, overlooking the sea and continuing until the San Pedrillo Station, the access is done primarily by boat from Drake, each hotel has its own boat service or it is offered either after recruitment by villagers of Drake. Properly, in Drake Bay lodging options are fewer, offered to a lesser extent by cabins.

Puerto Jimenez has a broader development in lodging through cabins with regard to Drake, but of shorter stay, with a fairly large lodging offer about 36 options mostly from 4 to 10 rooms and property of national people. The situation varies in accordance with the tourist's estrangement distance from Jimenez to La Leona Station of the PNC; by the way it goes near the coast to Carate Beach, in this case it begins to position themselves not only cabins but also small or medium size hotels, where it is possible to identify about 14 options between hotels and cabins. Additionally, in the town of Matapalo is also possible to find beach houses that are rented sporadically, and are owned by foreigners.

BOX 9. HOTELS AND CABINS

Drake:

1. Lodging: 37 options between hotels and cabins.
2. They are located mainly in front of the coast from Drake to San Pedrillo.
3. Access mostly by boat.

Puerto Jiménez:

2. Lodging: 36 options between hotels and cabins.
3. On average between 4 and 10 bedrooms.
4. They are located from Puerto Jiménez to La Leona.
5. Access by land.

Source: Own elaboration.

Some hotels as well as provide lodging they also provide transportation services, food (under the system of all-inclusive) and tours. In case of hotels that offer tours, they have a tour guide service, captains and their respective equipment for shipping. However, in many cases and according to demand, the services are also supplemented by guides and boats from the community hired by hotels according to their needs. It is also the case, to a lesser extent, that guides and captains offer their services directly to tourists or through any tour operator.

Restaurants and Coffee Bars

Regarding coffee bars and restaurants, even the trade of such activities has not been well developed in the area; most hotels have their own service. In Drake Bay is located only one restaurant (Jade de Mar Restaurant) that offers its services to foreign tourists and national tourists throughout the year, closing only for repairs during the months of September and October (Cambroner, Com Pers, 2009); it is possible to find some coffee bars in the vicinity of Drake, Agujitas and the sector of Los Planes. It is quite common that each hotel offers the services of food, given their geographical location because there are no shops or food options nearby, which is even more evident as the hotels have moved further away from Drake Bay.

In the area of Puerto Jimenez is similar the dynamics, the restaurant industry is still incipient; some hotels stand out along the main street and in front of the sea near the Malecon. In general terms, the tourist does not have many food options and have not been taken advantage of the economies that could be to take advantage of marine products, which could result in a more rich and diverse cuisine of seafood, so original and of quality. Some restaurants that have begun to proliferate are associated with fast food (fried chicken, hamburgers, pizza, etc.), in the hands of national people and foreigners.

Outside of Puerto Jimenez, on the way to the PNC are located only a couple of food options, the main one is located in Carate and it is the one that receives the majority of tourists who enter or leave the park, offering drinks and sandwiches; however, it also works as a grocery store. The hotels located in these areas have their own restaurants and are used exclusively for their guests.

Transportation

The main access road to Corcovado National Park and Caño Island Biological Reserve is through Drake and Puerto Jimenez, at both places the tourists mainly arrive by air. Two airlines are the ones that mostly have a strong influence on market especially for tourist transportation: Sansa and Nature Air. Both airlines make around 4 daily flights at a cost of between \$16080 and \$230 per person, with capacity to transport up to 20 passengers. Other airlines on a smaller scale occasionally take tourists to the areas such as Aeroparaiso, Aires de Pavas, Alfa Romeo Aero Taxi S.A, Aviones Taxi Aéreo S.A., Heliservicios Aerobell S.A, Taxi Aéreo Centroamericano S.A.

Chart 3 and Chart 4 show the transportation of passengers per airline, for 2008, according to the origin - destination to communities of access to PNC, such as Puerto Jiménez, Carate and Drake Bay. From the information provided by General Direction of Civil Aviation (DGAC). In 2008 were transported a total of 47.432 tourists from the national territory to Drake and Puerto Jiménez and vice-versa, mainly between San José and previous communities.

Chart 3:
Transportation of Passengers, according to the origin - destination Period 2008

Type of Service	Airline	Origin and destination 2008			
		San José - Puerto Jiménez	San José - Drake Bay	Others- Puerto Jiménez	Others- Drake Bay
Regular Business	Nature Air	10.397	3.329	NR	NR
	Sansa	4.892	3.407	NR	NR
Special Service	Aeroparaiso	578	11	91	16
	Aires de Pavas.	NR	NR	NR	NR
	Alfa Romeo Aero Taxi S.A	51	NR	NR	NR
	Aviones Taxi Aéreo S.A.	30	5	NR	NR
	Heliservicios Aerolbell S.A	518	67	48	21
	Taxi Aéreo Centroamericano S.A	34	36	4	NR
Total of passengers		16.500	6.855	143	37

NR: No record

Puerto Jiménez includes the transportation of passengers to Carate.

Source: Own elaboration based on the Department of Planning, General Direction of Civil Aviation, 2009.

Chart 4:
Transportation of Passengers, according to the destination and origin Period 2008

Type of Service	Airline	Destination and origin			
		Puerto Jiménez - San José	Drake Bay- San José	Puerto Jiménez - Others	Drake Bay - Others
Regular Business	Nature Air	11.095	3.977	Nr	Nr
	Sansa	4.613	2.808	Nr	Nr
Special Service	Aeroparaiso	515	18	109	27
	Aires de Pavas.	Nr	Nr	Nr	Nr
	Alfa Romeo Aero Taxi S.A	76	Nr	Nr	Nr
	Aviones Taxi Aéreo S.A.	6	6	3	9
	Heliservicios Aerolbell S.A	436	64	130	29
	Taxi Aéreo Centroamericano S.A	25	11	Nr	16
Total of passengers		16.766	6.884	242	81

NR: No record

Puerto Jiménez includes the transportation of passengers to Carate.

Source: Departamento de Planificación, Dirección General de Aviación Civil, 2009.

According to the information provided by the airlines, was estimated that on average 80% of tourists that they transport are foreigners independently on the season. Each airline has a particular policy in relation to the fee, in some cases there is differentiation regarding national fees whose objective is to promote national tourism through discounts, in another ones the fee remains without variations, or even during through the year promotions are done to fill the occupancy of flights. Another factor that causes variations on prices of the ticket refer to changes in the price of fuel.



Photo 5: Tourists boarding a collective transportation Carate-Puerto Jimenez

Once in the area towards the PNC and the RBIC it can proceed to enter by sea through tour operators or hotels that provide that service. From Jimenez to Carate runs a service collective truck twice a day at a cost of ¢2000.00 colones per person for national tourists and \$8.00 for foreigners. In the case of Drake, a collective taxi transports tourists from the airstrip to the Drake Bay, from where in most of the cases they leave by boat to the hotel. In Drake Bay, there is neither repair shop nor gas station, the same one is provided every 15 days by an official of the area who facilitates the sale of liquid in barrels for users' monthly spending.

Tour operators

One of the most developed activities around the RBIC and PNC is Tour Operators, which is provided by hotels and at local level, who organize different trips according to season and type of tourists. The packages range from birds watching, hikes, scuba diving, snorkeling, visit to RBIC or to PNC, whales watching, sport fishing, and so on. In some cases, this service is offered by hotels to their guests but it is hired a local tour operator.



Photo 6: Tour Operator “Osa Canoeing” Drake Bay

Each tour operator must be certified by the ICT as well as diving instructors, no one can dive without the proper certification card. Moreover, the pangueros are forced to have life jackets when delivering the service and are given the ease of receiving trainings conducted on behalf of the rangers where they are taught to preserve and care for marine resources. They should ensure that

tourists pay the ticket that the island charges for the right to dive and perform other activities in waters near the Biological Reserve, or the admission in the case of the PNC. For the transportation to the island, the tour operators handle fees of around \$75, to San Pedrillo and Sirena \$85 and \$120 respectively (Gomez, 2009; Com. Pers.). To the RBIC traditionally they have worked it the same tour operators and tourist businessmen (Jiménez, 2007 in Sierra C. et al. 2007), among them we can mention Paloma Lodge, Marengo, Eco-manglares, Aguila de Osa, Jinetes de Osa, Casa Corcovado, Poor Man's Paradise, Caletas.

Related Activities

There are various activities related to tourism that have been located in the towns of Drake and Puerto Jimenez, mainly in the latter, they have been known as related since they indirectly contribute and benefit from tourism in the area. Among the activities identified are: Internet Cafe, supermarkets, grocery stores, gas stations and laundries.

5.3 Management

Management component is related to work performed by MINAET-SINAC in both areas, on matters within its competence and according to the administration of the PNC and the RBIC, in this sense is incorporated what is referring to incomes by ticket and sale of services at both sites. The PNC has 4 operational centers for tourist's attention, each one must have at least one ranger to help the tourists and charge for the admission, in the case of RBIC it is only found one operational center. Additionally, rangers patrol the whole ASP, and other tasks that the management and administration demand.

Under this concept, it is also included the management of governmental or nongovernmental organizations that have impact and link with MINAET in its tasks to protect and conserve.

5.4 Research and Education

Given the richness in ACOSA, many organizations develop studies, researches, projects, trainings and workshops, among others, what motivates a strong investment in different areas and topics. Some of the most representative organizations are MINAET, Universities, INBio, Corcovado Foundation, Keto Foundation, Sustainable Ecotourism Program of ACOSA, Nature Kids in Drake Bay, The Nature Conservation, among others.

6. SYSTEMATIZATION OF CONTRIBUTIONS OF CORCOVADO NATIONAL PARK AND CAÑO ISLAND BIOLOGICAL RESERVE

6.1 Contributions of PNC-RBIC to the local development: how and how much have the economic activities in Drake Bay and Puerto Jimenez benefited?

6.1.1 Profile of visitation and average expense of the tourist

Approximately 91% of tourists who visit both PNC and RBIC are foreigners, while 7% are national, the remaining 2% did not answer about their origin. High Season comprises the months from November to April; however, during 2009 according to the perception of entrepreneurs the visitation remained regularly in low season influenced mainly by national tourists compared to previous years.

In terms of origin 44% come from the American Continent according to the following origins of importance: United States (59%), Canada (16%) and National ones (16%); from the European Continent they visit both ASPS in 53,4% mainly from France (22%), Netherlands (21%), Germany (11%), Switzerland (8%), England (6%) and Spain (5%); from Asia come only 0,4% of the total of visitors. The main reason of the interviewed tourists is the enjoyment of Biodiversity of the area both in marine and terrestrial flora and fauna. For the rest, the reason for their trip is the searching of water and adventure activities.

In the case of interviewed tourists 58% organize their trips on their own while 41% through travel agencies or operators, the rest organizes it through a different way. The means of transportation to get to PNC and RBIC is mainly aerial and through boat or cruise. The time of average stay in the area is almost of 3 days; however, this datum cannot be taken into account for purposes of analysis as a measure of the real population value given that in the week were made surveys and this coincided with a great arrival of cruises to the area that mostly have a type of very short stay, which is of one day or two days (approximate time even of stay in Costa Rica). According to the perception of entrepreneurs, and conversation with local actors and officials the average time of stay can be approximately of 5 days and thus of greater stay in the country.

With regard to the cost of transportation, the majority of tourists travel with a package, which covers their costs since they will organize it on their own or with a tour operator. Additionally, it includes a variety of places besides of PNC-RBIC, the information gathered through the survey for transportation, followed by lodging are the bigger costs to visit Osa.

Chart 5, presents the average expense of the tourist to get to and enjoy the PNC-RBIC, excluding the cost of the air ticket, which on average is of \$1300 from their countries of origin to Costa Rica, in the case of those who travel by cruise the price exclusively for transportation was not possible to get it. For tourists who use aerial transportation refers to the cost of ticket from any region from Costa Rica to Drake or Puerto Jiménez, for these cases must be omitted the expense made regarding private or own car and vice versa.

Chart 5:
Average expense of the tourist per item

Item	Average Expense Colones*	Average Expense US\$
Food	₡37.541,25	\$71,34
Lodging	₡319.237,43	\$606,65
Total Cost of Lodging	₡3.746,76	\$7,12
Maritime	₡45.229,47	\$85,95
Air	₡79.655,44	\$151,37
Bus/Collective/Taxi	₡19.896,76	\$37,81
Own Car	₡36.020,44	\$68,45
Rented Car	₡436.223,62	\$828,96
Ticket to PNC	₡7.067,27	\$13,43
Ticket to RBIC	₡7.651,38	\$14,54
TOTAL	₡992.269,81	\$1.885,62

Source: Own elaboration

*Average Exchange rate to 2008: ₡526,23

48% of interviewees consider that must be improved the services that both ASPs provide, mainly the infrastructure, available information and the administration, to a lesser extent is mentioned the need of selling foods and beverages, lodging and availability of medicines.

In the query of whether tourists would be willing to pay more for the price of the ticket to improve the services offered, 41% agree to do so, given an availability of average payment of \$18.

6.1.2 Hotels

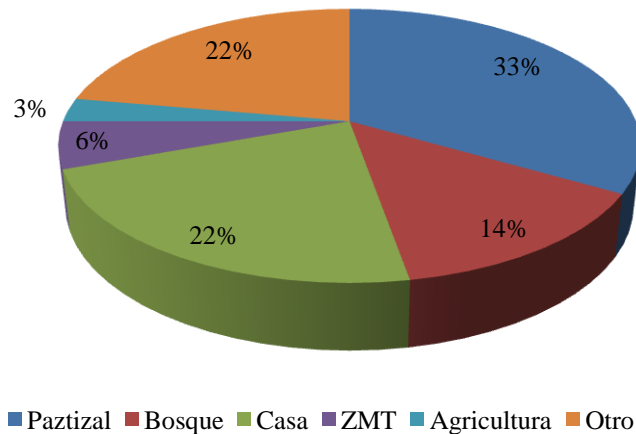
The descriptive statistical analysis of the activities related to the dynamics of accommodation, was made at a first stage taking into account separately the two local communities that are heavily influenced by the tourist activity of the RBIC and PNC corresponding to Drake and Puerto Jimenez. It is performed in this manner in order to be able to know the dynamics of each community, identify differences and similarities, and then estimate the total incomes and total expenses considering the aggregate.

It is important to note that for the consultation was suggested to interviewees to provide information regarding the last year ended for the activity, being this in 2008 considering their corresponding high and low seasons. Therefore, the estimates presented based on surveys and information provided are performed considering the year 2008.

6.1.2.1 Lodging in Puerto Jimenez

In the town of Puerto Jimenez and up to the La Leona Sector, are located 36 establishments that offer services associated with lodging. From that total of establishments for lodging, 39% corresponds to hotels, 39% to cabins that are located mainly in the area of Puerto Jimenez. 14% corresponds to vacation rental houses, which is fairly common in the area of Matapalo. In addition, services with the lowest proportion are areas devoted to camping (6%) and others which call themselves as guesthouses (3%).

Graph 1. Puerto Jiménez. Use of land before the construction of the business.



Source: Own elaboration

In Graphic 1 is showed the use of the land before the construction of the business, predominantly pasturelands, room infrastructure and the forest were the largest uses of the land. 60% of landowners use the land exclusively to the particular or related activity to tourism and only 33% still has the same use of the land before building their business.

With regard to the nature of the investment, the results show that 53% of the owners are of foreign origin (see Chart 6), being the majority (42%) American. Approximately 28% of infrastructure is locally owned (of local people from Puerto Jimenez and Carate), finding only one business whose owner is from the country's central region. It is noteworthy that 17% of interviewees did not provide information about the origin of the owner⁴. The age of the investment is variable; however, the majority (53%) takes more than 10 years of operation, and a relatively high percentage (28%) has less than 3 years of operation. The remaining is located in the range of 4 to 9 years of operation.

Similarly, 28% of interviewees expressed an interest to expand the capacity of their business in terms of basic infrastructure such as swimming pools, cabins, coffee bars and trails.

On the other hand, the provision of furniture is in a 58% carried out by the same owners and their family or produced by diverse local workforce, the remainder is purchased mainly in San Jose or even brought from abroad.

⁴ Only 11% of the businesses are rented

Chart 6:
Puerto Jimenez: origin of the owners (absolute and percentual relation)

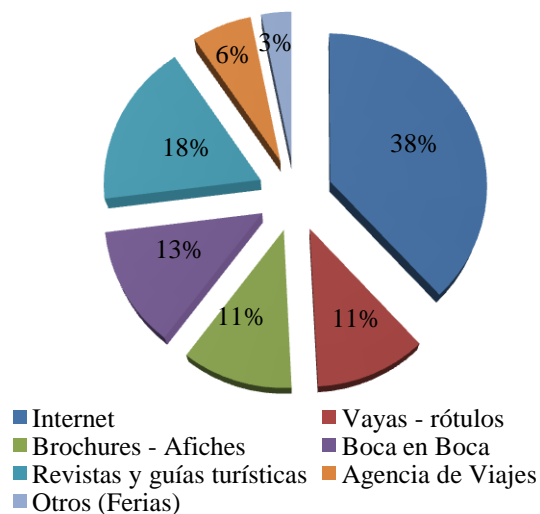
Place	Absolute	Relative
Puerto Jiménez	9	25%
Carate	1	3%
San José	1	3%
USA	15	42%
Spain	1	3%
México	1	3%
Italy	1	3%
New Zealand	1	3%
No answer	6	17%
Total	36	100%

Source: Own elaboration

The means of advertising used are often variants for each type of activity. As is presented in Graphic 2, excels particularly the use of the Internet in 38% of cases, these despite that in the area there is a significant lack of telecommunications infrastructure. The magazine and books represent 17% of the relative importance; the rest is due to billboards and signs (11%), brochures and posters (11%), mouth of mouth dissemination (13%). Only 6% refers to travel agencies and the remaining 3% to other means, for example at fairs.

97% of the infrastructure has less than 25 rooms, of which 56% have between 5 and 15 rooms. In relation to the tariff structure, prices per person per night differ from the type of occupancy rate in question and the season, as well as the type of tourist that is mostly foreign. The average fee per person per night in high season is \$ 80 and \$ 68 in low season (see Chart 7). However, these data are affected by the presence of extreme values, since is possible to find higher rates of \$ 300 or in contrary cases prices below \$ 20, depending on the type of lodging concerned and whether or not this include the food.

Graphic 2. Puerto Jiménez. Main means of advertising used by the business.



Source: Own elaboration

On average, are received monthly a total of 8919 tourists in high season and 4518 tourists per month during the low season for an annual estimated in 2008 of 76,106 tourists, who made use of businesses related to the

activity of lodging. All the interviewees agree that the economic crisis has affected demand for the services. However, only 81% considers that the difference in the occupancy rate is where from that group, 75% considers the difference in the occupancy rate is due to tourism has actually decreased.

From the total of visitors, and according to the perception of the same owners of the establishments, on average 68% are attracted by the Corcovado National Park, 29% visit the region in general by the richness of the Osa Peninsula or attracted by sport fishing, and only 3% arrives exclusively due to the fact of visiting Caño Island. It is clear that the majority of interviewees incorporate into the Osa Peninsula the RBIC and PNC. However, they consider that tourists do not come not only because of these two attractions but also because of other conservation areas nearby such as the Marino Ballena National Park, Térraba-Sierpe National Wetland and whale watching, among others.

Chart 7:
Puerto Jimenez. Estimate incomes, occupancy and fees per season and total for the hotel activity. Period 2008

Variable	High Season	Low Season	Total
Average price per room per person	\$80,56	\$68,34	
Monthly occupancy	8.919,00	4.518,00	76.106,00
Percentage of their national guests	17%	21%	
Percentage of their foreign guests	83%	79%	
Average income per business	\$115.116,62	\$39.257,26	\$154.373,88
Total income per season	\$3.913.965,12	\$1.334.746,83	\$5.248.711,95

Source: Own elaboration.

In relation to incomes generated from the activity in 2008 were generated approximately \$ 5,248,711.95⁵ just in respect of lodging as is seen in Chart 7. The average income per business in 2008 is \$ 68.634.83, due to a mostly occupancy of foreigners.

The activity of lodging generates employment approximately to 795 people in the area, of which only 10% corresponds to relatives (spouse and children of the owner), being the remaining 90% employees. This implies additionally that at least 85% of the workforce is local, mostly from Puerto Jimenez, Carate, Matapalo and La Palma. Considering as variable of approximation the expense incurred by the hotel establishments in wages, then, can be stated that in 2008 were generated about \$ 1,146,387 in incomes in respect of employment in the area.

Given the inaccessibility of some of the resorts and the relative lack of food choices, nearly a majority of tourist establishments combine the lodging activity with that one of a restaurant

⁵ For those Hotels that do not provided an approximate of their monthly income in the quality of accommodation, was proceeded to estimate the amount according to the data that they provided about monthly occupancy per season as well as the respective fee per season.

(47%), providing full services to visitors, situation that is more frequent as the activity moves away from Puerto Jimenez. This represents, per establishment, a monthly average of sales of \$ 12783, which allows the sector annually to obtain estimate incomes of \$ 378,818.

On the other hand, in relation to inputs that are used in the restaurant, like fruits and vegetables, are purchased from traders coming from places like La Palma, San Vito, and Perez Zeledon and San Jose (CENADA). Other inputs are purchased at big stores in San Jose, for example in Price Smart or in the South region.

An important source of incomes for establishments engaged in hotel and catering trade refers to the possibility of offering its guests diverse packages or tours, in order to appreciate the biodiversity of the peninsula, either through visits to the PNC, the RBIC or through adventure tourism. Chart 8 shows the complementary tourist options and the estimation of the annual incomes earned by the sector as the result of such offer, being sport fishing the activity that represents approximately 23% of the generation of incomes, followed by horseback ridings, whale watching and walking, which represent 14%, 13% and 12% respectively. The data were estimated using the fees per tour and the number of people who buy it monthly.

Chart8:
Puerto Jimenez. Estimate income for different tourist packages offered by the hotel activity.

Tours	Income Colones*	Income US\$
Sport Fishing	¢207.650.358,00	\$394.600,00
Horseback Riding	¢124.821.756,00	\$237.200,00
Whales and Dolphins Watching	¢121.243.392,00	\$230.400,00
Walks on trails	¢111.245.022,00	\$211.400,00
Birds Watching	¢82.723.356,00	\$157.200,00
Tour to RBIC	¢75.777.120,00	\$144.000,00
Canopy	¢59.463.990,00	\$113.000,00
Rappelling	¢47.150.208,00	\$89.600,00
Snorkeling	¢34.204.950,00	\$65.000,00
Turtles Watching	¢19.260.018,00	\$36.600,00
La Leona Operational Center	¢18.944.280,00	\$36.000,00
Kayaking	¢14.208.210,00	\$27.000,00
Piedras Blancas	¢4.841.316,00	\$9.200,00
Total	¢921.533.976,00	\$1.751.200,00

Source: Own elaboration

*Average Exchange rate to 2008: ¢526, 23

In relation to the expenses that hotel establishments have, the main item is represented by the wages⁶ that according to Chart 9 are 49% of the structure of annual costs of the sector. To a lesser extent is followed by food (22%) and beverages (12%) among the expenses with higher relative weight. The items of other services and other inputs, for most of them represent mainly the expenses of fuel used in electricity generation or, in some cases, as fuel for the boats. Likewise, for some businesses it refers to costs incurred to support alternative electricity generation systems.

Chart 9:
Puerto Jimenez. Estimate total expense per item.
Period 2008 (Dollars)

Item	Total Expense Colones*	Total Expense US\$
Wages	₡603.263.231	\$1.146.387
Food	₡278.327.257	\$528.908
Beverages	₡152.701.421	\$290.180
Other services	₡65.825.058	\$125.088
Electricity	₡52.514.597	\$99.794
Inputs	₡48.062.165	\$91.333
Water	₡10.848.231	\$20.615
Internet	₡10.183.603	\$19.352
Telephone	₡10.044.678	\$19.088
Cable TV	₡9.929.434	\$18.869
TOTAL EXPENSES	₡1.241.699.096	\$2.359.612,9

Source: Own elaboration

*Average Exchange rate to 2008: ₡526,23

So, within the sector stands out the environmental and social responsibility by many of the business. This is more visible as it is narrowed the gap between the business and the PNC or the Golfo Dulce Forest Reserve. There is high awareness of the need to protect and conserve biodiversity, given the benefits they provide in terms of tourism. Despite this, even the efforts are mostly individual so it is necessary to encourage in the aggregate behaviors in favor of the responsible environmental management at all levels.

With regard to water resource 44% of businesses get it through the network of aqueducts, 33% through an own spring and 22% through a concession what they say is a well. Meanwhile, in relation to the treatment of the resource once is used, only 19% has to give some sort of treatment to the water

⁶ For the cases in which the interviewees did not provide information about the monthly expenditure on salaries, was proceeded to estimate according to the information provided by them regarding the average salary that they pay and the amount of employees per season.

Solid wastes result in a problem of significant problem for many of the establishments. Only 17% has the municipal service of collecting wastes. The other sector also uses various techniques to dispose of wastes, 57% use them as organic fertilizer, 12% buries the organic wastes and 14% separates and uses the recycling process sending them to a recycling center.

About 36% of businesses visited have any program or private activity to protect wooded areas. It is excelled the fact that some of them have their private reserves where their tourists can perform a variety of recreational activities and scenic beauty contemplation. Additionally, further consultation on perception of the work of MINAET-SINAC in relation to PNC and the RBIC, 53% agrees with the work as it contributes to forest conservation, biodiversity, protection of natural and sea resources, through the work of monitoring and management of the same. Those who disagree with its work cite as the main reasons the lack of adequate infrastructure in the PNC-RBIC (trails, toilets, basic services, signage, inadequate facilities / infrastructure), the inefficiency in the system of reservations (many problems to book and stay at Sirena Biological Station) as well as the lack of economic, human, material resources (boats and vehicles) and proper training.

6.1.2.2 *Lodging in Drake*

Drake has an offer for accommodation lower compared to Puerto Jimenez. Limited access by land difficult to access inputs and supplies, lack of quality basic public infrastructure (communication networks, electricity, education, and health, among others) and commercial businesses such as banks, gas stations and supermarkets, in general they obstruct the possibilities of investment in the sector because their operating costs are high. A common feature of most of the 23 lodging options located from Drake to San Pedrillo Station is its approach to ecotourism, that is, their owners want their activities to have greater interaction with the natural environment and minimize its impact.

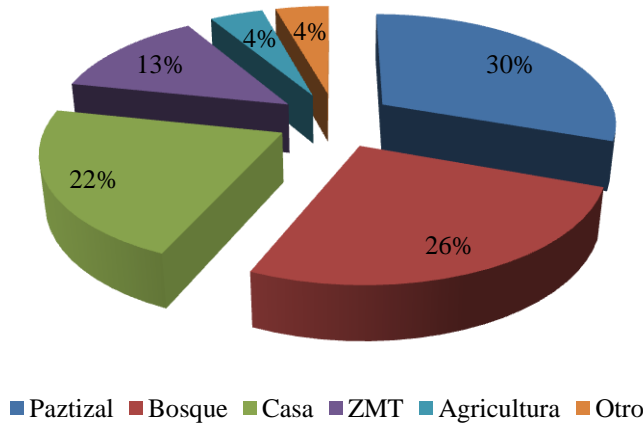
BOX 10.

Hotel Sector in Puerto Jiménez.

- 36 Number of options for lodging located from Puerto Jimenez to La Leona Operational Centre.
- Nature of the investment: 53% in foreign hands, 30% in national hands, 17% is unknown.
- 53% of hotels have been operating for over 10 years ago.
- 47% of the hotels have restaurant
- Internet: Main means used to advertise themselves, 38% of the hotels use it.
- 795 Number of people hired, 85% is in local workforce hands.
- Average rate: \$68 Low Season - \$80 High Season.
- 70106 Approximate number of visitors in 2008.
- \$5.248.711 estimate incomes earned by the sector during 2008.
- \$1.751.200 estimate incomes from the sale of Tours by the sector during 2008.
- \$ 378.818 estimate incomes from the sale at the restaurant in 2008.
- \$2.359.612, 9 estimate expenditures for the sector during 2008.
- 17% Percentage of establishments with service of municipal collection of wastes.
- 81% Percentage of establishments that do not treat their sewage.

Source: Own elaboration
Average Exchange Rate 2008 ₡526, 23

Graph 3. Drake. Usage of the land before the construction of the business.



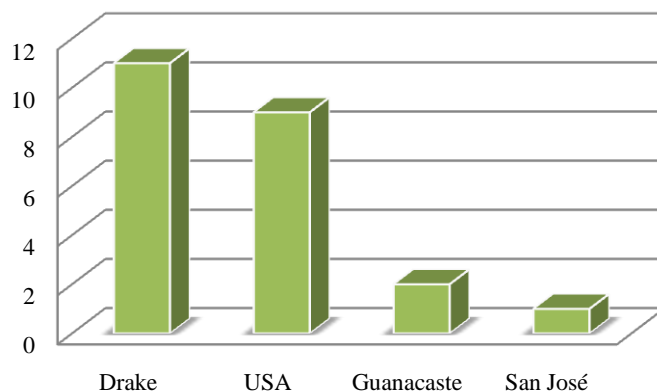
Source: Own elaboration

The 23 businesses are concentrated in Drake and the sector Agujitas, the rest is located in the coastal area and its access is mainly by sea. 52% are hotels, 43% are cabins and only 4% bungalows. With respect to the usage of the land before the construction of the business in Graph 3 is shown that most applications were aimed at pasturelands, followed by the forest and the mainly the residential usage in Drake. To a lesser extent is highlighted the terrestrial maritime zone and agriculture. 48% of owners dedicate the usage of land only to the particular or related activity to tourism and 52% still maintains the same usage of the land before constructing their business.

Drake is presented a less diversification with respect to the origin of the investment in relation to Puerto Jimenez, the results show that approximately 51% of the investment is of national origin, corresponding to 48% for local investment, 9% for owners from Guanacaste and 4% for owners whose origin is located in the province of San Jose (see Graphic 3), for its part, the 39% of the investment is foreign, exclusively American. Just as in Puerto Jimenez a high percentage of the investment has more than 10 years of operation, in this case 61%, 18% of the investment has a length of between 4 and 9 years, and 22% less than three years of operation.

Likewise, 30% of interviewees have expressed having interest in expanding the capacity of their business in terms of basic infrastructure such as swimming pools, cabins, coffee bars and trails. With regard to the provision of furniture they show several places depending on the particular needs of the business at any time; however, the places that area mentioned are mostly local ones such as La Palma, Sierpe, Palmar, and Puerto Jimenez, being local labor force and to a lesser extent are bought some tools in San Jose.

Graph 4. Drake. origin of the owners (absolute and percentual relation)



Source: Own elaboration

Advertising media used by the sector are diverse; they call the attention despite the lack of internet access use as an advertising means (35%), followed by brochures and posters which represent 18%. Other means that are used to a lesser extent are books and magazines, travel agencies, word of mouth and participation in fairs to publicize their businesses.

As was mentioned before, one of the characteristics of the investment is its approach to ecotourism, which influences the size of the installed capacity and the type of structures, their owners seek to alter as little as possible the natural environment. This is reflected in the size of businesses in which 61% have between 6 and 15 rooms, 21% have between 1 and 5 rooms and the remaining 17% have between 16 and 25 rooms. On average the fee per night per person in high season is \$157 and in low season \$128 (see Chart 10), approximately double of the average rates in Puerto Jimenez, most of the hotels operate under the system of all inclusive food. However, similarly, the data are affected by the presence of extreme values, because is possible to find higher rates of \$300 or in opposite cases prices between \$20 and \$40, depending on the type of accommodation.

On average are received monthly a total of 3212 tourists in high season and 1438 visitors per month during the low season for an annual approximate during 2008 of 26 462 tourists who made use of businesses related to the activity of lodging, it is worth noting that a great number of businesses reported not knowing exactly the number of tourists they receive, providing information quite conservative in this regard. 70% of interviewees report that the economic crisis has affected the demand for their services. However, as interesting is the perception that businesses keep on the differences in the occupancy rate, 86% have noticed differences in such rate; however, of them only 60% believe that is reflected in a decline in tourism, the remaining 40% the occupancy has increased.

In Drake, tourism depends exclusively on the presence of PNC and RBIC; the different actors say that if this activity does not exist, they would not have sources of employment, in the field is possible to establish that fact. From the total of tourists, and according to the perception of the owners of the businesses, on average 65% are attracted by Corcovado National Park, 32% by RBIC and 3% by other attractions in the Osa Peninsula, however, the differentiation is not valid as those who visit Drake has been found that both ASPS are visited due to its proximity and attractions, in this sense we could say that 97% of tourists are attracted by both ASPS.

Chart 10:
Drake. Estimate incomes, occupancy and fees per season for the hotel activity.
Period 2008

	High Season	Low Season
Average Price per room per person	\$157,70	\$128,75
Average of monthly occupancy	3.212,00	1.438,00
Percentage of their national guests	0,12	0,11
Percentage of their foreign guests	0,89	0,90
Monthly Average Income	\$21.701,59	\$6.087,63
Total incomes per season	\$2.469.141,77	\$676.212,68

Source: Own elaboration.

In relation to incomes generated from the activity during the year 2008 are generated approximately \$3,145,354.45⁷ just in the quality of lodging as is shown in Chart 10 presented per season. The average of monthly income per business during 2008 is approximately of \$ 27,789.22, as result of occupancy of foreigners in a 90%

The activity of lodging generates employment for approximately 520 people in the area, of which only 24% correspond to family members (spouse and children of the owner), being the remaining employees. Employment generation is mostly local, mainly from Drake, Agujitas, Rancho Quemado and La Palma, and to a lesser extent, less than 5%, from other regions of the country such as Perez Zeledon, San Jose and Puntarenas. In this respect, and considering the expense incurred by hotels in salaries during 2008, can be estimated around \$ 995,168.20⁸ USD in incomes in the quality of employment in the area.

Due to the geographical location of the hotels and the lack of adequate commercial infrastructure, the majority of tourist businesses hosting activity combine the activity of lodging with that one of a restaurant (83%), providing full services to visitors, both at the hotel and tours they offer, where are provided the respective snacks to their guests. According to the above, and considering the sales are made at the restaurant since in many cases this one is included in the price, this gives them estimate annual incomes of \$191,767.42.⁹ The inputs used to provide food service has a very diverse origin; however, given its relative proximity to Palmar Norte and Sierpe or the ease of moving to these places by boat, 60% of the inputs are acquired in these communities, it is also possible to

BOX 11.
Hotel Sector Drake

- 23 Number of lodging options located from Drake to San Pedrillo Operational Station.
- Nature of the investment: 39% in foreign hands (American), 51% national hands.
- 61% of hotels operate since over 10 years.
- 83% of hotels have restaurant
- Internet: Main means used to advertise it, 35% of hotels use it.
- 520 Number of people hired, 95% are local labor force.
- Average fee: Low Season \$128 – High Season \$157.
- 26 462 Approximate number of tourists served during 2008.
- \$3.145.354 Estimate incomes obtained (lodging) by the sector during 2008.
- \$3.055.983 Estimate incomes as result of the sale of Tours by the sector during 2008.
- \$191.767, 42 Estimate incomes as result of the sale in the restaurant during 2008.
- \$2.343.121 Estimate expenses for the sector during 2008.
- 28% Percentage of businesses that must take their solid wastes out by boat to Sierpe or Palmar.
- 52% Percentage of businesses that do not treat their sewage.
- 78% of businesses disagree with the work of MINAET-SINAC

Source: Own elaboration.
Average Exchange Rate 2008 ₡526, 23

⁷ For hotels that did not provide an approximate of their monthly income in the quality of lodging, was proceeded to estimate the amount according to the data provided on monthly occupancy per season as well as monthly the respective fee per season.

⁸ For hotels that did not report their approximate expense on salaries, this one was proceeded to be estimated according to the number of employees reported and the average salary reported. In cases where there were no reported salaries, was considered an average salary of \$358, according to the values reported by other businesses.

⁹ Incomes considering only five hotels which actually reported the amounts of sales in its restaurant, six of the businesses with restaurant reported not knowing the amount of their monthly or weekly sales.

find individuals who take mainly vegetables and legumes from San Vito, Perez Zeledon and even Cenada in Heredia.

As in Puerto Jimenez, a major source of incomes for the businesses devoted to lodging is diversified into the supply of packages or tours, mainly to Sirena Station or San Pedrillo in PNC and to RBIC, both are searched activities related to tourism of eco-tourism or adventure tourism. In chart 11 is presented the complementary tourist options and the estimation of annual incomes earned by the sector, and as result of such offer the incomes amounted to \$3,055,983.75, in this sense, the Sirena Station is the one that generates most of the incomes (23%) followed by diving practice with a 18%, visitation to San Pedrillo Station and whales watching each one of them with a relative participation in total incomes of approximately 12%. Similarly, the visitation to RBIC and sport fishing contribute each one in about 9% to the generation of total incomes. For the rest of activities their percentual participation represents less than 4%.

Chart 11:
Drake. Estimate income for different tourist packages offered by the hotel activity.
Period 2008.

Tours	Income Colones*	Income US\$
Sirena Station	₡376.096.581,00	\$714.700,00
Diving	₡288.795.024,00	\$548.800,00
San Pedrillo	₡193.507.926,75	\$367.725,00
Whales Watching	₡187.975.933,88	\$357.212,50
Tour to RBIC	₡151.751.576,25	\$288.375,00
Sport Fishing	₡141.845.296,50	\$269.550,00
Horseback Riding	₡70.567.443,00	\$134.100,00
Snorkeling	₡63.936.945,00	\$121.500,00
Canopy	₡61.674.156,00	\$117.200,00
Birds Watching	₡31.073.881,50	\$59.050,00
Camping	₡22.049.037,00	\$41.900,00
Sierpe Mangrove	₡5.999.022,00	\$11.400,00
Night Tour	₡4.341.397,50	\$8.250,00
Kayaking	₡3.799.380,60	\$7.220,00
Walks	₡3.039.636,04	\$5.776,25
Canoes	₡1.381.353,75	\$2.625,00
Surfing	₡315.738,00	\$600,00
Total	₡1.608.150.328,76	\$3.055.983,75

Source: Own elaboration

*Average Exchange rate to 2008: ₡526,23

With regard to expenses incurred by hotels, the main item is represented by salaries¹⁰, that according to Chart 12 are 42% of the structure of annual costs of the sector. The next most important item is presented by the generation electricity combined to fuel consumption or maintenance of equipment for the generation whose relative weight of 22% is followed by food (15%) and other services (9%) among the expenses with greater relative weight. Items of beverages and inputs represent 5% and 4% respectively, for the rest of expenses (internet, telephone, cable TV and water) in an aggregate way their weight in the cost structure is barely 2%.

Chart 12:
Drake. Estimate total expense per item.
Period 2008

Item	Total Expense Colones*	Total Expense US\$
Salaries	¢523.687.256,64	\$995.168
Electricity	¢272.513.994,03	\$517.861
Food	¢186.346.462,68	\$354.116
Other services	¢115.410.132,45	\$219.315
Beverages	¢59.257.707,84	\$112.608
Inputs	¢49.829.771,16	\$94.692
Internet	¢11.242.903,95	\$21.365
Telephone	¢10.986.629,94	\$20.878
Cable T.V	¢1.914.950,97	\$3.639
Water	¢1.830.964,66	\$3.479
Total	¢1.233.020.774,32	\$2.343.121,40

Source: Own elaboration

*Average Exchange Rate to 2008: ¢526, 23

The relationships of social responsibility and environmental management in the sector of Drake are very similar to those outlined in the case of Puerto Jimenez; however, it is observed a higher degree of integration between the activities that take place in Drake. This does not mean that efforts are the best; there are still large gaps in areas or subjects despite the awareness of the need to protect and conserve biodiversity.

With regard to water resource 35% of businesses get it through the network of aqueducts, 43% through own spring and 22% through concession what they point as well. For its part, in relation to the processing of the resource once it is used, 48% say it is given some type of water treatment.

¹⁰ For cases in which interviewees did not provide information about the monthly expense on salaries, was proceeded to estimate according to information provided by them regarding the average salary they pay and the number of employees per season.

With regard to solid wastes, they are a serious problem due to lack of adequate roads to allow the flow of garbage trucks, 28% of interviewees state that should address the relocation of the garbage on their own taking it to Sierpe or Palmar by boat. Only 22% have municipal garbage collection (which is fairly recent and discontinuous). About 22% bury the organic wastes, while 17% recycle by sending them to a recycling center, the burning of garbage occurs in 8% of cases. Given the proximity of hotels to RFGD, 44% of the businesses visited have any program or private activity for the protection of forest areas as in the area of Puerto Jimenez. With regard to the perception of the work of MINAET-SINAC in relation to PNC and RBIC, it calls the attention that only 22%, while 78% say they are dissatisfied due to lack of adequate infrastructure in the PNC-RBIC (trails, toilets, basic services, signage, inadequate facilities / infrastructure), the failure in the reservations system mainly and lack of resources.

6.1.3 Coffee Bars and restaurants: estimation of generated incomes

6.1.3.1 Food in Puerto Jimenez

Puerto Jimenez, despite being a relatively small town, it has 21 feeding options, of which 11 are restaurants, 7 coffee bars, 2 pizzerias and 1 coffee shop, being underdeveloped commercial establishments, that is, regarding the supply and product quality as well as small size. Most establishments are an option for tourists who are passing through or visiting the area to continue his visit to PNC or RBIC. It is noteworthy that despite being in a place rich in marine resources there are no restaurants or coffee bars in that area, but also promotes the local dishes of the area based on seafood, just as the traditional Costa Rican dishes are little used and evidence deficiencies in handling and preparing food to provide a better customer service.



Photo 7: Restaurant in Puerto Jimenez

According to the origin of the owner, 62% of the investment is national, primarily from Puerto Jimenez (52%), only 10% is investment by foreigners, 26% did not provide information on the origin of the owner. 52% of establishments have less than 3 years of operation, 29% have between 4 and 9 years of being working and the remaining 19% has been operating for over 10 years.

The use of the land before building the business is varied, in the center of the town 21% corresponded to a house, which now became a restaurant or coffee bar, even maintaining such an

occupation, 74% of current occupations were previously grassland or scrubland and only 5% Terrestrial Maritime Zone; of the total 33% of the establishments keep the same prior use of land and 62% use it for restaurant or even is combined with other activities, 5% of the interviewees did not answer in relation to the current situation in the land use. Although in the area, infrastructure of most coffee bars and restaurants is rudimentary and basic, only 13% of interviewees expressed interest in expanding the capacity of their business in terms of a greater infrastructure to provide more and better services such as cabins and bars, 69% did not answer the question.

With regard to the provision of furniture is difficult to summarize information to some places or suppliers since it varies depending on what is needed. In general terms, 47% of businesses make purchases in Puerto Jimenez, 26% in San Jose, 16% in Golfito (mainly in the warehouse of Golfito), 5% is acquired in Perez Zeledon and the remaining 5% in some other places. On the other hand, in relation to the inputs used in the restaurant for food preparation, beverages, and others 59% of them are obtained locally, that is, in Jimenez, 15% is brought from San Jose, 11% from Perez Zeledon and from Golfito and Canoas are brought in each case 7% of the required inputs.

Regarding the ways of promotion, the most used way by the various establishments refers to the signs and billboards (46%), word of mouth, posters and local guides are advertising media used at a rate of 15% each, also internet and magazines are only used in 2% of cases.

The average price for food is \$4 for breakfast, where is quite common the Gallo Pinto, like lunch, which has an average cost of \$4 where usually the most common option is the traditional "Casado", the dish of the day or rice with squid, shrimp, etc, the average cost of dinner is \$5; prices are considered without including the consumption of beverages or other kind of side dishes. In relation to incomes¹¹ for the period under analysis, during the low season total sales amounted to \$423,697.21 doubling these incomes in high season to be approximately \$906,674.32, for a total estimate in 2008 of \$ 1,330,371.53. In low season 43% of customers are foreigners while in high season that number amounts to 54%.

In Puerto Jimenez, the activity generates employment for approximately 152 people in the area, of which 47% are family members (spouse and children of the owner), being the remaining 53% employees. Employment generation is mostly local, mainly from Puerto Jimenez around 52%; it is also an important source of employment for the community of La Palma since 20% of employees come from this area, and 8% from Cañaza, another community near Jimenez, and to a lesser extent in other regions such as Carate (4%), Agujitas (8%), San Jose (4%) and San Vito (4%). In this respect, and considering the expense incurred by the hotel establishments in wages during 2008, are estimated around \$ 493,365.90¹² in incomes in the quality of employment in the area.

76% of the interviewees said have noticed a difference in the number of customers, for 4% the situation remains similar, and 19% did not answer the question. With respect to those who have

¹¹ For businesses that did not report directly to the amount of sales per season proceeded to estimate them according to the average price of each plate and reported the approximate number of dishes that are sold weekly or monthly.

¹² Estimated according to the number of employees reported and the average salary reported.

noticed a difference, 80% believe the same is reflected in a reduction in the number of customers served with respect to the previous period, mainly due to the economic crisis. It should be noted that all businesses consider that their customers are attracted by the biodiversity that exists in Osa, distributed as follows: 76% consider that it is exclusively due to the PNC, 27% relates it to other attractions near Puerto Jimenez and activities such as sport fishing, and only 1% is attributed to the RBIC.

With respect to the expenses incurred by establishments, the main item is represented by wages. According to Chart 13, represent a 50% of the annual cost structure of the sector. The following most important item is represented by food and beverages with 27% and 14% respectively; 7% are constituted by the expenses on electricity; the remaining items represent less than 2% in its cost structure.

Chart 13:
Puerto Jiménez. Estimate total expense per item.
Period 2008

Item	Amount Colones*	Amount US\$
Wages	¢259.623.990,18	\$493.366
Food	¢139.466.736,90	\$265.030
Beverages	¢73.117.553,58	\$138.946
Electricity	¢33.744.498,75	\$64.125
Water	¢6.833.622,78	\$12.986
Other services	¢2.746.394,37	\$5.219
Telephone	¢2.024.933,04	\$3.848
Cable T.V	¢624.635,01	\$1.187
Internet	¢210.018,39	\$399
TOTAL EXPENSES	¢518.392.383,00	\$985.106,10

Source: Own elaboration

*Average Exchange Rate to 2008: ¢526,23

The consultation also takes into account aspects that have relation with the management that businesses carry out regarding different aspect of environmental management. For instance, in terms of the water resource 86% of the businesses get it through the network of aqueducts, and, only 14% through an own spring. For its part, in relation to the process of water once is used, 81% said it needs some kind of water treatment, it is likely that in most cases they refer rather it does not go directly to the river or sea.

Regarding solid wastes, 79% of local businesses have municipal collection, 4% say that they bury them and the remaining practices the separation and recycling before disposing of them. However, when they are asked if he/she practices the separation and recycling, only 48% engage in this practice.

With regard to the perception of such establishments on the work of MINAET-SINAC in relation to PNC and RBIC, 52% of interviewees agreed with its work, while the remaining say they are dissatisfied due to lack of regulations at environmental level, excessive bureaucracy, poor running tasks, lack of control over hunting and illegal mining.

6.1.3.2 *Food in Drake Bay*

Drake Bay has only 3 options for food, specifically one restaurant and two coffee bars, factors such as remoteness with respect to most hotels, the lack of infrastructure and transportation cost of inputs have not helped to improve the supply of this type of businesses in the place. The businesses are an option for tourists who are passing through or visiting the area. As in Puerto Jimenez there is no a supply of quality based on seafood or native dishes of the area.

According to the origin of the owner, the total investment is national, particularly from Drake, having from 1 to 6 years of being in operation. Regarding the use of the land before the construction of the business, two of the businesses remodeled its house to offer food service; in the third business, the land use before its construction was forest. Although infrastructure in the area of coffee bars and restaurants is basic, just one of them expressed being interested in increasing it. Regarding the provision of furniture all the interviewees stated that it has been obtained in San Jose. For his part, regarding the ways to promotion, the most used means by businesses refers to signs, billboards and Word of Mouth; the availability of few places to eat makes the propaganda not an important aspect for owners.

The average price for food and type of food is similar to that presented in Puerto Jimenez to be approximately \$4 for breakfast and \$5 the average prices for dinner or lunch, prices are considered without including the consumption of beverages or other kind of side dishes. In

BOX 12 **Coffee Bars and Restaurants in** **Puerto Jimenez**

- 21 number of options for food located in Puerto Jimenez and its surroundings.
- Nature of the investment: 62% in hands of national people (52% local), 10% in foreign hands.
- 52% of the hotels work since less than de 3 years.
- 152 Number of hired people, 52% are local labor force (Jimenez).
- \$1.330.371 Estimate incomes obtained by sales on the establishment. 2008.
- \$985.106 Estimate expenses for the sector during 2008.
- 79% Percentage of establishments that have collection of municipal wastes.
- 52% of the establishments do not agree with the work of MINAET-SINAC

Source: Own elaboration.
Average Exchange Rate 2008 ₡526, 23

relation to incomes¹³ for the period under analysis, during the low season total sales amounted to \$12,300.00 doubling these incomes in high season to be approximately \$115,200.00 for an estimate total of \$127,500.00 in 2008. In low season 27% of customers are foreigners while in high season that number rises to 87%.

Being family businesses, the activity does not generate jobs outside the family, during the low season 6 people work and during the high season 8 people work in total, being relatives of the owner of the business. In this respect and considering the expense incurred by businesses in wages during 2008, so it can be estimated around \$23,244¹⁴ in incomes in the quality of employment in the area. For two of the businesses have been given changes in demand being these changes negative, that is, they have noticed a reduction in the number of tourists who use their services product due to the economic crisis. All of the businesses believe their customers are attracted by the biodiversity that exists in Osa, mainly 67% by the PNC, and 33% directly by the RBIC.

In relation to expenses incurred by businesses, the main item is represented by wages (43%) (see Chart 14), the following important item is represented by food and beverages with 34% and 13% respectively, 6% are constituted by the costs of electricity, the remaining items represent about 4% in its structure of expenses.

Chart 14
Drake. Estimate total expense per item.
Period 2008

Item	Total of expenses Colones *	Total of expenses US\$
Wages	¢12.231.690,12	\$23.244
Food	¢9.619.484,40	\$18.280
Beverages	¢3.625.724,70	\$6.890
Electricity	¢1.830.569,99	\$3.479
Water	¢463.082,40	\$880
Telephone	¢430.798,19	\$819
Other Services	¢64.726,29	\$123
Internet	¢0,00	\$0
Cable TV	¢0,00	\$0
TOTAL EXPENSES	¢28.266.076,09	\$53.714,30

Source: Own elaboration

*Average Exchange Rate to 2008: ¢526,23

¹³ For businesses that did not report directly to the amount of sales per season, was proceeded to estimate them according to the average price of each dish reported and the approximate number of dishes that are sold weekly or monthly.

¹⁴ Estimate according to the number of employees reported and the average salary reported

In terms of water resource, 100% of the businesses get it through the network of aqueducts. In relation to the processing of the resource once it is used, two of the businesses report that is given some type of treatment to the water, it is likely they refer rather it does not go directly to the river or the sea.

Regarding solid wastes, given the difficulties of collection is chosen to bury the organic wastes and separate the recoverable wastes.

BOX 13
Coffee Bars and Restaurants in Drake

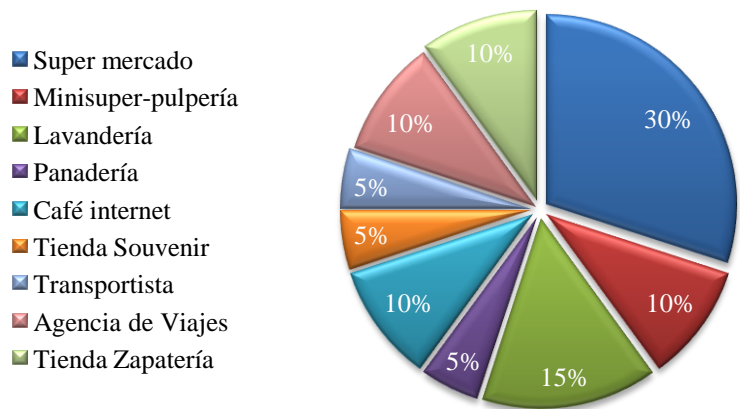
- 3 Number of options for food located in Puerto Jimenez and its surroundings.
- Nature of the investment: 100% in hands of national people (local).
- The totality of the businesses has among 1 and 6 years of operation.
- Purely family employment: 6 people in low season and 8 in high season.
- \$127.500, 00 Estimate incomes obtained by the sales on the establishments. 2008.
- \$53.714,3 Estimate expenses for the sector during 2008.

Source: Own elaboration.
Average Exchange Rate 2008 ₡526,23

6.1.4 Related Activities: estimation of generated incomes

In the towns of Puerto Jimenez and Drake Bay were identified a total of 20 related activities, that is, commercial activities indirectly linked to tourism. Given their particular characteristics, each business provides support to some extent to the demand of tourists because of different services among them: supermarkets (30%) and laundries (15%), minimarket, shopping stores, internet cafes, travel agencies, each one of them with a relative participation of 10% within the total supply and finally other activities with a relative participation of 5% each such as carriers, bakeries and souvenir shops.

Graph 5. Puerto Jiménez- Drake. Type of Establishments. Related Activities



Source: Own elaboration

50% of businesses have among seven and nine years of providing services, 30% are recent businesses, which are among one and three years and the remaining 20% have among 4 and 6 years old. In the query where have they obtained their furniture and work equipment, half of them

said have done it in Puerto Jimenez, a 23% in San Jose, a 14% in Golfito, 9% in Perez Zeledon and 5% in different places. Moreover, when they are asked about the origin of the goods they use in their businesses, both San Jose (32%) and Puerto Jimenez (32%) are the places from where they obtain the goods mainly, Perez Zeledon provides them inputs in a 14%, additionally places such as Paso Canoas (9%), Palmar Norte (9%) and San Vito (5%).

The sector is clear that a high percentage of their incomes come from sales to tourists who visit OSA, on average about 42% of the customers they serve are foreigners and the remaining are nationals. Similarly, when they are asked about what percentage of their incomes comes from tourism, the answer reflects that on average 41% of their incomes comes from sales to tourists, which is quite consistent with the percentage of foreigners they serve. This is reflected in an estimate income from tourism of \$1,077,911.75 in low season and \$1,549,690.08 in high season for the corresponding period. In parallel, it is generated employment for about 216 people of which 149 are employees and 67 relatives.

Chart 15 presents the costs structure for businesses called related activities, the same ones have been estimated as part of the total, as way to reflect the expenses incurred in providing services exclusively to tourists, for it was considered that the expenses represent 41% of the total expenses, considering the percentage of incomes that depends on tourism and the percentage of visitors they receive.

Chart 15:
Puerto – Jiménez. Drake
Estimate Total Expense per item. Period 2008

Item	Total of expenses Colones *	Total of expenses US\$
Wages	₡76.894.253,67	\$146.123
Rent	₡8.782.726,08	\$16.690
Electricity	₡20.951.794,83	\$39.815
Agua	₡3.264.678,30	\$6.204
Telephone	₡2.075.398,50	\$3.944
Internet	₡658.787,34	\$1.252
Cable TV	₡436.192,05	\$829
Cleaning	₡2.244.844,56	\$4.266
Maintenance	₡420.931,38	\$800
Other Services	₡9.969.900,96	\$18.946
TOTAL EXPENSES	₡125.699.507,64	\$238.868

Source: Own elaboration
 *Average Exchange Rate to 2008: ₡526, 23

Wages represent the largest item in the structure of expense for a 61%, followed by the expense on electricity by 17%, other services 8% and 7% renting. The remaining items represent each one less than 2%.

In terms of environmental management, businesses linked to related activities have little or almost no relationship with institutions related to tourism, of which 94% do not have any relation with other institutions. The perception on the work of MINAET is relatively good, 45% of interviewees say they agree, only 25% disagree with this work and 30% do not know or do not answer.

95% of businesses use water from the aqueduct and only 35% of them said to try somehow sewage. Regarding solid wastes, 40% practice the separation and recycling, and 85% of businesses manage their wastes through the municipal collection.

BOX 14
Related Activities in Drake and Puerto Jimenez

- 20 Number of related activities identified in Puerto Jimenez and Drake.
- 50% of the establishments have among 7 and 9 years of operation.
- 216 hired people: 149 employees and 67 relatives
- \$2.627.601,82 Estimate incomes from tourism. 2008.
- \$238.868 Estimate expenses for the sector during 2008.
- 95% of local people use water coming from an aqueduct
- 40% practice the separation and recycling of wastes.
- 45% agree with the management of MINAET

Source: Own elaboration.
Average Exchange Rate 2008 ₡526, 23

6.1.5 *Tour operators*

Tour operators work as an important complement of tourist supply around the PNC and RBIC to the extent they offer lot of packages offered to tourists or to the hotels in the area. It is a relatively consolidated activity, of which 7 businesses interviewed 43% of them are over 10 years offering their services, 14% are among 4 and 6 years of being settled and 43% less than 3 years of being in operation. 71% of businesses are planning on expanding its capacity in the future with respect to the basic infrastructure to improve their services.

The activity takes advantage of diverse advertising spaces to provide their services mainly internet, which is used in a 46% by tour operators, followed by brochures and posters in a 23%, also are used in a 15% the billboards or advertising signs, the word by mouth (8%) and fairs (8%). Furniture is bought mainly in Puerto Jimenez, San José and Golfito and to a lesser extent in Pérez Zeledón. Regarding the goods that they use to offer their services 36% of them get them in San José, in the case of Puerto Jimenez and in Golfito inputs for this activity come from those places in each case in an 18%, in a 9% from Paso Canoas and the remaining come from different places.

The businesses consider that all customers are attracted by OSA Conservation Area, in particular 73% of them attracted by the PNC, 13% by RBIC and 11% for other attractions such as sport fishing or hotel. Of all customers they receive an average of 14% are national while the remaining 86% are foreigners.

Chart 16 shows the supply of different packages offered by tour operators and the estimate annual income for each tour to the towns of Puerto Jimenez and Drake. The estimation was made especially for each tour so that was avoided double counting, that is, although in some cases a single tour can incorporate different activities was tried to separate through the survey applied for incomes, which exclusively belonged to each part of the tour.

Chart 16:
Puerto Jiménez. Drake
Estimate total income by the different offered tours.
Period 2008 (Dollars)

Tour	Incomes Colones*	Incomes US\$
Sirena Station	₡125.463.756,60	\$238.420,00
Snorkeling	₡109.087.479,00	\$207.300,00
La Leona Operational Center	₡79.534.402,20	\$151.140,00
Tour to RBIC	₡78.208.302,60	\$148.620,00
Los Patos Operational Center	₡64.210.584,60	\$122.020,00
Whales and Dolphins Watching	₡54.222.739,20	\$103.040,00
Selling of Crafts	₡37.888.560,00	\$72.000,00
Sport Fishing	₡35.862.574,50	\$68.150,00
Kayaking	₡34.941.672,00	\$66.400,00
Birds Watching	₡33.552.424,80	\$63.760,00
Surfing	₡24.880.154,40	\$47.280,00
Canopy	₡21.470.184,00	\$40.800,00
San Pedrillo Operational Center	₡19.533.657,60	\$37.120,00
Diving	₡18.828.509,40	\$35.780,00
Horseback Riding	₡18.341.746,65	\$34.855,00
Walks on trails	₡10.356.206,40	\$19.680,00
Food	₡7.956.597,60	\$15.120,00
Turtles Watching	₡6.735.744,00	\$12.800,00
Camping	₡4.630.824,00	\$8.800,00
Canoes	₡3.536.265,60	\$6.720,00
Night Tour	₡4.736.070,00	\$9.000,00
Total	₡793.978.455,15	\$1.508.805,00

Source: Own elaboration

*Average Exchange Rate to 2008: ₡526, 23

16% of incomes come from the tours offered to Sirena Station, 14% of snorkeling activities mainly in the vicinity of the RBIC, the third and the fourth important places have it the visit to La Leona Station and to RBIC, each one of them contributes to 10% in the generation of incomes coming from the supply of packages (tours), followed by tours to Los Patos Operational Center (8%) and whales watching (7%). The rest of activities, not least important, represent a total of

about 36% of incomes. In total the activity generated in 2008 a total of \$1,508,805, allowing the generation of employment from a total of 30 people in high season and 23 people in low season.

Chart 17 shows the structure of expenses of the activity for 2008, in total expenses amounted to a total of \$114.379, 7. Wages represent the largest relative weight in that structure (39%), fuel represents 11% of the annual expenses mainly due to the mobilization of passengers to different destinations, other activities have a relative weight of about 9% each one such as cleaning, electricity and maintenance; renting has a percentage of 8%, telephone costs are about 7% of the total of costs and internet approximately of 4%, the other costs represent each one 1% of the total expenses.

Chart 17:
Puerto – Jiménez. Drake
Estimate total expense per item. Period 2008 (Dollars)

Item	Total of annual expenses Colones*	Total of annual expenses US\$
Wages	¢23.379.872,67	\$44.429
Fuel	¢6.871.511,34	\$13.058
Maintenance	¢5.533.834,68	\$10.516
Cleaning	¢5.426.483,76	\$10.312
Electricity	¢5.423.326,38	\$10.306
Renting	¢4.679.763,39	\$8.893
Telephone	¢4.234.572,81	\$8.047
Internet	¢2.250.869,89	\$4.277
Cable TV	¢846.888,25	\$1.609
Other Services	¢807.763,05	\$1.535
Water	¢735.143,31	\$1.397
TOTAL EXPENSES	¢60.190.029,53	\$114.379,70

Source: Own elaboration

*Average Exchange Rate to 2008: ¢526,23

6.1.6 Maritime and terrestrial transportation

The maritime transportation of people (tourists) and goods is visible mainly in Drake Bay, this for the difficulties of mobilizing to hotels, tourist destinations or the places from where commercial businesses get goods and inputs (Sierpe and Palmar) linked to tourism, in Drake they exclusively engaged in maritime transportation of 5 people. With regard to terrestrial transportation at Drake there is an option that mobilizes the tourists from the airstrip to the place where there is a boat waiting to take them to their final destination, for its part, in the case of Puerto Jimenez terrestrial transportation takes from this town to Carate twice a day moving tourists who have as final destination Sirena Station.

In general the activity is fairly familiar using a year on average 5 family members and 8 employees. According to information provided by interviewees they mobilize on average a 70% of foreigners and the remaining 30% are nationals, likewise, they consider that 88% of their incomes come from tourism.

The average cost per trip per person is \$6.61 for national people and \$10.83 for foreign people. During the period 2008, in the quality of maritime and terrestrial transportation was generated \$56,088.25 in low season and \$112,075.49 in high season, for a total of \$168,163.74 directly or indirectly from tourism.

Following Chart 18 shows below the structure of expenses of that sector. Given the type of activity, fuel expense represents 58% of the total, followed by the wages expense, which represents 23%, as well as the item of maintenance 15% (third highest). The other items jointly add up approximately 4% of the expenses.

Chart 18
Drake Bay. Terrestrial and maritime transportation
Estimate total expense per item. Period 2008

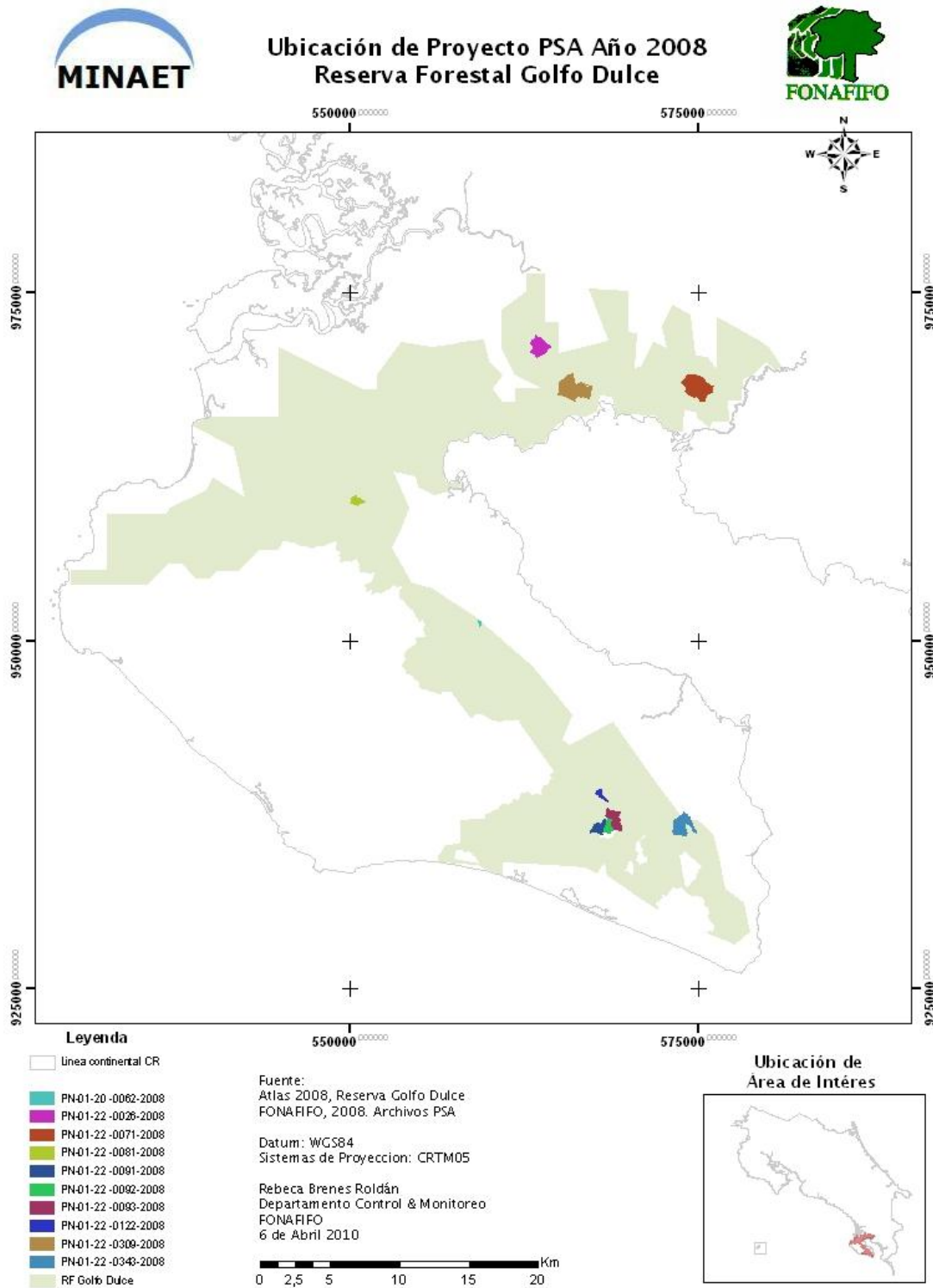
Item	Total of annual expenses Colones *	Total of annual expenses US\$
Fuel	¢43.617.768,09	\$82.887,27
Wages	¢17.459.237,89	\$33.177,96
Maintenance	¢11.631.403,77	\$22.103,27
Cleaning	¢958.512,16	\$1.821,47
Telephone	¢926.206,90	\$1.760,08
Other Services	¢646.189,39	\$1.227,96
Electricity	¢215.396,46	\$409,32
Water	¢64.621,04	\$122,80
Total	¢75.519.335,71	\$143.510,13

Source: Own elaboration
 *Average Exchange Rate to 2008: ¢526,23

6.1.7 Payment for Environmental Services (PSA)

Although both the PNC and the RBIC do not receive payment for environmental services was considered and in particular to the case of PNC its area of influence. Golfo Dulce Forest Reserve works as a buffering zone to Corcovado National Park and other nearby ASP, in this sense is taken into account those properties which receive PSA and are closer to the park or the towns of Puerto Jimenez and Drake as shown in Figure 2.

Figure 2. Payment for Environmental Services in Golfo Dulce Forest Reserve Period 2008



Source: FONAFIFO, 2009.

More precisely, Chart 19 provides a list of beneficiaries paid in RFGD. Directly in the catchment area of the park for the selected projects were paid in 2008 a total of 435 hectares, which represents a total amount of \$142,424.

Chart 19.
Golfo Dulce Forest Reserve
Hectares and amounts paid by Environmental Services. Period 2008

Number of contract	Modality	Beneficiary	Area (Ha)	Cost (C)***	Cost (\$)
PN-01-20 -0062-2008	Reforestation	Reforestation Cañitas De Osa S.A.	7	¢2.791.123,92	\$5.304,00
PN-01-22 -0026-2008	Protection	Méndez Duarte Alfonso*	31	¢5.253.880,32	\$9.984,00
PN-01-22 -0071-2008	Protection	Leiva Leiva Ana Cecilia*	285	¢48.059.533,44	\$91.328,00
PN-01-22 -0081-2008	Protection	Picado Elizondo Nautilio	36	¢6.028.490,88	\$11.456,00
PN-01-22 -0091-2008	Protection	Corcovado Forests Conservation.	79	¢13.319.933,76	\$25.312,00
PN-01-22 -0092-2008	Protection	Corcovado Forests Conservation.	53	¢8.975.378,88	\$17.056,00
PN-01-22 -0093-2008	Protection	Corcovado Forests Conservation.	116	¢19.584.175,68	\$37.216,00
PN-01-22 -0122-2008	Protection	Tours Rio Nuevo S.A.	29	¢4.816.056,96	\$9.152,00
PN-01-22 -0309-2008	Protection	Reforestation Los Mogos De Osa*	297	¢49.996.059,84	\$95.008,00
PN-01-22 -0343-2008	Protection	López García Juan	115	¢19.432.621,44	\$36.928,00
Total	10 contracts		1048,5	¢178.257.255,12	\$338.744

Source: National Fund of Forest Financing (FONAFIFO), 2009.

*Beneficiaries out of the area of influence of the Park

**Average Exchange Rate to 2008: ¢526, 23

6.1.8 Water extraction for commercial and domestic purposes

Recognizing the existence of the PNC and therefore the creation of the Golfo Dulce Forest Reserve as a buffering zone, it is possible to consider that both natural areas contribute as aquiferous recharge zone and protection for water sources. This helps surrounding communities to have access to water resource in quantity and quality.

Various organizations manage the resource in the area mostly Associations of Rural Aqueducts (ASADA). Chart 20 shows the list of organizations, which perform a water resource management to allow the distribution to residential and commercial sector. Based on these results, we proceeded to estimate the income earned by each ASADA or aqueduct during 2008. In this sense, the incomes earned in the quality of drinking water services amount to \$273,152.

Chart 20. Puerto Jiménez – Drake
Income in the quality of service of drinking water. Period 2008

ASADA / AQUEDUCT	Subscribers -2009	Fee ¢ / m3	Demand m3 / month / subscribers	Annual Demand (m3)	Supply (L/s)	Annual Supply (m3)	Collected Amount colones**	Collected Amount US\$
La Palma*	920	¢50	18	216	NR	291,6	¢19.342.509,81	\$36.756,76
Palo Seco	110	¢75	20	26.400	28	27.000	¢1.877.362,36	\$3.567,57
Sándalo	540	¢110	20	166.284	23,2	Nd	¢15.384.881,33	\$29.236,04
AYA -Puerto Jiménez	N.D	N.D	N.D	18.920	N.D	21.269	¢85.341.487,07	\$162.175,26
Dos Brazos Río Tigre	58	¢1.350	NS	NS	2,19		¢329.962,00	\$627,03
Cañaza	N.D	N.D	N.D	N.D	N.D	N.D	¢15.360.224,82	\$29.189,19
Drake*	146	¢105	35	44.100	N.D	N.D	¢6.104.833,70	\$11.601,08
Total:							¢143.741.261,09	\$273.152,92

* It has measurements only for 2009; therefore, it is used as reference for the estimation of incomes to 2008.

** Average Exchange Rate to 2008: ¢526,23

No data are available on the ASADA in Matapalo because they are just beginning the process of structuring of the same. Yet they are not charging any kind of fee. Thanks to the data from members by Rafael Núñez, administrator of the committee, they have 1 water collection in Bosque del Cabo and other water collection in Punta de Matapalo. There is no ASADA in Carate and Rincón

6.1.9 Volunteering

The ASPs receive annually an important contribution of volunteers through various programs. Volunteering develops within each ASP various tasks ranging from maintaining the infrastructure of shelters and operational centers up to maintain trails, but besides, there is also an important contribution in terms of research, which in some cases they do linked to projects of graduation (bachelor's, master's or doctor's degree) and which generate relevant results for the management of these areas.

In the case of PNC different organizations contribute to the supply of volunteers, in close coordination with the administration, among them we can mention: a-) Volunteers Association for the service of Protected Wildlife Areas (ASVO) - occasional national and international volunteering program and ongoing national in activities for Control and Protection, Environmental Education and Investigation and Projection, "b") Volunteers Program for Protected Wildlife Areas (PROVCA)-this program no longer exists ", c-) Volunteers and Projects for the support of Conservation Areas, d-) National Youth Movement (MNJ), e-) Surveillance Committee on Natural Resources (COVIRENAS), f-) Travels Works and g-) local volunteers. For 2008 the total supply of volunteers was of 186 (see Chart 21).

As mentioned above, volunteering plays a fundamental role in implementing different activities that take place in the ASP; however, the contribution of volunteerism is not explicitly quantified.

For the case of PNC, was proceeded to make an estimation assuming the cost that would have to hire these type of services by ACOSA, for the calculations was considered the total number of volunteers according to the different programs, the average number of working days of each volunteering program per week that is about 6 days, in the case of the volunteers program and project and the local volunteers program the average length of stay in the Park is of one month for the rest of programs was considered of 15 days.

For its part, according to conversations with the administration of the PNC, was taken as a measure of the daily cost per person the minimum base salary of a ranger, which is of 231.900.00 colones (Human Resources-SINAC, 2009). In this way the estimated economic contribution of volunteerism in the PNC, for 2008 is approximately of \$61,134.46 (see Chart 21), being the volunteers program and projects which has the biggest contribution with approximately 54% from the total.

Chart 21.
Estimation of the economic contribution of the different programs of
Volunteering Corcovado National Park Period 2008

Volunteering Program	Number of volunteers	Estimate Contribution colones*	Estimate Contribution US\$
Association of Volunteers for the Service of Protected Wildlife Areas	54	¢5.591.917,32	\$10.626,38
Volunteers and Projects for the Support of the Conservation Areas	70	¢18.121.956,17	\$34.437,33
Youth National Movement	48	¢5.799.028,29	\$11.019,95
Local Volunteers	8	¢1.933.011,18	\$3.673,32
Travel Works	1	¢120.809,25	\$229,58
Committee of Surveillance of Natural Resources (COVIRENAS)	5	¢604.064,68	\$1.147,91
Total	186	¢32.170.786,89	\$61.134,46

Source: Own elaboration based on information provided by Arce, E., 2009; Mesén C., 2009; and Matarrita L. 2009.

*Average Exchange Rate to 2008: ¢526,23

6.1.10 Management of Non-Governmental Organizations

Various NGOs such as foundations, NGOs, associations, among others carry out in OSA and in particular in the areas of influence of the PNC-RBIC, different programs and projects for the improvement of social, economic and environmental conditions of the area.

The Nature Conservation (TNC)-International Conservation

The Nature Conservation (TNC) is one of the organizations that have worked in recent years in OSA through several programs. The main contribution has been on the framework conservation program between TNC and the Moore Foundation (completed in 2008) and with funding of \$11 million U.S. dollars (\$8 million provided by the Moore Foundation and \$3 million by the TNC) (Lopez and Kogel, Conv. Pers; 2009). The program's objective was to equip the staff of the National Parks in Osa, to create management plans for all seven protected areas in the Osa Conservation Area in which are included the Corcovado National Park and Cano Island Biological Reserve, to purchase lands in the Osa Biological Corridor and strengthen local organizations.

Among the goals implemented with incidence on the PNC and RBIC are:

- Construction or improvements to three checkpoints at Los Patos Operational Center (PNC), in Los Planes and in Rancho Quemado.
- Transfer of resources to Sirena Biological Station and the improvement on the Operational Center in Caño Island and La Leona Operational Center in PNC.
- Purchase of equipment: Vehicles, GPS, uniforms, equipment for the Operational Centers and Sirena Biological Station.
- Recruitment of 67 officials for ACOSA (this ruled from 2005 to 2007) paid by the Moore Foundation grant. Of the total of officials recruited, 27 were for working directly at the PNC paid by TNC and they were relocated to be in tenure vacancy.
- Management Plans (including planning of the ASP, organization and proposal of the methodology of collection)

Under the auspices of the TNC, is currently in force the PROMEC - ACOSA Ecological Monitoring Program for the Osa Conservation Area. This program is part of the Terrestrial Ecological Monitoring Program of Protected Areas and Biological Corridors of Costa Rica (PROMEC-CR). The initiation of this program was in August 2007 and is in charge of the National Biodiversity Institute (INBio), Osa Conservation Area (ACOSA) and The Nature Conservancy (TNC). The eagerness of the project is to contribute to the conservation in OSA and generate scientific information about the state of biodiversity for future decision-making regarding management of the country.

National Biodiversity Institute (INBio)

The National Biodiversity Institute (INBio) during 2008 developed the project entitled "Activities of Technical Coalition of Osa in Golfo Dulce Forest Reserve and Térraba Sierpe Wetland" at a cost of \$9,000. Additionally, the Institute invested \$175,000 in the project on Ecological Monitoring in Osa (Obando Vilma, 2009).

Women Association of Osa

Locally, Women Association of OSA has as an objective to provide participation to women in the area for them to contribute to the conservation of the peninsula. In addition supporting various programs for the improvement of the environment, as well as, providing information for hotels in the area to make tourists aware of the environmental protection.

Another of the goals includes the continuous environmental education aimed at schools and colleges in the area and especially of the community. The Association is responsible for visiting home by home to housewives to encourage them to recycle and provide information on how to do it. The projects have been carried out since 2005 and until 2009, with an amount of approximately \$7,500.00 per year (Watts Tao, 2009)

Keto Foundation

Keto Foundation is a nonprofit organization focused on the study of biology, management and conservation of marine and coastal resources. It was created to reduce the lack of information and minimize the impact caused by solid wastes pollution, sonic disturbance, chemical wastes in the oceans, and illegal hunting or fishing.

During the period 2007-2008 developed a project in order to determine the behavior of dolphins in presence of boats to confirm behaviors and the potential disturbance of the dolphins under the water caused by the engines in Drake Bay, with an amount of \$12,000 (Montero Andrea, 2009).

CR-USA Foundation

CRUSA is a private foundation, Costa Rican, independent, nonpartisan and nonprofit, which has two key strategic orientations: support for projects framed under its four areas of interest (environment, education, science and technology and strategic capacity), and management and promotion of long-range initiatives, alliances and support networks.

Campaign to save the Osa Peninsula: initiative to collect funds and contribute to the conservation of the Osa Peninsula. Specifically, their purposes were to support the consolidation of the Corcovado National Park and Piedras Blancas National Park, and the other protected areas of the Peninsula, and promoting the creation of biological corridors among the areas. Since the beginning of their activities, the campaign was managed and operated with funds provided by partner institutions of the Campaign (CRUSA Foundation, The Nature Conservancy, International Conservation and National System of Conservation Areas). In total, CRUSA contributed from its own resources around 1.5 million dollars just to support the operational costs of the campaign during their five years of operation and provided a similar amount to cover counterparts made to the Equity Fund created as part of Campaign. The initiative finished on December 31st, 2008, and was collected \$20 million.

OSA's Friends Foundation

OSA's Friends Foundation has as mission to conserve nature in the Osa Peninsula, both terrestrial and marine through the awareness in the use and management of land in the peninsula, besides, to encourage scientific researches, to promote environmental education programs. In the area of environmental education, they work with MINAET, Women of Osa, Lapa Rios, Rana Group of the College of Puerto Jimenez. They are in constant communication with TNC, CEDARENA, Technological Institute. They support Projects of Keto Foundation.

The Foundation develops several projects among them are: Friends of the Bamboo Monkeys Census in Carate, Environmental Education Project in the communities of Piro, Rincon, Escondido, Project on water quality through invertebrates, Marine Turtle Project in Piro beach and in Carate beach, Cat Project from Matapalo up to Carate, Volunteer Scholarships Program for Volunteers, Monitoring Project of Amphibians. Most of the funds received by the Foundation are provided by EverGreen Foundation. For previous projects are given about \$500 to spend annually on operational and project expenses.

In lands purchasing has been invested approximately \$5,000,000. OSA's Friends Foundation has three blocks of properties: Piro, Cerro Osa, Cerro Arbolito. There are approximately 1,600 hectares in total. The lands are managed by the organization; however, most of these are part of the OSA Mixed Wildlife Refuge (Saborío Guido, 2009).

Pro Parks

Pro Parks has project in force since 2007 whose objective is to propose a plan of action that contributes to compliance standards in order to ensure the welfare of the species exhibited due to the problems that are being generated in the activity of watching. The project seeks an approach to a proposal to sensitize the general public and actors involved with the whales watching. The investment amount is \$7,000.00, approximately \$2,500.00 per year (Echeverri Rocio, 2009).

International Conservation

Various projects have been implemented with several donors such as TNC, CI, Moore Foundation, and CR-USA, among others. Some of the projects executed are the following: Training members of civil society of Osa in ecotourism for them to perform as nature guides and specialized culture. To make maps of the marine environments of Caño Island Biological Reserve, in order to continue a consolidation of a baseline of information concerning marine ecosystems of ACOSA. Ecological, socio-economic and institutional assessment of sectors of Punta Burica, Fila Cruces, Térraba-Sierpe National Wetland and Golfo Dulce Forest Reserve.

Elaboration of 6 management plans that cover the seven priority protected areas of the Osa Conservation Area (ACOSA): Piedras Blancas National Park, the Golfito National Wildlife Refuge, Corcovado National Park, the Caño Island Biological Reserve, the Golfo Dulce Forest National Reserve, Marino Ballena National Park and Térraba-Sierpe National Wetland. The invested amounts fall within the funding previously considered by the TNC.

FundaOsa

The Foundation for Sustainable Development of Osa supports with resources the development of productive-friendly initiatives with the environment through the Funds of Communal Trusteeship of OSA at the same time it manages a fund for the micro financing of families in poverty, and it puts resources in this same direction of FIDEIMAS.

To develop projects such as: woodwork, tourist farm project, a project module of pigs with biodigestor, project, crafts, bakery project, and deep-sea fishing project. The total amount to which previous projects amount to is approximately \$14.414.00 colones (Cubillo Roberto, 2010)

Box 15 presents a summary of projects and amounts invested in 2008, approximately the total investment in the area in several activities and projects amounts to \$12,715,500.

Box 15.
Economic contribution of the main projects executed in PNC-RBIC and their surroundings. 2008.

Institution	Summary of the Project or Activity	Economic Contribution
Moore Foundation. TNC - CI	Conservation Program PROMEC -ACOSA. Ecological Monitoring Program for OSA Conservation Area	\$11.000.000,00
INBIO	Activities of the Technical Coalition of Osa in Golfo Dulce Forest Reserve and Térraba Sierpe Wetland Monitoring Project in Osa	\$9.000,00 \$175.000,00
Women Association of Osa	Recycling Center, Tuna Campaign, Río Tigre Campaign, Wild Cats Campaign, Communal Environmental Education Campaign, others.	\$7.500,00
Keto Foundation	Potential effect of tours for whales watching and other recreational activities for the behavior of dolphins of Drake Bay.	\$12.000,00
CR-USA Foundation	Campaign for Conservation of Corcovado. Osa on your skin II	\$1.500.000,00
OSA's Friends	Friends of Bamboo, Monkeys Census in Carate, Project of Environmental Education in the communities of Piro, Rincón, Escondido, among others. Purchasing of Lands.	\$500,00 \$9.000,00
Pro Parks Association	Collection of satellite information applied to the protection of PNC Plan of action for marine whales watching	\$2.500,00
Total		\$12.715.500

Source: Own elaboration

6.1.11 Summary of the incomes generated at local level by the PNC-RBIC

Local contributions of the economic activities that are developed through the existence of the PNC-RBIC amounted to ₡21.644.942.352 (US\$41million) in 2008; which represented 44, 41% from the total contributions. As it has been developed previously, local contributions generated by productive activities located in the communities of Puerto Jimenez and Drake Bay, these ones have been consolidated by the existence of the park, as it is presented in chart 22. One of the economic activities that provides the most to local level is air transportation with 48, 34% due to most of tourists arrive directly to the airport of Puerto Jimenez because of the remoteness of the area.

The second activity that generates most incomes is projects and organizations in the PNC-RBIC with 30, 91% given that in the area and its surroundings are executed a great number of projects. Another strong activity is the hotel activity with 13, 97% due to the big number of hotels through the demand of tourism, especially in Puerto Jimenez. The restaurants and related activities represented 4, 14% and the rest (2, 64%) in the quality of water, tour operators, food, maritime and terrestrial transportation, PSA and volunteering.

Chart 22.
Systematization of the local contributions of Corcovado National Park
Period 2008

SCOPE-SCALE OF THE CONTRIBUTION OR BENEFIT	BENEFITED ACTIVITIES AND CLASSIFICATION OF USERS		TYPE OF CONTRIBUTION (GOODS/SERVICE/EXTERNALITY) VALUED ACCORDING TO SOURCES		% of contribution
	Type of Activity	Type of user / benefited	Incomes		
			Colones	US\$	
LOCAL LEVEL	Air transportation	Owners of Businesses	₡10.463.809.910	\$19.884.480	48,34
	Projects-Organizations	Local Organizations	₡6.691.277.565	\$12.715.500	30,91
	Hotels and cabins	Hotel PJ	₡2.485.061.766	\$4.722.387	11,48
		Hotel DK	₡538.278.934	\$1.022.897	2,49
	Restaurants and Coffee Bars	Owners of Businesses	₡452.633.519	\$860.144	2,09
	Related Activities	Other activities (supermarkets, souvenir shops, internet etc.)	₡442.471.192	\$840.832	2,04
	Water	Municipality of OSA	₡143.741.261	\$273.153	0,66
	Tour Operators	Owners of Businesses	₡142.726.679	\$271.225	0,66
	Food	MINAET-SINAC	₡89.330.153	\$169.755	0,41
	Maritime and terrestrial	Transportation	₡88.492.805	\$168.164	0,41
	PSA	RFGD	₡74.947.782	\$142.424	0,35
Volunteering	MINAET-SINAC	₡32.170.787	\$61.134	0,15	
Local Total			₡21.644.942.352	\$41.132.095	100
Percentage of participation in total incomes generated					44.91%

Source: Own elaboration

6.2 Contributions of PNC-RBIC to the regional development: how and how much have the economic activities in the south area, which excludes to Puerto Jimenez and Drake Bay benefited?

The specific contributions to regional development are difficult to determine for this case study. Firstly, regional scale refers to the geographical region known as South Zone, which excludes Puerto Jimenez and Drake by being considered local action areas around the PNC and RBIC, and includes places such as San Vito, Palmar, Perez Zeledon and Golfito. Secondly, there is a multiplicity of widely dispersed small chains at the regional level even some not clear and well defined by the businesses at national level. In this sense specific regional activities that support tourist activities are few and among them are considered the generation of incomes in the quality of municipal patents, the sale of fuel and provision of agricultural inputs, being the most visible ones.

This does not mean that only those are the contributions to regional development, it should be clear that are the most tangible and concrete. However, subsequently, they are detailed as result of various activities analyzed at local level, what percentage of those incomes remains at the regional level, improving the estimation of the contributions that different productive chainings generate at regional level.

6.2.1 Patents and taxes

The various commercial businesses pay a fee or patent in the quality of commercial activity they do, this mechanism generates an income that is distributed regionally. This income is collected by the municipality under the patent scheme, in this case were considered patents granted for activities directly or indirectly linked to tourism such as restaurants, cabins, hotels, Minimarket, Canopy and craft workshops mainly.

In the case of Drake, the jurisdiction of the territory belongs to the Municipality of Osa, in this case for the period 2008 the municipality earned an estimate amount of \$17,350.99 in the quality of patents linked to the mentioned activities.

Puerto Jimenez being part of the canton of Golfito is the municipality located in that canton responsible for collecting the amounts in the quality of patents; however, despite several phone calls and meetings with officials, the information was not provided.

6.2.2 Sale of fuel

Drake Bay, given its geographical location does not have any formal distributor of fuel, that is, is not possible to find gas stations being the closest options, Puerto Jimenez, Sierpe or Chacarita, all of them at less than hour and a half on vehicle through inaccessible roads. The demand for fuel caused that in an informal way the service of distribution of fuel is offered in those places being their customers: hotels, restaurants, taxi drivers and boatmen. It should be noted that the fuel is

sold at market price and what is charged is a significant amount of two thousand colones per customer concerning transportation service or hire charge of the same, regardless of the amount of fuel purchased.

According to information obtained from the dispenser, weekly are sold about 10,000 liters of fuel, of them 2000 liters are sale of diesel and 8,000 liters correspond to gasoline distributed as follows: 5,000 liters of premium gasoline and 3,000 liters of regular gasoline in high season, in low season sales down to 8,000 liters every 15 days distributed in proportional terms in the same way than in high season.

In some cases, the hotels must purchase the fuel in Sierpe, where it is estimated that in high season are sold 20,000 liters of gasoline every 10 days, where 80% are premium gasoline that is sold to hotels.

According to the above, and based on the average price of the respective hydrocarbons and the estimations of the quantity of liters sold monthly, for 2008 is estimated a total income from the sale of fuel at the local level of \$771,552, 24

6.2.3 *Other regional suppliers*

An attempt was made to know the incomes in the quality of the sales that make different furniture stores at regional level as suppliers to Puerto Jiménez and Drake; however, we can get only complete information from one of them where their sales are mainly made to owners of commercial businesses related to tourist activity like hotels and restaurants, 25% of their sales are made to Puerto Jiménez and Drake about 75%. The monthly sales to tourism-related businesses amounted on average to about 150 million colones, per month about \$ 27,000.

6.2.4 *Summary of the Incomes Generated at Regional level by the PNC-RBIC*

The regional contributions of the economic activities that are developed through the existence of the PNC-RBIC amounted to ₡4.677.818.673 (US\$8 million) in 2008; which represented 9, 71% from the total contributions. As it has been developed previously, the regional level represents the productive activities that are benefited directly from the activities that are related to the PNC. According to chart 23 the activities that generate a greater income at regional level in 2008 are hotels from Puerto Jimenez and Drake with 67, 94%.

The second activity that generates most incomes is the related activity with 10, 64%, followed by the sale of fuel 8, 68% and tour operators with 7, 63%. The activities of lesser generation are restaurants, agricultural inputs and patents with 5, 11%.

Chart 23.
Systematization of the Regional Contributions of Corcovado National Par
Period 2008

SCOPE-SCALE OF THE CONTRIBUTION OR BENEFIT	BENEFITED ACTIVITIES AND CLASSIFICATION OF USERS		TYPE OF CONTRIBUTION (GOODS/SERVICE/EXTERNALITY) VALUED ACCORDING TO SOURCES		% of contribution
	Type of activity	Type of user / benefited	Incomes		
			Colones	US\$	
AMBITO REGIONAL	Hotels and cabins	Hotel DK	¢2.556.824.938	\$4.858.759	54,66
		Hotel PJ	¢621.265.441	\$1.180.597	13,28
	Related Activities	Other Activities (supermarkets, souvenir shops, internet etc.)	¢497.780.091	\$945.936	10,64
		Sale of fuel	Gas Stations	¢406.013.935	\$771.552
	Tour Operators	Enterprises in the region whose sales remain in Costa Rica by selling PNC	¢356.816.698	\$678.062	7,63
	Restaurant	Suppliers	¢199.465.619	\$379.046	4,26
	Regional Inputs	Suppliers (Food and Beverages, souvenir shops, other equipment)	¢30.521.340	\$58.000	0,65
	Patents	Municipality of OSA	¢9.130.611	\$17.351	0,20
Regional Total			¢4.677.818.673	\$8.889.304	100
Percentage of participation in total incomes generated					9.71%

Source: Own elaboration

6.3 Contributions of PNC-RBIC to national development: how and how much have the economic activities in San Jose and not regional benefited?

6.3.1 Contributions in the quality of Management of MINAET-SINAC

6.3.1.1 Visitation

During 2008, the PNC was visited by a total of 24,945 tourists (see Chart 24), of which 19% were national people. Likewise, they stayed in the park's facilities and 4731 tourists used the camping area, that is, 18% of visitors. For its part, the RBIC received a total of 19,497 tourists, of whom approximately 31% were national people. Both areas received a total of 44,442 visitors.

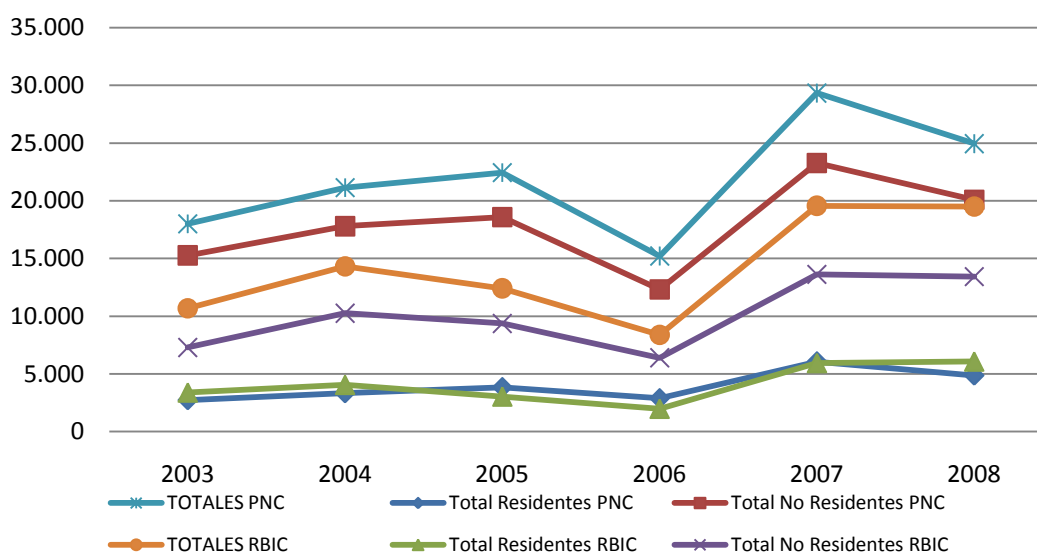
Chart 24.
Visitation Corcovado National Park and Caño Island Biological Reserve
Period 2008

PNC - RBIC	Residents			Non residents			Total Visitors	Stay overnight
	Paid	Exempt	Total		Exempt	Total		
La Leona	827	210	1.037	742	29	4.391	5.428	742
Sirena	1.012	22	1.034	1.540	109	4.380	5.414	1.540
Los Patos	372	11	383	644	58	1.340	1.723	644
San Pedrillo	2.409	0	2.409	1.805	0	9.971	12.380	1.805
Total PNC	4.620	243	4.863	4.731	196	20.082	24.945	4.731
Total RBIC	5.964	109	6.073		0	13.424	19.497	
TOTAL	10.584	352	10.936	4.731	196	33.506	44.442	4.731

Source: Own elaboration based on information provided by MINAET-Puerto Jiménez. Eliécer Arce, Administrator of Corcovado National Park.

Graph 6 shows the data of visitation for the PNC and RBIC over the past 5 years (period 2003-2005). The behavior of visitation is very similar in both ASP; in the case of PNC visitation remained growing until 2005, significantly reduced (32%) in 2006; however, with a significant recovery in 2007 where it reaches almost 30,000 visitors, then it falls during 2008 to 24,945 visits. Although RBIC shows similar behavior compared to the PNC, the decline in tourism is noted since 2004, recovering during 2007 and remaining stable for the 2008.

Graph 6. PNC-RBIC. Visitation: residents and non residents.
Period 2003-2008



Source: Own elaboration based on data from PROESA-ACOSA-SINAC.

6.3.1.2 Incomes got by SINAC in the PNC-RBIC

SINAC through the administration of Corcovado National Park and Caño Island Biological Reserve receives incomes coming from the collection of tickets for the enjoyment of the scenic beauty. The ticket for foreign tourists has a cost of \$10 and 1,600 colones for national people in each protected area.

In the case of PNC, it is provided food service and accommodation; in both cases it should be made a reservation with at least one month in advance. The food service has a cost of 3,000 colones for national people for breakfast, 8000 colones for lunch and dinner, while for foreigners is of \$12 for breakfast and \$34 for lunch and dinner. As for the overnight service, either in the shelter (only available at Sirena Station) or through camping, it costs \$8.00 and \$4.00 respectively.

In both ASPS is charged a fee for anchorage, in the case of RBIC is of \$4.00 and of \$2.00¹⁵ in PNC. If the tourist wants to dive, he/she must pay \$4.00 per person and the tour operator with who he/she travels will be the one who provides the equipment for the activity.

Chart 25 shows the incomes received by the administration of each ASP in 2008. The PNC in the quality of tickets and sale for their services collected a total of \$359,867.13 and the RBIC generated \$136,254.15, raising the joint amount between the two areas to \$326,366.32. In the first case, the sale of services represents approximately 56% of their total incomes and in the second one 14% approximately.

Chart 25.
Incomes Corcovado National Park – Caño Island Biological Reserve.
Period 2008 (US dollars*)

Park /Station	Tickets	Lodging and Camping	Food	Total
PN Corcovado				
La Leona	\$34.391,54	\$987,57		\$35.379,11
Sirena	\$49.108,30	\$1.936,76		\$51.045,06
Los Patos	\$4.854,56	\$15,82		\$4.870,38
San Pedrillo	\$71.407,37	\$27.410,25		\$98.817,62
Total PNC	\$159.761,77	\$30.350,41	\$169.754,96	\$359.867,13
RB Caño Island	\$117.721,49	\$18.532,66		\$136.254,15
TOTAL (Dollars)	\$277.483,26	\$48.883,06		\$326.366,32
Total PNC	¢84.071.436,23	¢15.971.296,25	¢89.330.152,60	¢189.372.879,82
RB Caño Island	¢61.948.579,68	¢9.752.441,67		¢71.701.021,35
TOTAL (Colones)	¢146.020.015,91	¢25.723.732,66		¢171.743.748,57

Source: Own elaboration based on data provided by PROESA-ACOSA.

* The incomes reported in colones were converted to US\$ using the average exchange rate (BBCR) for each month respectively.

¹⁵ Provided that the boat transports less than nine people, on the contrary, it should paid to the National Park \$9.

The incomes generated by food service are used as a cyclical fund (Arce, 2009; Com. Pers.), that is, the amount of money generated by this concept is again re-used for the purchase of inputs needed to provide food service again in Sirena Station. For example, for 2008, where was generated \$169,754.96, 90% was used for the purchase of inputs and the remaining 10% in the purchasing of equipment and maintenance.

6.3.1.3 Funds from the State Budget

The incomes generated in the quality of service sale (Chart 3), with exception from the income in the quality of food, are all transferred to the Central Government, which later decides via national budget the amount to be transferred to each ASP; however, there is a significant difference between what each ASP generates and what finally it receives.

In the case of the PNC in 2008 in the quality of admission was sent by giro an amount of ¢78.574.200.00 and ¢16.524.416.00 by other services, for an approximate total of \$179,329.84 in dollars, this is approximately \$10,782 less than that generated that same year. For its part, the RBIC received during that same period a total of ¢55.149.296.00 for admission and ¢8.427.950.00 by other services, which is approximately \$119,889.21.

6.3.2 Aerial Transportation

Aerial transportation is an activity developed mainly at national level, since it is mostly in charge of Nature Air and Sansa; however, there are also local airlines that provide aviation service. It was consulted to each airline about the number of trips made to the towns of Puerto Jimenez and Drake in both ways considering different origins and destinations according to season, besides, was consulted for the average number of passengers per trip and the respective average fees for each season. The above information allowed estimating the incomes earned by the airlines passenger as result of the transportation of passengers to and from areas near the PNC and RBIC. For 2008 a total of 1,560 flights to mobilize 34 632 in low season was made, while in high season, was made a total of 3,048 flights for a total of mobilized passengers of 126.14; this represented for 2008 an estimate income in the quality of aerial transportation of \$57,496,156.57.

The activity generates direct employment to some 33 people as pilots, co-pilots, operatives, rampers, mechanics and others, which according to the average salaries paid in each case, means an income in the quality of employment of approximately \$286,746. Of the main inputs used by the sector is found fuel that is dispensed in San Jose in this sense in the quality of journeys made to and from the area of interest were spent approximately \$3,720,968 on fuel during 2008. Most airlines have their own workshop of services, materials and vehicle parts are brought from foreign countries.

6.3.3 Provision of agricultural inputs

The availability of legumes, fruits and vegetables in general in quantity and quality is a daily necessity of hotels, restaurants, minimarkets, and supermarkets, among others, both at Drake and in Puerto Jimenez. In both areas there is no a formal development of agriculture due to the supply is relatively incipient compared to demand. Therefore, some traders in the South Zone have seen this as an opportunity for income generation, is thus that greengrocers from areas such as San Vito, Palmar Norte and Perez Zeledon (5 in total) distribute this type of products on different days a week. Traders order from CENADA (Heredia) vegetables or they go directly to get it to CENADA because according to what they comment the quality and the price is much better than in some other places.

It was proceeded to interview to each one of the traders, they were asked directly what percentage of their sales or incomes are generated directly from the sale to the towns of Puerto Jimenez and Drake; according to information provided was estimated for 2008 an income in the quality of the activity of approximately \$58.404.24.

6.3.4 Summary of the incomes generated at national level by the PNC-RBIC

The national contributions of the economic activities that are developed through the existence of the PNC amounted to ₡21.875.011.704 (US\$41millones) in 2008; which represented 45, 39% from the total contributions. As it has been developed previously, the national contributions make reference to all those incomes that are reflected on economic activities that receive the regional contributions like air transportation, which gets the greater contribution at national level with 90, 48%.

The productive activities like hotels, related ones, tour operators, tickets to the park, sale of rights, and agricultural inputs get only 9, 52% from the national contributions.

Chart 26.

Systematization of the Local Contributions of Corcovado National Park. Period 2008

SCOPE-SCALE OF THE CONTRIBUTION OR BENEFIT	BENEFITED ACTIVITIES AND CLASSIFICATION OF USERS		TYPE OF CONTRIBUTION (GOODS/SERVICE/EXTERNALITY) VALUED ACCORDING TO SOURCES		% of contribution
	Type of Activity	Type of user / benefited	Incomes		
			Colones	US\$	
NATIONAL LEVEL	Air transportation	Air tickets	₡19.792.408.348	\$37.611.707	90,48
	Hotels and cabins	Hotel PJ	₡776.581.802	\$1.475.746	3,55
		Hotel DK	₡269.139.467	\$511.448	1,23
	Related Activities	Other activities (supermarkets, souvenir shops, internet etc.)	₡442.471.192	\$840.832	2,02
	Tour Operators	Enterprises in San José whose sales remain in Costa Rica by selling PNC	₡293.382.618	\$557.518	1,34
	Tickets	Incomes for SINAC-MINAET by admission to PNC	₡146.020.016	\$277.483	0,67
	Restaurant		₡115.076.318	\$218.681	0,53
	Sale of Rights	MINAET-SINAC	₡25.723.733	\$48.883	0,12
Agricultural inputs	Suppliers	₡14.208.210	\$27.000	0,06	
National Total			₡21.875.011.704	\$41.569.298	100
Percentage of participation in total incomes generated					45.39%

Source: Own elaboration

6.4 Estimation of the total economic contribution of PNC-RBIC to the socio-economic national development and its local, regional and national impact

In the previous sections was presented a description and analysis of the different activities that are developed around PNC and RBIC and that provide support in a direct or indirect way to tourist activity. Based on the cluster approach and in its practical conception carried out in figure 1 of the previous section, following is presented in Chart 27, where is estimated the total economic contribution of both ASPs to the socio-economic development of the country about an amount of \$91.590.697, 47 for 2008.

From Chart 27 is also presented the classification of incomes generated according to the three main components of the identified clusters. For the case of the component of *Management*, that is, what refers to the tasks of MINAET in terms of the collection in the quality of tickets, food, lodging and additional services, besides of the contribution achieved by volunteering and by payment of environmental services we can have an income of \$699.679,74, which represents 0,76% of the total.

With respect to the component of *economic activities* that incorporates the incomes of hotels, restaurants, tour operators, related activities, transportation and networks of suppliers. The total

income for the period of 2008 was of \$78.175.517,73, which represents 85% of the total incomes. In relation to this aspect is important to take into account that aerial transportation, given the transportation of passengers, has a quite important relative participation in the generation of incomes since it contributes approximately to 63% of the total incomes.

Finally, the component of *education and research*, linked to projects that are developed in the area by several organizations, represents an amount of \$12.715.500,00 which means a contribution to the total incomes of 14%

Chart 27
Estimation of the economic contribution of PNC -RBIC
to the national socioeconomic development. 2008

Management			
MINAET - SINAC		Colones*	Dollars
	<i>Tickets</i>	¢146.020.015,91	\$277.483,26
	<i>Sale of Rights</i>	¢25.723.732,66	\$48.883,06
	<i>Food</i>	¢89.330.152,60	\$169.754,96
	<i>Volunteering</i>	¢32.170.786,89	\$61.134,46
PSA	<i>RFGD</i>	¢74.947.781,52	\$142.424,00
Economic Activities			
Water		¢143.741.261,09	\$273.152,92
Patents	<i>Municipality of Osa</i>	¢9.130.611,47	\$17.350,99
Hotels Puerto Jiménez	<i>Lodging</i>	¢2.762.029.636,83	\$5.248.711,85
	<i>Tours</i>	¢921.533.976,00	\$1.751.200,00
	<i>Food</i>	¢199.345.396,14	\$378.818,00
Hotels Drake	<i>Lodging</i>	¢1.655.179.635,42	\$3.145.354,00
	<i>Tours</i>	¢1.608.149.934,09	\$3.055.983,00
	<i>Food</i>	¢100.913.769,43	\$191.767,42
Restaurant	<i>Puerto Jiménez</i>	¢700.081.131,33	\$1.330.371,00
	<i>Drake</i>	¢67.094.325,00	\$127.500,00
Related Activities		¢1.382.722.474,23	\$2.627.601,00
Tour Operators		¢792.925.995,15	\$1.506.805,00
Transportation	<i>Air</i>	¢30.256.218.258,73	\$57.496.186,57
	<i>Maritime and terrestrial</i>	¢88.492.804,90	\$168.163,74
Selling of fuel		¢406.013.935,26	\$771.552,24
Provision of agricultural inputs		¢14.208.210,00	\$27.000,00
Other regional suppliers		¢30.521.340,00	\$58.000,00
Education / Research			
	<i>Projects-Organizations</i>	¢6.691.277.565,00	\$12.715.500,00
TOTAL		¢48.197.772.729,64	\$91.590.697,47

*Average Exchange Rate to 2008: ¢526, 23

** It was estimated 2009, according to the inflation of IPC of 4, 05% and an average exchange rate of ¢573, 35

Following is presented Chart 28, where is made an estimation of the total incomes and its impact at regional, local and national level. From the total of incomes generated \$41.132.095, that is, 45%, remains at local level, this includes the activities that are developed and take place in Puerto Jiménez and Drake, as well as the payments that are made to the factors of local production, for example, payments to work and other inputs, particularly this in the case of hotels, restaurants, related activities and tour operators; for the rest of items the incomes generated remain exclusively at local level, not developing regional or national chainings.

From the total of incomes generated as result of the existence of PNC-RBIC, \$8.889.304 are distributed at regional level, this represents 10% of the total product of the productive chainings that are generated particularly in the south area. The amount contains the payments to suppliers that carry out hotels, restaurants, tour operators and related activities of Drake and Puerto Jiménez because of the contribution or sale of goods and services. Additionally, it incorporates the sale of fuel that is made to Drake, the incomes due to patents and the sale of inputs made from the regional level to tourist activities.

At National level are generated \$41.569.298, which means approximately 45% of the total incomes. It comprises, for the case of the activities such as hotels, restaurants, tour operators and related activities, the payments in the quality of energy, telephone, internet, food, beverages and other services supplied with enterprises at national level. It also incorporates the incomes generated by aerial transportation, incomes of PNC-RBIC by the sale of tickets and rights, as well as, the purchase of agricultural inputs in the Central Valley.

Chart 28
Estimation of the economic contribution of PNC -RBIC
to the local, regional and national development 2008

Local		Regional		National	
Air transportation	\$19.884.480	Hotel DK	\$4.858.759	Air transportation	\$37.611.706
Projects-Organizations	\$12.715.500	Hotel PJ	\$1.180.596	Hotel PJ	\$1.475.745
Hotel PJ	\$4.722.387	Related Activities	\$945.936	Related Activities	\$840.832
Hotel DK	\$1.022.896	Fuel	\$771.552	Tour Operators	\$557.517
Restaurant	\$860.143	Tour Operators	\$678.062	Hotel DK	\$511.448
Related Activities	\$840.832	Restaurant	\$379.046	Tickets	\$277.483
Water	\$273.152	Regional Inputs	\$58.000	Restaurant	\$218.680
Tour Operators	\$271.224	Patents	\$17.350	Selling of Rights	\$48.883
Food PNC	\$169.754			Agricultural Inputs	\$27.000
Maritime and terrestrial	\$168.163				
PSA	\$142.424				
Volunteering	\$61.134				
Total in Dollars	\$41.132.095		\$8.889.304		\$41.569.298
Total in colones*	₡21.644.942.352,48		₡4.677.818.672,94		₡21.875.011.704,22

Source: Own elaboration

*Average Exchange Rate to 2008: ₡526, 23

7. STRENGTHS, OPPORTUNITIES, WEAKNESSES AND THREATS (FODA)

7.1 Strengths

Social and managerial environmental responsibility:

One of the features to highlight about the hoteliers and most entrepreneurs in the area of Drake and Puerto Jimenez is their responsibility to society and the environment. The owners of the different businesses have as policy to promote employment of local people, contribute to various training programs; an example of this is Nature Kids Program that seeks to build skills in children in the English language.

Entrepreneurs have clear that their benefits come from nature tourism; hence many have chosen to maintain low plant cover in much of their properties, in some cases under the modality of private reserves. Other forms of contribution have to do with contributions to the community in different programs of social infrastructure, such as the case of La Cambronera School in the sector to Carate that has been built and is promoted by a group of hotels.

However, support from entrepreneurs should be increased significantly with respect to the current status, as a better way to redistribute the income that is generated as a result of the existence of the PNC, the RBIC and its surrounding communities.

Social Organization for the contribution of services

The social organizational capacity of communities to provide diverse services related to tourism is one of the strengths with which the communities surrounding to PNC-RBIC have. It is visible specific examples in relation to services such as tour operators and local guides.

With regard to associations of local guides, Drake has a well structured and organized Association, for its part, Puerto Jimenez has recently established their own association. The objective of these organizations is that their members comply with minimum standards to provide services; such aspects include information, managing a similar price structure, equipment, among others. This obviously benefits the tourist, since he/she gets a quality service and of security.

Cultural, social and natural richness

Osa Peninsula as a whole has an invaluable wealth in terms of biodiversity it contains, its people and cultural identity that it protects. According to what is invested in protection and conservation not only of the PNC and RBIC but also in particular of the Golfo Dulce Forest Reserve and other buffering areas is contributing to maintaining the natural capital of the area.

According to the above, and maintaining a sustainable vision of the kind of tourism that is wanted, it should be possible to improve social and economic conditions of the region as result of the benefits that are derived from tourism.

Investment in Research and Scientific Education

Given the own characteristics of the PNC and RBIC in their both marine and terrestrial areas, and as result of the great biodiversity they offer, they are financial receivers of a significant amount of economic resources by NGOs, both national and international organizations. The above is with varied objectives such as the protection, conservation, scientific research and education, with direct and indirect effects on the surrounding communities.

7.2 Opportunities

Development, promotion and sale of local crafts

Inside the PNC-RNIC and in surrounding communities there are no places that allow the purchase by tourists of souvenirs from the area. It is common to see tourists consulting in the facilities for souvenirs, T-shirts, caps, etc, something that could identify them with the visit to the ASPS; this is a niche of market that can be taken locally and in an innovative manner enabling the generation of resources to its villagers.

Development of local enterprising

Puerto Jiménez and Drake, lack of an offer in quality and quantity of goods and services, linked directly or not, with tourism that is developed in the area. The above opens a niche of opportunities for the development of sustainable local economic activities in areas such as organic agriculture, recycling, development of traditional and sea cuisine (Chefs and specialized restaurants), personal services (hairdressing, sewing, food , etc), among others.

Implementation of management plans and concession of services in PNC

The implementation of management plans developed for each ASP and generally for ACOSA, it clearly contributes to improve the performance in environmental, economic and social management of the AC. Also, the possibility for franchising services such as food and lodging (in the case of Sirena Station) is an opportunity for neighboring communities to the extent that involve them in it and participate in this process, empowering and generating capacities to cover them. This can also help improve local chainings to the extent that priority is given to inputs and goods produced sustainably and locally.

Road Infrastructure

The completion of the road infrastructure project between Chacarita and Puerto Jiménez is an opportunity that can improve the possibilities of access to the region in time and under appropriate conditions, this besides facilitating the movement of goods, it promotes an increase in tourist visit by land.

7.3 Weaknesses

Lack of qualified human resource in ACOSA

Obviously the lack of native qualified human resources is a weakness for the better performance of development processes, mainly in the regions of Puerto Jimenez and Drake Bay. Often, hotels, restaurants and businesses in general are unsatisfied with demand for professionals in different areas that additionally know the area - its culture, biodiversity, traditions, and engage in these same activities as part of their life project. Most times the staff is occasional, coming from other parts of the country and is unstable.

Staff requirements ranging from biologists, ecologists, administrators, chefs, tourist guides, in most cases with need to be fluent in at least one language, including for example English. Given the lack of coordination between market and demand by businesses, some of them have opted to create programs to train their villagers and generate capacities in them, an example of this are companies, among them Nature Air and some hotels in Drake, have created the NatureKids Foundation with education projects in the English language and community education on the environment, NatureKids (Monge A, 2009; Com. Pers.)

Lack of infrastructure and help staff in PNC-RBIC

Currently the staff available to help the seasons of visits to PNC and RBIC is insufficient and with little or no preparation in the English language, which in many cases difficult to care for tourists. Once the tourist enters to both ASPS does not have more information on possible tours or other guidance information, especially for those who spend the night on the area.

One of the elements to improve within the ASPS in which is being developed this investigation is the availability of adequate infrastructure to attend to tourists and even for rangers. The above involves improving communications systems, the availability of energy from renewable sources like the solar one - this particularly in the RBIC-, materials and services in general.

Lack of financial programs to support the small and medium-sized local enterprises

Nowadays, in the area there are no financial programs that enable their villagers to undertake new economic activities linked to tourism, an example of this is the fact that many of the activities related to lodging are found in the hands of foreigners.

This weakness can become a threat to the area, to the extent that local population cannot perform and undertake economic activities in the area, they same ones will be taken over by foreign capital.

7.4 Threats

According to previous researches (ELAP-TNC-ACOSA-UCI, 2005), the management of wastes is listed as the main environmental problem revealed by the population which is located around the PNC-RBIC, followed by the misuse of agrochemicals , pollution and poisoning of rivers and deforestation. Sport hunting has declined considerably, there are few hunters and they are known, but it has spawned a new type of tourism associated with sport hunting.

In Drake for example, one of the biggest problems is the management of garbage, because of they do not have where to treat it nor do they have a collection truck. Each person is responsible for recycling the wastes and regularly is paid to a person to carry away the garbage outside of Drake and deposit it in an appropriate landfill or in a particular case most people handle holes on the ground to deposit their wastes. The transportation of wastes is expensive given the difficulty of the access, in many cases the wastes must be transported by boat to Drake or Carate. The same happens in each of the Stations of the PNC or RBIC, where wastes should be taken out of the protected areas, hence the importance of make tourists aware that they must take out everything they bring to these areas.

1. Need for studies of capacity of load in both ASPS: If there are no adequate studies on capacity of load, unlimited tourist visitation within the ASP could bring negative impacts on biodiversity as well as reduce the chances of observing wildlife within the same ones, which is one of the main reasons for visitation.
2. Improper management of solid wastes: Given the lack of municipal collection, it is indispensable to search for options and forms of organization to improve the separation, recycling and solid wastes collection, avoiding the creation of sources of contamination, deterioration and degradation Natural Resources.
3. The availability and quality of water: Currently there are good water resources; however, many businesses (mainly hotels and cabins) have wells or draw water through springs. If there is no adequate supervision by authorities responsible for this type of concessions, the resource can reach an over-exploitation, to this is added the lack of suitable systems for sewage treatment and pollution by agrochemicals, which in a superficial manner and by infiltration can contaminate water sources. On the other hand, deforestation promotes erosion, reducing the ability of soils to maintain and preserve water in appropriate conditions.

4. Gold Mining and Hunting: There are still people in the area devoted to the activities of gold mining and hunting of wild animals, in some cases the lack of awareness fosters sport hunting in the PNC or its surroundings, which clearly threaten the sustainability of many species. In addition, agricultural and livestock expansion in the RFGD has meant that wild animals are seen more often near farms attacking cattle, pigs, horses and crops, among others, leading to local people in many cases to hunt animals such as the Jaguar because they perceive it as a threat.
5. Commercial and artisanal unsustainable fishing: Given the importance of whales watching and activities like snorkeling and diving, is essential to control and reduce all forms of fishing that is not conducted according to the rules established, for this, must be provided more resources for monitoring and patrolling to SINAC.
6. Loss of archaeological artifacts: Basically in the RBIC, as it has seen it appears to have been an important center of ancient indigenous cultures. However, archaeological resources have been heavily looted and there are only in this moment some remains not so representative of what it was. (Sierra C., et al, 2007). Most parts are small-sized, which has facilitated its extraction by visitors.
7. Poor signage and delimitation of trails: Particularly, in the case of PNC, the visit made by the project team in May 2009 was possible to identify the lack of signage and marking of the trails in an appropriate manner. This may encourage tourists to easily misplace or may suffer accidents, for example the route from Sirena to La Leona Station (approximately five hours of walking), alternating between the beach and trails, where once they have to walk by beach and take the trail is difficult because accesses are unclear.

BOX 16.

FODA PNC-RBIC

Strengths:

- Social and managerial environmental responsibility:
- Social organization for the contribution of services.
- Cultural, social and natural richness.
- Investment in research and education

Opportunities:

- Development, promotion and sale of local crafts
- Development of local enterprising.
- Development of management plans and concession of services in PNC.
- Road Infrastructure

Weaknesses:

- Availability of qualified human resource in ACOSA
- Lack of financial programs to support the small and medium-sized local enterprise.
- Lack of infrastructure and help staff in PNC-RBIC

Threats:

- Need for studies of capacity of load in both ASPS
- Inadequate management of solid wastes
- Availability and quality of water
- Gold Mining and Hunting
- Commercial and artisanal unsustainable fishing
- Loss of archaeological devices
- Lack of signs y delimitation of trails
- Prostitution and Drug addiction

Source: Own elaboration

Obviously, weather conditions require considering more maintenance on them. However, despite the efforts, the lack of staff is one of the main reasons for maintaining the trails in the right quality.

8. Prostitution and drug addiction: From consultation to local actors, they believe that tourism has brought in part within its negative impacts the increase of drug addiction and prostitution. In this sense, it is vital to increase educational opportunities and jobs in the area and increase public security.



Photo 8: Strength: Social and Environmental Responsibility
“Project: Sea Turtle Conservation”

8. POLICIES RELATED TO THE ACTIVE MANAGEMENT OF THE PNC AND RBIC

Policies are not the product of spontaneity, but represent processes and an action which includes all actions taken by individuals (or groups), public and private, in order to perform pre-defined objectives. To these actions correspond to both transitory efforts to become decisions into operational proposals, such as the efforts developed to make big and small changes (Van Meter and Van Horn, 1993). The implementation phase of policies does not begin until the time in which previous decisions have properly established the goals and objectives.

In a policy are distinguished several phases: the elaboration or definition, implementation, execution or performance and the impact of the policy. The definition is the conceptualization of the vision for the long term, the implementation is the implementation of policy, execution or performance has to do with the way in which is developed the implementation process, for its part, the impact refers to the consequences derived from the implementation and execution of policies.

Policies should not be considered as formulas. In different processes, correspond to different dynamics, structures and relationships among the factors that influence the development and implementation of the public policy. This implies that in each individual case must define policies according to their specific goals and objectives. There are different means to achieve policy objectives; these can range from plans, actions or strategies structured in a way that operate the goals. Similarly, are distinguished several instruments for its implementation.

Policies typically refer to instruments that can use the government to change the behavior or economic, social and environmental behaviors; in this sense what is done here are policy recommendations whose valuation and implementation through the creation of action instruments, or different mechanisms must be performed by the lead agency in environmental matters.

Chart 29.
Policy Recommendations

Thematic Area	Objectives	Policies
Biodiversity	Contribute to the protection and conservation of Biodiversity in OSA. To improve the environmental management of productive activities.	<ul style="list-style-type: none"> • In the areas surrounding to PNC-RBIC the development of tourism must be guaranteed the conservation and protection of biodiversity, under the concept of ecological tourism or ecotourism. • Application of management plans according to their guidelines and recommendations for each ASP. • All tourist development must mitigate the negative effects of its activity about the environment.
Energy	To develop and implement renewable sources at small scale	<ul style="list-style-type: none"> • The projects of tourist development, given the difficulties of access and having electrical infrastructure, should incorporate renewable technologies at small scale to supply their demand

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve

Thematic Area	Objectives	Policies
		of electrical energy such as water sources at small scale, solar or biogas.
Institutional Capacities	To improve the institutional and administrative capacities of SINAC-MINAET to have a better management of PNC-RBIC	<ul style="list-style-type: none"> • To provide more technical, financial and human resources to PNC-RBIC. • To improve infrastructure and information available (trails, signage) and services associated with (facilities, communications, energy) inside PNC-RBIC. • To increase the processes of training of the staff in environmental management matters and attention to tourists. • The relationships between MINAET-SINAC and tourist entrepreneurs must be transparent under cooperative and collaborative outlines
	Inclusion of social organizations and civil society in decision-making.	<ul style="list-style-type: none"> • Boost to programs of environmental education at formal level of education. • Participation of NGO's in decision-making and activities that improve the environmental management inside and in the surroundings of PNC.
Water Resources	To promote an integrative and participative management of Water Resources of the area.	<ul style="list-style-type: none"> • To provide the ASADAS and aqueducts of better technical tools for the management of the water resource. • To train and monitor the processes of water management carried out by these organizations.
Solid Wastes and management of the ground.	Legislation on territory Prohibition of unsustainable activities and with high impacts on the environment like gold mining.	<ul style="list-style-type: none"> • Implementation of plans for participative legislation on territory, where protection and conservation of biodiversity analyze their economic usages. • Legal security of the owners of the RFGD must be clarified, in the cases where are assigned property rights in RFGD legally, the only activities that can be developed are the ones established by law, ecotourism, education and research. • To identify and prohibit all those activities with social and environmental impacts that threatens the sustainability of the area such as gold mining and hunting.
	Integral management of solid wastes	<ul style="list-style-type: none"> • Development of a system of integral management of solid wastes. • To promote the separation, classification and recycling of wastes. • To improve the social capacities for the setting up of community recycling centre.
Productive Activities	To promote the development of friendly productive activities with the environment and of national capital.	<ul style="list-style-type: none"> • To strengthen through training the activities of national entrepreneurship. • To create financial programs that promotes friendly investments with the environment in the region and national capital. • To promote the diversification of the services that is offered.

Thematic Area	Objectives	Policies
Education and health system	To promote the access to education and generation of programs according to the needs of the area. To improve the health systems	<ul style="list-style-type: none"> • The education linked to the tourist activity in a direct or indirect way, must be the fundamental axis for the creation of capacities in the region. • The systems of medical assistance should be improved in staff and infrastructure.

Source: Own elaboration

9. CONCLUSIONS AND RECOMMENDATIONS

Costa Rica has distinguished as a country that takes into account nature and natural resources as essential factors for its socio-economic development. However, few studies -and in a partial way- systematize and quantify the contribution of protected areas to the economic and social development of the country. National Parks and Biological Reserves are characterized by allowing both the development of a series of ecological complex functions like providing multiple socioeconomic benefits. This study contributes, through the estimation of the economic contribution of Corcovado National Park and Caño Island Biological Reserve to the socio-economic development of the country, availability of information for improving the management of these conservation areas and their local communities, as well as making recommendations in the field of environmental policy.

The study is based on the approach named *cluster and value chain* (Porter, 1990; 1999) as methodology to identify, systematize, and estimate and quantify the socio-economic contribution of Corcovado National Park and Caño Island Biological Reserve to the country. Both conservation areas exist with very clear objectives of conservation and protection of biodiversity and natural richness in the area, with the possibility of being visited and appreciated with recreational purposes under certain rules and restrictions. However, around them there have been a series of activities that provide support to visitation, we particularly refer to commercial activities that have direct and indirect relation with tourism.

The analysis of *cluster* is understood as a set or conglomerate of economic and social activities, in this case linked to tourism, formed as an structure of support among economic activities such as hotels, guides, restaurants, tour operators, related activities, etc; activities of management of SINAC-MINAET, recreational activities and research and education activities (see Figure 1), while promoting backward and forward chaining of other activities not exclusively at local level, but also at regional and national level.

PNC and RBIC, in the meantime natural capital, provide positive externalities as result of their protection and conservation, reflected on a series of environmental and ecological services of invaluable nature. Additionally, they generate another kind of positive externality since a conglomerate of economic activities around these areas take advantage of these environmental and ecological services at local level for the generation of economic benefits through tourist activity, this last externality is the one that is quantified in this research.

For the quantification of the economic contribution was made necessary at local level (Puerto Jiménez and Drake) to get information about all commercial activity directly and indirectly related to tourism, in total were applied 135 surveys that reflect population in terms of economic activities linked to tourism that are developed at local level. For the case of tourists, was proceeded to apply a survey that allows determine the tourist's profile and his/her average expense in PNC-RBIC, the sample used was of 267 tourists.

With respect to PNC, its income is made through 4 stations (La Leona, Sirena, San Pedrillo and Los Patos); to each one of them the tourist can enter from Puerto Jiménez or Drake Bay. Each one of them has several services such as: camping areas in the 4 stations, shelter with a bed in Sirena, selling of food in Sirena, drinking water and toilets. The ticket has a cost of \$10 for foreigners: \$10 and ¢1.600 for national adults, in the case of lodging in the shelter of Sirena Station is paid US\$8 and by the right to camp: US\$4, likewise, the cost for food is of US\$46 for foreigners and for national tourists: ¢11.000. Additionally, in the surroundings of PNC can be developed activities such as horseback ridings, sport fishing, walks on trails, birds watching, whales and dolphins watching offshore, snorkeling and diving.

To get to RBIC is accessed mainly from the area Drake Bay by boat. Inside of it can be taken walks available on trails and in its surroundings can be practiced activities such as diving, snorkeling, whales, turtles and dolphins watching. The price of the ticket is of \$10 for foreigners and ¢1.600 for national adults. In the quality of anchorage must be paid US\$4.

Particularly, the creation of PNC and RBIC have enhanced tourism through the development of a series of socio-productive activities such as lodging, food, transportation, tour operators and commerce in general. The settlement of these activities has promoted the creation of employment in Drake Bay and Puerto Jiménez, towns directly benefited by being in the area of influence of both Protected Areas; however, also indirectly the tourism developed in the area brings benefits to other communities of the Canton of Osa such as Sierpe, Dominical, La Palma, Cañaza and Palmar.

The commercial activity linked to tourism is relatively incipient in the area, concentrated in few sectors and even without an explicit local empowerment. This implies that the majority of businesses of medium and big size are in hands of foreigners, leaving on national hands activities of lower scale. The population is benefited from this tourist activity given that results in the main source of incomes, is linked to activities of little remuneration and are still few the cases of local empowerment. In general terms, there are big tourist businesses, the region of Osa is not characterized by a massive tourism, for example, the supply of lodging is aimed at cabins and hotels of small or medium size, a big part o f them with an approach towards ecotourism, relatively separated ones from others. The majority of hotels are characterized by being in foreign hands, as opposite to cabins.

Based on the cluster approach and on its conception was estimated a total economic contribution of both ASPS to the socio-economic development of the country in an amount of \$91.590.697, 47 for 2008. For the case of the management component, that is, what refers to the tasks of MINAET in terms of collection in the quality of tickets, food, lodging and additional services,

besides of the contribution achieved by volunteering and by the payment for environmental services we get an income of \$699.679,74, which represents 0,76% of the total.

With regard to the component of *economic activities*, which incorporates the incomes of hotels, restaurants, tour operators, related activities, transportation and networks of suppliers, the total income for the period 2008 was of \$78.175.517,73, which represent 85% of the total incomes. In relation to this aspect is important to take into account that aerial transportation given the transportation of passengers, has a quite important relative participation in the generation of incomes since it contributes approximately to 63% of the total incomes.

Finally, the component of *education and research*, linked to the projects that are developed in the area by several organizations, represents an amount of \$12.715.500, 00 which means a contribution to the total incomes of 14%.

Following is presented in Chart 30, where is made an estimation of the total incomes and their impact at regional, local and national level. From the total of incomes generated \$41.132.095, that is, 45%, remains at local level, this includes the activities that are developed and take place in Puerto Jiménez and Drake, as well as the payments that are made to factors of local production, such as payments to work and other inputs, particularly this in the case of hotels, restaurants, related activities and tour operators, for the rest of items the incomes generated are considered that the incomes remain exclusively at local level, and there are no regional or national chainings.

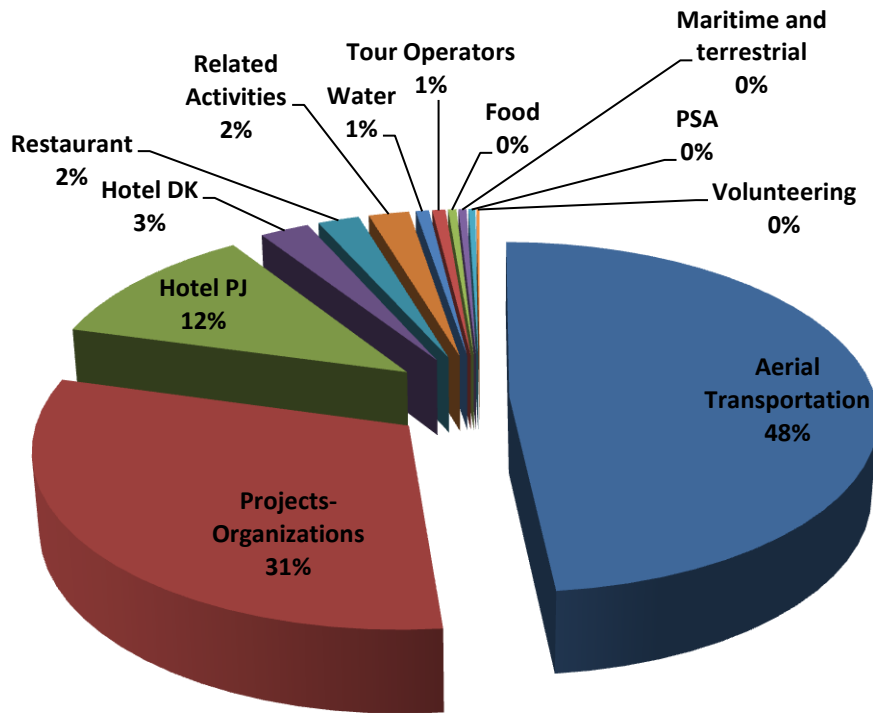
Chart 30
Estimation of the economic contribution of PNC -RBIC
to the local, regional and national development 2008

Local	Regional	National	Total
\$41.132.095,00	\$8.889.304,44	\$41.569.298,03	\$91.590.697,47
45%	10%	45%	100%

Source: Own elaboration

In graph 7 is presented the economic contribution to local development per type of activity. As is appreciated, aerial transportation carried out by local enterprises generate 48% of the total incomes, the projects developed by different organizations and their contribution in matters of research and education provide 31% of the total incomes. Hotel activity in a local manner contributes to 15% of the incomes that are generated in such scale.

Graph 7
Contribution of PNC-RBIC to local socio-economic development 2008

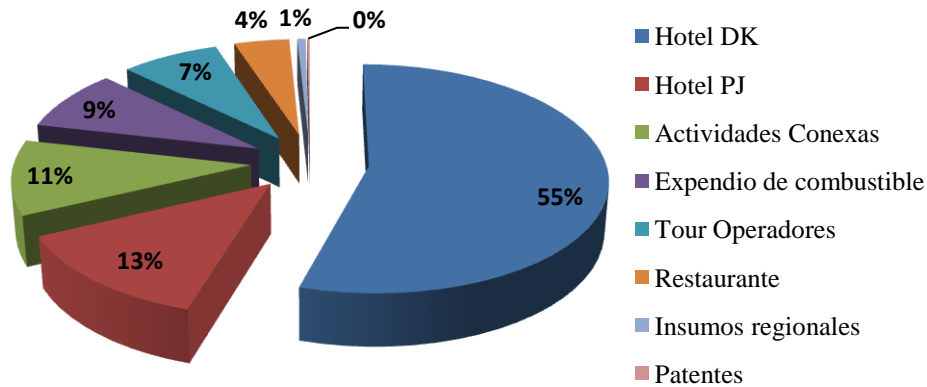


Source: Own elaboration.

From the total incomes generated as result of the existence of the PNC-RBIC, \$8,889,304 was distributed to regional level; this represents 10% of the total product of productive chainings that are generated particularly in the south zone. The amount includes payments to suppliers made by hotels, restaurants, tour operators and related activities of Drake and Puerto Jimenez for the contribution or sale of goods and services. Additionally, it incorporates the sale of fuel that is made to Drake, income from patents and the sale of inputs made from the regional level to tourist activities.

As is shown in graph 8, at the regional level the main contribution is made by the hotel sector of Drake (55%), through its purchases of inputs and payments to various sectors in this level, followed by hotels in Puerto Jimenez (13%) and related activities (11%) in terms of relative importance. Sales in terms of selling of fuel represent 9%, mainly made from the regional level to hotels, restaurants and carriers in Drake.

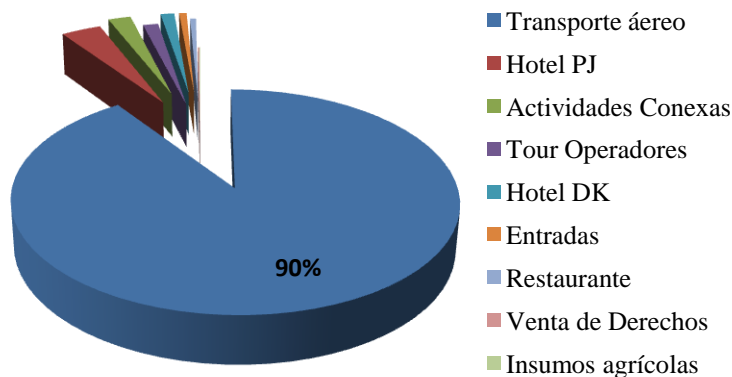
Graph 8
 Contribution of PNC-RBIC to regional socio-economic development. 2008



Source: Own elaboration.

At national level is generated \$41,569,298, which means about 45% of the total incomes. It comprises, in the case of activities such as hotels, restaurants, tour operators and related activities, payments in the quality of electricity, telephone, internet, food, beverages and other services provided by companies at national level. It also includes incomes generated by aerial transportation, incomes of PNC-RBIC by the selling of tickets and rights, as well as the purchase of agricultural inputs in the Central Valley.

Graph 9
 Contribution of PNC-RBIC to national socio-economic development. 2008



At national level, 90% of incomes are generated by air carriers who operate in the Central Valley. The remaining is distributed to different suppliers to hotels, tour operators and related activities. As well as the incomes that MINAET-SINAC gets in RBIC and PNC.

Source: Own elaboration.

It should be noted that despite the large amount of economic resources that as result of the existence of PNC-RBIC are generated, the impact on the communities of Puerto Jiménez and Drake, are not seen in a greater development and a better quality of life for their inhabitants. This income is distributed in a few hands; the wealth has been concentrated in few hands and a large majority in foreign hands. The mechanisms of distribution of wealth should be improved so that entrepreneurs invest more in the development of both communities and their inhabitants, who then can improved the availability of better services for tourists and skilled labor force for their businesses.

However, the process of income distribution is only an edge to which the state and local governments should pay attention. Additionally, it should be invested in the generation of local capacities to develop entrepreneurship businesses with financing programs available. Just to cite some examples related to tourism: In both communities there is no usage of knowledge of local artisans for the production and sale of indigenous crafts, which clearly is a market niche; with regard to traditional Costa Rican cuisine and the native one, there are no quality options for visitors, is worth noting that given the marine diversity of the region it is not exploited; organic agriculture at local and regional level could be another important source of incomes for their inhabitants becoming suppliers of hotels and mainly restaurants; in addition, there are a number of other personal services not directly linked to tourism but that are necessary and can be developed locally if provided technical advice and financial support.

Social organization is one of the weaknesses in both communities. It is necessary an accompaniment to the education of social groups, either through associations or other different groups, which enables the implementation of community projects with mutual benefits and even involving the environment protection and conservation given the characteristics of the region. There are people interested in leading different processes, but is needed support and assistance by the State and various NGOs that have influence in the area. Social organization is vital to the protection of the rights of these communities in economic, social and environmental terms, while it may enable the exploitation of new opportunities for development.

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ANNEXES

ANNEX 1

METHODOLOGY OF FIELDWORK PERFORMED IN THE CORCOVADO NATIONAL PARK AND CAÑO ISLAND BIOLOGICAL RESERVE.

1. Design, testing and validation of instruments for collecting primary information

In 2002, the project developed to analyze the contributions of the National Parks and Biological Reserves creates a total of 4 instruments to collect information during fieldworks. In this regard, the interviews focus on: (1) key actors, (2) restaurants and coffee bars, supermarkets, (3) workshops, excursions, and other related tourist activities, and (4) hotels / cabins / camping / house renting. All collected information is systematized and analyzed for the three case studies: Poas Volcano National Park, Chirripo National Park and Cahuita National Park.

These instruments are used as valuable input to initiate this investigation. First, these instruments are reviewed by the teamwork, where after making the changes and respective adjustments it is proceeded to test them during a first exploratory visit to PNC and the RBIC. Additionally, surveys are validated by local experts, who include rangers, officials of SINAC and key actors.

The 4 initial instruments are fed back by both experts and by the experience of the project teamwork that visit the study area. This new knowledge is included in these instruments, which in turn are accompanied by 3 new surveys that meet the productive dynamics that make up the cluster analyzed in PNVRV. In summary, the methodology for collecting primary information for the case study PNC-RBIC implements a total of 7 validated instruments: (1) tourists, (2) restaurants and coffee bars (3) related activities (workshops, internet cafe, supermarkets, etc. and (4) hotels / cabins / camping / house renting, (5) tour operator, (6) airlines, (7) key actors.

2. Collection of information and surveys

To gather information, two trips are carried out. The first one takes place from April 30th to May 04th, 2009, when performing recognition of the PNC and the RBIC, as well as their surrounding communities and the identification of the main economic activities developed. Additionally, several tests of the instruments are carried out, as well as interviews with local experts and visits to businesses mainly in the area of Drake. The second trip is implemented from July 27th to July 31st, 2009, having as an objective to collect data in Puerto Jimenez, OSA, Golfito, Matapalo and Carate. During this fieldwork it is applied a total of 93 surveys, which include surveys for hotels and cabins, restaurants and coffee bars, related activities, internet café, supermarkets, operator-tour and key actors (see Chart 1). In the case of Drake Bay, the gathering of information was made from December 2nd to December 6th, 2009 taking into account all the commercial activity linked to tourism, as well as in depth interviews with local actors. Chart 1 shows the detail of the surveys applied per economic activity, in total were applied 135 surveys that reflect the population in terms of the economic activities linked to tourism that are developed at local level.

Chart 1
Surveys applied per economic activities

Puerto Drake. Year	Interviewed Activities	Place	
		Puerto Jiménez	Drake
	Hotels	36	23
	Restaurants	21	3
	Tour Operators	6	1
	Related Activities	17	4
	Local Actors	12	4
	Transportation	1	7
	Total	93	42

Source: Own elaboration

To sum up, the instruments applied during the fieldwork, include surveys for:

1. Hotels and Cabins: located mainly in Puerto Jimenez, Matapalo and Carate.

2. Restaurants and coffee bars and (5) Related Activities: these are commercial and productive activities that due to their characteristics depend on the existence of the PNC-RBIC for its development, mainly located in Puerto Jimenez.

3. Key Actors: Interviews applied to people associated with organizations that have direct or indirect influence with the conservation and protection of ASPs or with commercial activities among them: The key actors interviewed are representatives of institutions such as the Municipality of Osa, Municipality of Golfito, MINAE-Puerto Jimenez, MINAE-Golfito, Osa Women's Association, Chamber of Corcovado, Guides Association of Puerto Jimenez, Osa Friends.

4. Tour operators: Responsible for the organization of tours for the visitation of the ASP, bird and whale watching, diving, and snorkeling, among others.

3. Design of Database

The process of systematization of primary information collected through the application of various instruments is one of the fundamental inputs to estimate the contributions of the ASPs to the economic and social development. In order to select the optimal software for processing the information gathered, the research team makes several internal meetings focused on evaluating the different options available for this purpose. In this regard, Microsoft Excel and SPSS

programs are analyzed to determine which offers the best alternative according to the requirements of tabulation and analysis.

The following criteria support the choice of Microsoft Excel program to tabulate the surveys:

- a. SPSS is impractical to add values and make combinations for qualitative questions with multiple answers. On the other hand, Microsoft Excel offers clear advantages for processing such questions.
- b. Using Microsoft Excel is possible to create a database that can be updated, and it can include new values to get results in future works that SINAC decides to carry out in a quick and easy way.
- c. As part of the testing process of both programs, the research team begins works of tabulation in SPSS, which shows management problems of the type of answers that are obtained in the application of the instruments during the fieldwork.
- d. The problems associated with the use of SPSS to tabulate the surveys include: the aggregation of variables in multiple labels which is not efficient, the payment of licenses for use, etc.
- e. To include annotations to specify information is very easy when using Microsoft Excel. This is not possible within the SPSS program.

Therefore, the Microsoft Excel program is chosen to start the tabulation of the information collected. In this sense, the first step is to assign a coding to the questions and answers.

For purposes of ordering the surveys, the information collected for each instrument is separated, so that questions and answers are grouped to provide information on common elements of the population, this is in order to simplify the later analysis.

In the case of commercial activities (hotels, cabins, restaurants, related activities and operator-tours) the information contained in the surveys has been separated into the following segments: general information, incomes, and management.

4. Determination of Sample

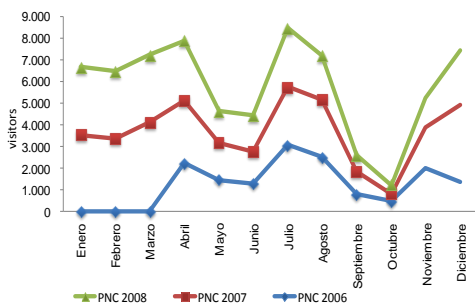
In order to determine the sample size to apply the instruments, it is taken as reference the data of visitation provided by the office PROESA-SINAC (Sustainable Ecotourism Program of Osa Conservation Area, National System of Conservation Areas, according to their daily records of entrance to Corcovado National Park and Caño Island Biological Reserve. Graphics 1 and 2 present the monthly visitation of RBIC and PNC for the years 2006, 2007 and 2008. Comparatively a greater number of tourists visit the Caño Island Biological Reserve in connection with the PNC. In both cases, it is noticed a decrease in the number of tourists during the month of October of each year and an increase in visitors during the months that make up the high season which runs from November to April of the next year. Given the increased number of

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve

visitors that the park receives and the RBIC from December to April, that is, in high season, it is decided to conduct the gathering of information during those months. It is not considered the gathering of information during the low season for the following reasons: 1 -) a lower number of tourists per season, 2 -) difficult weather conditions (rain in particular) and 3 -) difficult access to the Park.

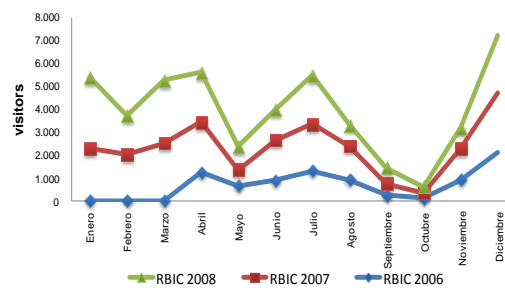
Considering the total visitation total during the month of January 2008, in both conservation areas was calculated a sample of 267 tourists with a reliability level of 90%. Surveys were applied from January 20th to January 25th, 2010 in the Stations of Sirena, La Leona and San Pedrillo. In the case of RBIC the gathering of information was coordinated with the administrators of the same one.

Graphic 1 Monthly visitation PNC Period 2006-2008



Source: Own elaboration based on data provided by PROESA-SINAC, 2009

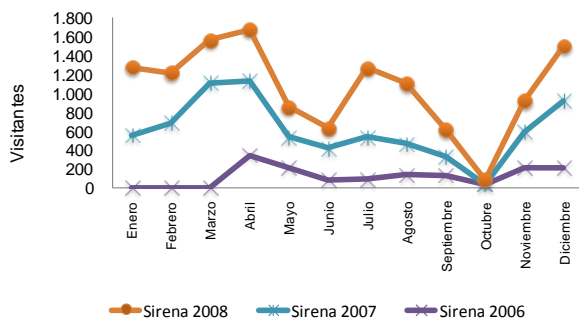
Graphic 2 Monthly visitation RBIC Period 2006-2008



Source: Own elaboration based on data provided by PROESA-SINAC, 2009

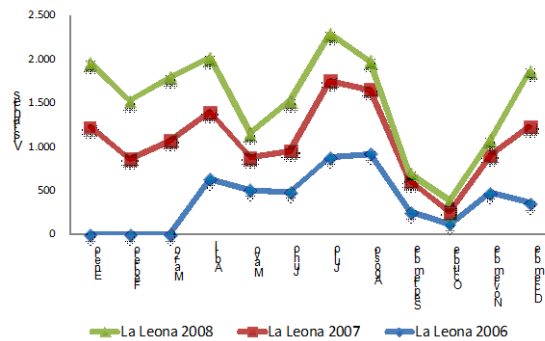
Additionally, it is presented the data of visitation by station which have a similar behavior among themselves. The operational center of greater visitation is San Pedrillo followed by La Leona, while the one of lowest number of tourists is Los Patos operational center, followed by the Sirena Biological Station.

Graphic 3 Monthly visitation to Sirena Biological Station-PNC Period 2006-2008



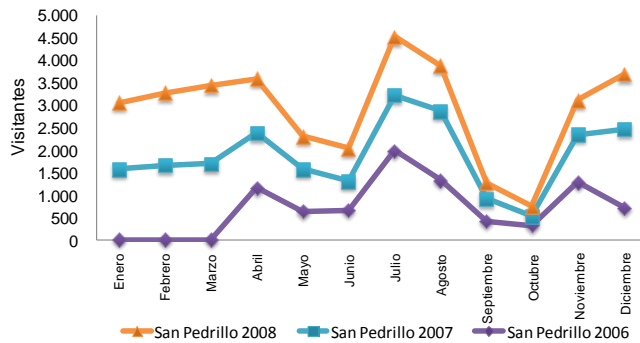
Source: Own elaboration based on data provided by PROESA-SINAC, 2009

Graphic 4 Monthly visitation La Leona Station-PNC Period 2006-2008



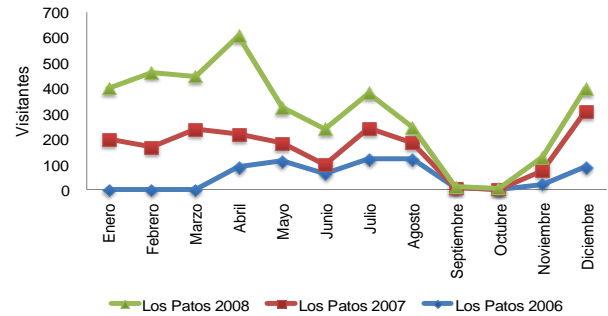
Source: Own elaboration based on data provided by PROESA-SINAC, 2009

Graphic 5 Monthly visitation San Pedrillo Station-PNC Period 2006-2008



Source: Own elaboration based on data provided by PROESA-SINAC, 2009

Graphic 6 Monthly visitation Los Patos Station-PNC Period 2006-2008



Source: Own elaboration based on data provided by PROESA-SINAC, 2009

Given that the calculation of the sample size determines the degree of credibility to be given to the results obtained, it is used the following formula of population size to obtain a representative sample:

$$n = Z_{\alpha}^2 \frac{N \cdot p \cdot q}{i^2 (N - 1) + Z_{\alpha}^2 \cdot p \cdot q}$$

Where:

n = It is the sample size (number of surveys to be done).

N = It is the size of the population or universe (total number of potential interviewees).

α = Significance level of 10% maximum error.

$Z_{\alpha/2}$ = Corresponding value for the distribution of Gauss of 1.960, it depends on the confidence level that is assigned.

1- α = Confidence level of 90%

p = Expected prevalence of visitation to the park, is the proportion of individuals who have in the population the characteristic of study. (This datum is generally unknown and it is often assumed that p = q = 0.1 which is the safest option.).

q = 1-P it is the proportion of individuals who do not have that characteristic.

i = Error that is expected to commit is 10%. The sampling error is the difference that can exist between the result that is obtained by asking a sample population and that would be obtained by consulting the population as such.

ANNEX 2

Validation Workshop Comments

Validation workshop: MINAET-Puerto Jimenez

Date: Friday, April 9th, 2010

Place: MINAET Facilities, Puerto Jimenez

Start hour: 8:30 a.m.

Finish hour: 11:30 a.m.

Participants:

MSc. Marco Otoyá Chavarría

Bach. Daniela Cordero Rodríguez

Bach. Carlos Mora Salas

AGENDA:

- ✓ Review of identified contributions: What does it mean? Contribution to the conservation area at local level
- ✓ The payment of lands around the national park inside the protected areas
- ✓ Payment for environmental services takes place outside the protected areas
- ✓ In Caño Island Biological Reserve, research, control, protection and volunteering work are the activities allowed inside the area.
- ✓ Permissions of use: The State can give to a private entity the permission for a service, in the national parks is allowed, but in biological reserves is not allowed.
- ✓ Just two days, because some cruises arrive, ships, it is captured due to the season, when many tourists come.
- ✓ It is interesting this analysis, is quite relative to the information thinking about the value chains that can be generated through this study, the analysis made is a very minimum percentage, the tourist's profile with which they work, it is very important for the communities.
- ✓ I was not thought in applying surveys during a period in which some surveys are left in the biological stations.
- ✓ Chart of permanence of the days, is only in Costa Rica. The rest pertains to the Osa region.



- ✓ La Leona Operational Center, is going to the operational center, it does not refer to what is generated.
- ✓ Tour of going straight to the Caño Island, combination of incomes about whales watching along with the visit to the biological reserve.
- ✓ Flights case: From Puerto Jimenez to Drake or to Sirena; there are flights that do not go to San José from Puerto Jimenez (Quepos, Liberia, Limón).
- ✓ MINAET-SINAC: Item of admission sales, filming, anchorage, research, and so on).
- ✓ There is confusion, MINAET-SINAC: PSA, hotels, tour operators, which generate incomes for the communities. It is being estimated the totality of the incomes, for that reason is that is included in that component.
- ✓ About the flights: 82 millions colones, the total income could be hidden; they are contributions that cannot be valued directly. The amount remains at local level; it is invested more at national level.
- ✓ This is a very complete study. It is very comprehensive; it is a contribution quite big. Puerto Jimenez is a very complicated area and people have many conflicts. The question is: Which is the view of what is happening in this moment? Which is the economic distribution of the incomes? Which is the contribution that is provided by tourists?
- ✓ An analysis about strengths and weaknesses must be carried out to embody the social costs, environmental costs, and sonic pollution.
- ✓ Perception about MINAE: Even in 2009 it is praise. In 2008, 80% said that they did not agree with the management of MINAE. It is a good work of extensionism with MINAE.
- ✓ Lack of more education in the area, lack of more training.
- ✓ Training about the adequate administration of the incomes. People do not know how to manage the resources.
- ✓ There is a need of an organized group, where people can feel that everything is working, each person working, helping among them.
- ✓ It is pleasant to see how through added values we are generating levels of development at level of communities. All those aspects have been very positive, but that positive added value can be still more detailed. This can lead us to a negative component for the development, everything related to the garbage; it is a source of communication and all the garbage goes to the gulf. Sonic pollution due to many flights and the vehicular increase in the area. We are generating a standstill at regional level because of this big excessive development. This could be embodied on many more studies.



- ✓ There must be a stage of analysis of those values and aspects that the development generates: Deterioration and social development. The park and the reserve, both are contributing significantly. The question here is: Are we really generating benefits related to the social aspect? This is an excellent approach, great data.
- ✓ Promar Foundation: Any kind of additional information must be given about the unequal distribution of incomes. Infrastructure, social services, school, everything is the same although with a level, which is not very adequate. To ask the people if the services are quite good. If the majority of the hotels are foreign, money is not in hands of local people. One aspect that has not been mentioned is to improve the topic of tourism with trainings. It sometimes causes a lack of providing a better service, which allows giving the tour-operator a better service. The topic of marketing is very important. The operators are the ones who less trade their activities. They do not have internet, brochures, even someone who can help the customer to look for a tour, there is no professionalization of the service. The adequate administration of what is earned. This is something very common. That shows that they still have the same situation; technical training, training in administration. To validate the socio-economic fact; which real contribution is the area providing? To what extent does the culture from Osa is attracting tourists? The government did not know about the needs of Puerto Jimenez. Feedback is essential from sponsors, organizations, etc: there are no chambers of hoteliers. It is needed more organization. Regarding MINAE, it is worth focusing on if MINAE is an entity from the government, if it provides or not the necessary support.
- ✓ MINAET has to take into account if the community needs any benefit. They need to provide more money to people or communities that need it. MINAET has to have more commitment; what is being obtained as an income is something merely minimum. The problem about the deeds. A tourist project needs financing. There is a big series of negative things that must be taken into account.
- ✓ The geographical factor could be affecting tourism. The municipality is not having a good projection. Puerto Jimenez should have a wharf much better structured and safe.
- ✓ To reflect truly what real percentage is in hands of the communities? How much money is in hands of the population? To reinforce the perception. The distribution of the Money is not being equitable.
- ✓ The data obtained about the whales watching from 2008 to 2009 could be used for making a methodological comparison. It would be interesting to know if it has increased, decreased, or if it has kept its rate.



- ✓ There was much waste of money. In the Osa Peninsula, the peasants earn their livelihood working on agriculture. Until the park was created with many conflicts, when it was discovered. It had a radical change. The park began to be known nationally and internationally. Local people had a huge change because many tourists came to the area, so that they had to be prepared to learn English. 95% of the labor force is local. The park benefits local people. There is isolation of the region and thanks to the park and the reserve has caused a radical social change. Infrastructure has been growing, so the area is not going to be the same.
- ✓ Tourists arrive to the area of Osa because the main attraction is Corcovado. The question is: How many profits is MINAE providing to the communities?
- ✓ Another problem is legal security to the owners of lands.
- ✓ To assess what has been done by the Municipality of Golfito for Puerto Jimenez; the municipal work should be more active.
- ✓ Agreements taken in the workshop: Distribution of information. At the end of May there will be a presentation for Central SINAC, then a digital distribution of the final document will be done to the different actors, to those people who help to achieve this project successfully.

ANNEX 3

SURVEYS



No. Survey	Interviewer code

Interviews for tourists
Caño Island Biological Reserve
Project “Systematization and analysis of the contribution of National Parks and Biological Reserves to the economic and social development in Costa Rica”

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Indicate gender.

Gender	
Female	Male

1. ¿What is your nationality?
 Costa Rican (If you are Costa Rican go to question #4)
 American Country _____
 African Country _____
 European Country _____
 Asian Country _____
 Other Specify _____

2. What was the cost of your airline ticket to get to Costa Rica?

3. How long are you going to stay in Costa Rica?

4. How many people travel with you?

5. Did you know the existence of Caño Island?
 YES / NO
 ¿How did you know? _____

6. How did you plan the visit to Caño Island Biological Reserve?

a. Travel agency

a.1 ___ National

How much did the package cost? _____

Does it include other additional destinations to Caño Island Biological Reserve?

a.2 ___ International

How much did the package cost? _____

Does it include other additional destinations to Caño Island Biological Reserve?

b) Tourist operator or independent carrier

How much did the package cost? _____

What places include? _____

c) By other mean.

Explain: _____

Cost: _____

7. What was the last place of your stay (lodging) before getting to Caño Island Biological Reserve?

8. Since your last place of stay (lodging), in which costs have, you incurred to get to Caño Island Biological Reserve?

Item	Approximate amount
<i>Food</i>	
Lodging:	
Hotel	
Cabin	
All-inclusive packages	
Indicate the number of lodging days	
Name of the hotel/cabin	
Transportation:	
Maritime	
Terrestrial	
Aerial	
Bus	
Own car	
Rented car (how many days)	
Entrance to Corcovado National Park	

Entrance to Caño Island Biological Reserve	
--	--

9. What do you consider is the main attraction of Caño Island Biological Reserve?

10. Do you think the services offered by Caño Island Biological Reserve could be improved?
 _____ YES / NO _____ Which ones? _____
11. After visiting Caño Island Biological Reserve, will you stay somewhere nearby?
 _____ YES (If your answer is affirmative go to the next question)
 _____ No (If your answer is negative go to question # 14)
12. Where will you stay in that case and how many days? _____
 _____ the same place indicated in Question 8

In the case of being different indicate:

- _____ Hotel Cost _____
 _____ Cabin Cost _____
 _____ Camping zone Cost _____ Do you rent the equipment __ NO/YES __ Cost _____
 _____ All-inclusive package Cost _____
 _____ Other Cost _____

13. Are you thinking of visiting other places in the area?
 _____ YES / NO _____
 Which ones?

- _____ Drake
 _____ Térraba-Sierpe National Wetland
 _____ Whale Marine National Park
 _____ Puerto Jiménez
 _____ Dominical
 _____ Corcovado National Park Which Biological Station?

San Pedrillo	
Sirena	
La Leona	
Los Patos	

14. What type of activities will be carried out or have carried out in Caño Island or its surroundings?
 _____ Snorkeling
 _____ Diving
 _____ Dolphins and whales watching
 _____ Long walks on trails
 _____ Bird watching
15. How would you rate the quality of service offered by the rangers in the Caño Island Biological Reserve?
 (choose just one option)
 _____ Excellent
 _____ Good
 _____ Regular
 _____ Deficient
16. Do you know about:
 _____ YES / NO _____. The category of management of Caño Island
 _____ YES / NO _____. Prohibitions set in Caño Island.
17. What is the name of the tour operating company with which you travel?

18. Where is the tour operator from?
 Drake
 Puerto Jiménez
 Sierpe
19. What was the approximate cost of the Tour to Caño Island Biological Reserve?

20. Did the operator tour give you the necessary security during the trip to Caño Island Biological Reserve?
 YES / NO
21. Did the guide show during the trip respect for dolphins, whales and marine resources?
 YES / NO
22. Of the following statements, the guide showed good command during the trip of:
English language YES / NO
Knowledge of marine fauna YES / NO
23. How would you rate the quality of service offered by the operator tour with which you are traveling to the Caño Island Biological Reserve? (choose just one option)
 Excellent
 Good
 Regular
 Deficient
24. What elements do you consider as a visitor that could help to the conservation and preservation of the Caño Island Biological Reserve?
 Do not leave trash in the Biological Reserve
 Do not remove plants from the island
 Do not contaminate
 To participate in volunteering programs
 To promote contacts with national and international universities

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve



No. Survey	Interviewer code

Interviews for tourists
Corcovado National Park

Project “Systematization and analysis of the contribution of National Parks and Biological Reserves to the economic and social development in Costa Rica”

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Indicate gender

Gender	
Female	Male

1. What is your nationality?

- ___ (1) Costa Rican (in case of being Costa Rican go to question #4)
 ___ (2) American Country _____
 ___ (3) European Country _____
 ___ (4) African Country _____
 ___ (5) Asian Country _____
 ___ (6) Oceania Country _____

2. What was the cost of your airline ticket to get to Costa Rica?

3. Which airline did you use to come to Costa Rica?

- ___ (1) American Airlines/ ___ (2) Air Canada / ___ (3) Air France/
 ___ (4) American West/ ___ (5) Air Comet / ___ (6) Continental- Copa Airlines
 ___ (7) Condor Airline / ___ (8) Delta Airlines/ ___ (9) Iberia/
 ___ (10) Mexicana / ___ (11) North West/ ___ (12) Spirit Airlines/
 ___ (13) Taca-Lacsa / ___ (14) Us Airways

Other _____

4. How long are you going to stay in Costa Rica?

- ___ (1) Less than 1 week/ ___ (2) 1 to 2 weeks ___ (3) 3 to 4 weeks
 ___ (4) 1 to 2 weeks / ___ (4) More than 2 weeks

5. How many people (relatives and friends) travel with you?

- ___ (1) No one ___ (2) 1 to 2 people ___ (3) 3 to 4 people
 ___ (4) 5 to 6 people ___ (5) More than 7 people

6. Did you know about the existence of Corcovado National Park?

- ___ (1) YES / ___ (2) NO

6.1 How did you know?

- ___ (1) Recommendation
 ___ (2) Tourist book Name of the book. _____
 ___ (3) Magazine of tourism Name of the magazine. _____
 ___ (4) Internet

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve

- _____ (5) The trip is part of the tour of the travel agency.
 _____ (6) Other means. Specify. _____

7. How many days are you going to stay at Corcovado National Park?
 _____ (1) 1 day / _____ (2) 2 to 4 days/ _____ (3) 5 to 6 days/ _____ (4) More than 7 days

8. How did you plan the visit to Corcovado National Park?

_____ (8.1) **Travel agencies**

_____ (1) National
 How much did the package cost? _____
 Does it include other additional destinations to Corcovado National Park?

_____ (2) International
 How much did the package cost? _____
 Does it include other additional destinations to Corcovado National Park?

_____ (8.2) **Tourist operator or independent carrier**

How much did the package cost? _____
 Does it include other additional destinations to Corcovado National Park?

_____ (8.3) **On your own**

(8.3.1) what is the estimated cost for the trip? _____

_____ (8.4) **By other means**

(8.4.1) Explain: _____

(8.4.2) what is the estimated cost for the trip? _____

9. What was the last place of lodging (outside the Osa Peninsula) before getting to Corcovado National Park?

_____ (Name hotel/cabin/Camping area) / _____ Place/town

10. Since your last place of lodging, in which costs have you had to get to Corcovado National Park?

ITEM		APPROXIMATE AMOUNT per person	
1. Food			
	2. Lodging:		# days lodging
	Hotel		
	Cabin		
	All-inclusive package		
3. Transportation:			
	3.1 Maritime		
	3.2 Aerial		
	3.3 Bus/Collective taxi		
	3.4 Own car (gasoline)		
	3.5 Rented car		# days of renting

4. Tickets:	
Ticket to Corcovado National Park	
Ticket to Caño Island Biological Reserve	

11. Within the Corcovado National Park, what services are you using?

- (1) Camping
 (2) Filming
 (4) Anchorage
 (4) Service of cafeteria in Sirena Biological Station
 (5) Lodging in the shelter of the Sirena Biological Station
 (6) Diving
 (7) None of the above (GO TO QUESTION 13)

12. What is the approximate expenditure (per person) in each of them?

- (1) Camping _____ #days
 (2) Filming _____ #days
 (3) Anchorage _____ #days
 (4) Diving _____ #days
 (5) Dining room service at Sirena Biological Station _____ # meals
 (6) Lodging in the shelter of Sirena Biological Station _____ # days

13. After visiting Corcovado National Park, will you stay somewhere nearby?

- (1) YES / (2) NO (GO TO QUESTION 15)

14. Where will you stay in that case and how many days?

- Name of the Hotel / Cost per person / Number of days
 Name of the Cabin / Cost per person / Number of days
 Camping area / Cost per person / Number of days
 Do you rent the equipment? (1) YES / (2) NO / Cost per person
 All-inclusive package Cost per person / Number of days
 Other means / / Cost per person Number of days

15. What is the main **attraction** of the Corcovado National Park for you?

16. What type of activities will be developed or have you developed in Corcovado National Park or its surroundings

- (1) Snorkeling / (2) Diving / (3) Whales and dolphins watching
 (4) Hiking on trails / (5) Bird watching
 (6) Other activity _____

17. Do you think the services offered by Corcovado National Park could be improved?

- (1) YES / (2) NO (GO TO QUESTION 18)

17.1 What services could be improved?

18. Will you visit other tourist sites in Osa?

___ (1) YES / ___ (2) NO (GO TO QUESTION 20)

19. Which places will you visit?

___ (1) Tour to Caño Island Biological Reserve

___ (2) Drake

___ (3) Térraba-Sierpe National Wetland

___ (4) Sierpe

___ (5) Puerto Jiménez

___ (6) Marino Ballena National Park

___ (7) Dominical

___ (8) Corcovado National Park

(8.1) Which Biological Station/Operational Center?

___ (8.1.A) San Pedrillo Operational Center

___ (8.1.B) Sirena Biological Station

___ (8.1.C) La Leona Operational Center

___ (8.1.D) Los Patos Operational Center

___ (9) Other places _____

20. Are you willing to pay more by the ticket price to improve the services offered by the park?

___ (1) YES / ___ (2) NO (HE/SHE FINISHED THE SURVEY)

21. How much would you be willing to pay?

22. Which services for?

Thank you very much!!!

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve



No. Survey	Interviewer code

**Interviews for hotels / cabins / camping /house renting
 Corcovado National Park**

Project “Systematization and analysis of the contribution of National Parks and Biological Reserves to the economic and social development in Costa Rica”

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Date: _____

Place: _____

Kind of lodging (hotel / cabin / camping / house): _____

Name of the enterprise / brand: _____

Name of the interviewed person: _____

Position of the interviewed person: _____

- Who is the owner of the hotel/cabin? Where is he/she from?

- When did the hotel/cabin come into operation?

- Do you own the hotel or is it rented?
 Owned
 Rented. How much do you pay per month?

- Do you know who built the hotel/cabins?

- How do you promote the hotel/cabin?

- Does your hotel have website?
 YES / NO Electronic address _____
- What was the use of the land before the construction of the hotel/cabin (grass, forest)?

- Is the land still used for that purpose? YES / NO ____.
- Where did you buy the furniture (tables, chairs, etc.)?

- How many rooms does the hotel/ have? How many beds are there per room?

- What is the price charged per room in each season?
 Low season _____ High season _____

12. What is the **occupancy** rate in each season?

	Low Season	High Season
Weekly		
Monthly		

13. Is there any time of year in which the occupation is minimal? YES / NO .
 Which months? _____

14. Have you been able to notice differences in the occupancy rate in recent years?
 YES / NO Explain _____

15. The current economic crisis has affected the demand for the services your hotel offers
 YES / NO
 Explain _____

16. Do you know what percentage of people are nationals and foreigners in every season?

	Low Season	High Season
Nationals		
Foreigners		

17. What means of transportation use the tourists to get to the hotel/cabin?

 Airplane / Boat / Bus
 / Own Car / Rented Car
 Other means Specify _____

18. In your opinion, what percentage of customers are attracted by:

 Corcovado National Park
 Caño Island Biological Reserve
 Other attractions, Specify which ones: _____

19. Do the hotel / cabin have restaurant service?

YES (if yes go to the next question)
 NO (go to question # 25)

20. Are you the owner of the restaurant?

 YES / NO
 Do you rent it? How much do you pay per month? _____

21. How much raises the monthly / annual sales that carry out the restaurant in the following seasons?

	Low season	High season
Monthly		
Annual		

22. Do you have any idea how many guests of the hotel / cabin use the restaurant service?

 YES / NO How many? _____

23. Do you have any idea how many people **who are not guests** use the restaurant service?
 ___ YES / NO ___ How many? _____

24. Where do you buy the inputs used by the restaurant?

25. Of the following activities. What services are provided by the hotel / cabin and what is the tariff of each?

Service	Tariff	Frequency	Number of people
1. Caño Island Tour			
2. Snorkeling			
3. Dolphins and whales watching			
4. Diving			
5. Kayaking			
6. Fishing			
7. Canoes			
8. Surfing			
9. Tour to the Corcovado National Park: San Pedrillo Station			
Sirena Station			
La Leona Station			
Los Patos Station			
10. Horse riding			
11. Canopy			
12. Bird watching			
13. Long walks on trails			
14. Turtles watching (by season)			
15. Camping			
16. Others			

26. Do you have any idea what percentage of your revenues depend on the Corcovado National Park-Caño Island Biological Reserve?
 ___ YES / NO ___ Percentage: _____ Do not know _____

27. How much is the monthly/annual income by the hosting service in the following seasons?

	Low Season	High Season
Monthly		
Annual		

28. What is the cost of operation and maintenance of the hotel / cabins (by season)?

Low Season	High Season

29. Are you planning on expanding the capacity of the hotel / cabins (to build more or to offer more services)
 ___ YES / NO ___ What will you expand? _____

30. How many people work in the hotel/cabin on each season? (including yourself)

	Low Season	High Season
Relatives		
Employees		

31. How much do you pay for wages monthly?

32. Where do the employees come from?

- _____ Drake
- _____ Sierpe
- _____ Rancho quemado
- _____ Carate
- _____ La Palma
- _____ Palmar Sur
- _____ Palmar Norte
- _____ Puerto Jiménez
- _____ Rancho quemado
- _____ Rincón
- _____ Dominical
- _____ Other place _____

33. How much do you spend in monthly?

Item	Monthly cost
Electricity	
Water	
Telephone	
Internet	
Cable TV	
Food	
Beverages	
Inputs	
Other services	

34. Do you collaborate or has a relationship with a company or organization at local, national or international level related to your activity? ___YES / NO ___.

Which one?

- _____ ICT
- _____ MINAET
- _____ Chamber of Tourism
- _____ Tour operator
- _____ Travel agency
- _____ Others. Specify _____

35. Where does the water you use for your hotel come from?

_____ Concession (Well) _____ Aqueduct Other _____

36. Do you have a treatment plant for sewage water? ___YES / NO ___.

37. How do you manage the solid wastes (garbage)?

38. Do you practice the separation and recycling of wastes? ___YES / NO ___.

39. Do you have any certification? ___YES / NO ___.

Which one? _____

40. Do you agree with the management being undertaken by the MINAE in the Corcovado National Park-Caño Island Biological Reserve? ___YES / NO ___.

Why? _____

41. Are you supporting financially or in a different way the maintenance of a protected area?

___YES, How? _____

___NO, would you be willing to do it in the future? ___YES / NO ___



No. Survey	Interviewer code

**Interviews for Restaurants and Coffee Bars
 Corcovado National Park**

Project “Systematization and analysis of the contribution of the national parks and biological reserves to the economic and social development in Costa Rica”

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Date: _____
 Place: _____
 Type of establishment: ___ Restaurant/ ___ Coffee Bar / ___ other. Specify _____
 Name of the enterprise: _____
 Name of The interviewee: _____
 Position of the interviewee: _____

1. Who is the owner of the business? Where is he/she from?

2. When did the restaurant/coffee bar come into operation?

3. The restaurant/coffee bar is:
 ___ Owned
 ___ Rented. How much do you pay per month? _____
4. Do you know who built the restaurant/coffee bar?

5. What was the use of the land before the construction of the restaurant (grass, forest)?

6. Is the land still used for that purpose? YES ___ / NO ___
7. How do you promote the restaurant/coffee bar?

8. Does your restaurant/coffee bar have website?
 YES ___ / NO ___. Electronic address _____
9. What is the price charged for the dish of the day? (Include the types of food).
 ___ Breakfast _____
 ___ Lunch _____
 ___ Dinner _____

10. How many dishes do you sell in each season?

Low Season _____/ High Season _____

11. How many tourists do you attend daily/monthly in your restaurant/coffee bar?

	Low Season	High Season
Daily		
Monthly		

12. Is there any time of the year in which the visitation is minimal?

___ YES ___ NO

Which months? _____

13. Have you been able to notice differences in the visitation rate to the restaurant/coffee bar in recent years?

___ YES / NO ___

Explain _____

14. Has the current economic crisis affected the demand for the services your restaurant/coffee bar offers?

YES ___ NO ___

Explain _____

15. Do you know what percentages of your customers are from the country and foreigners?

	Low Season	High Season
National:		
Foreigners:		

16. What means of transportation use the tourists to get to the hotel/cabin?

Airplane_____/ Boat_____/ Bus_____

Own Car _____/Rented Car_____

Other means Specify_____

17. In your opinion, what percentage of customers are attracted by:

_____ Corcovado National Park

_____ Caño Island Biological Reserve

_____ Other attractions Specify _____

18. Do you have any idea of what percentage of your revenues depend on the Corcovado National Park?

___ Yes/ No ___. Porcentaje_____

19. How much raises the monthly / annual sales that carry out the restaurant in the following seasons?

	Low season	High season
Monthly		
Annual		

20. What is the operation and maintenance cost of the restaurant/coffee bar (during the season)?

Low Season	High Season

21. Are you planning on expanding the capacity of the restaurant/coffee bar (to build more or to offer more services)

YES__ /NO__ What services will you expand?_____

22. How many people work in the restaurant/coffee bar in each season? (including yourself)

	High Season	Low Season
Relatives		
Employees		

23. How much do you pay for wages monthly?

24. Where do the employees come from?

- _____ Drake
- _____ Sierpe
- _____ Rancho quemado
- _____ Carate
- _____ La Palma
- _____ Palmar Sur
- _____ Palmar Norte
- _____ Puerto Jiménez
- _____ Rancho quemado
- _____ Rincón
- _____ Dominical
- _____ Other place _____

25. What is your monthly expenditure in terms of?

Item	Monthly Cost
Electricity	
Water	
Telephone	
Internet	
Cable TV	
Food	
Beverages	
Other services	

26. Where did you buy the furniture and equipment that you use in your restaurant/coffee bar?

27. Where do you buy the inputs used by the restaurant/coffee bar?

28. How much money has you invested in your business so far?

General description

29. Do you collaborate, or has any relationship with any company or organization at the local, national or international level?

___ YES / NO ___ Which one?

___ Ministry of Tourism (ICT)

___ Business Chamber

___ Operator Tour

___ Travel agency

___ Others, Which ones: _____

30. Where does the water you use for your restaurant/coffee bar come from?

_____ Concession (Well) _____ Aqueduct Other _____

31. Do you have a treatment plant for sewage water? ___ YES / NO ___

32. How do you manage the solid wastes (garbage)?

33. Do you practice the separation and recycling of wastes? ___ YES / NO

34. Do you have any certification? ___ YES / NO which one?

35. Do you agree with the management being undertaken by the MINAE in the Corcovado National Park-Caño Island?

___ YES / NO ___

Why? _____

36. Are you supporting financially or in a different way the maintenance of a protected area?

___ YES, How? _____

___ NO, would you be willing to do it in the future? ___ YES / NO ___



No. Survey	Interviewer code

**Interviews for Tour Operators
 Corcovado National Park**

Project “Systematization and analysis of the contribution of the National Parks and Biological Reserves to the economic and social development in Costa Rica”

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Date: _____
 Place: _____
 Name of the enterprise: _____
 Name of the interviewed person: _____
 Position of the interviewed person: _____

A. General Questions

1. How long do you offer the service?

2. What did you do before working as a tour operator?

3. How is the activity promoted?

4. Does your business have website?
 ___ YES / NO ___ Electronic address: _____
5. Do you know what percentages of your customers are nationals or foreigners?
 ___ Foreigners
 ___ Nationals
6. What means of transportation use the tourists to get to Drake/Puerto Jimenez?
 Airplane ___ / Boat ___ / Bus ___
 Own Car ___ / Rented Car ___
 Other means Specify _____
7. In your opinion, what percentage of customers are attracted by:
 ___ Corcovado National Park
 ___ Caño Island Biological Reserve
 ___ Other attractions Specify _____

B. Questions about the offered service

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve

8. Of the following activities. What services are offered depending on the season and on the charged approximate fare? What is the average number of people per week whom you offer the service depending on the season?

Service	Approximate fee		People per month	
	High Season	Low Season	High Season	Low Season
1. Caño Island Tour				
2. Snorkeling				
3. Dolphins and whales watching				
4. Diving				
5. Kayaking				
6. Sport Fishing				
7. Canoes				
8. Surfing				
9. Corcovado NP Tour:				
San Pedrillo Station				
Sirena Station				
La Leona Station				
Los Patos Station				
10. Horseback Riding				
11. Canopy				
12. Birds watching				
13. Long walks on trails				
14. Turtles watching (by season)				
15. Camping				
16. Food				
17. Others				

9. According to the services you offer, what inputs/goods are required to provide them? Explain.

10. Where do you buy the inputs/goods that you use in your activity?

11. What kind of transportation (boat, car, truck, etc) do you use to bring and carry inputs/goods?

12. Do you provide this service on an individual way or do you offer it to any other hotel?

___ Individual.
 ___ Hotel. Which Hotel? _____

13. Approximately, how much raises the monthly revenues of your activity on each season?

High Season	Low Season

14. Including yourself, how many people work in your business each season?

High Season	Low Season

15. How many boats have your business?

C. Questions on fixed costs, of operations and suppliers

16. Is your local own or is it rented?

_____ Own
 _____ Rented. How much do you pay per month? _____

17. What is your monthly expenditure in terms of?

Item	Monthly cost
Electricity	
Water	
Telephone	
Internet	
Cable TV	
Cleaning	
Maintenance	
Wages	
Fuel	
Maintenance	
Other services	

18. Where did you buy the furniture and equipment you use in your local?

D. Incomes

19. Do you live only of this activity or do you have any other sources of income?

_____ YES / NO ___ which one? _____

20. What percentage of your revenues comes from tourism?

21. What percentage of your sales is made to visitors of the Corcovado National Park-Caño Island?

E. Investment

22. Are you planning on expanding your capacity to offer more services?
____ YES / NO ____ what are you going to expand? _____
23. How much raises the investment carried out in your business so far?

F. Organization and relationship with the Park

24. Do you have any certification?
____ YES / NO ____ which one? _____
25. Do you know that there is a law that regulates cetacean watching?
____ YES which one? _____
____ NO (go to question 27)
26. Is it applied what is stipulated in such law?

27. Does the company is part of a community, commercial, tourist association (at a regional, national, international level)?
____ YES / NO ____ which one? _____
28. In your opinion, would you be in favor of an increase in tourism to the park and the island?
____ YES / NO ____
Why? _____

29. In your opinion: What can be done to promote and sustain tourism toward the National Park and Caño Island?

30. Do you agree with the management that performs MINAET in Corcovado National Park-Caño Island?
____ YES / NO ____ Why? _____

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve



No. Survey	Interviewer code

Interviews for Supermarkets, Workshops, excursions, and other related tourist activities Corcovado National Park Project "Systematization and analysis of the contribution of the national parks and biological reserves to the economic and social development in Costa Rica"

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Date: _____

Place: _____

Type of establishment: ___ Supermarket. / ___ Grocery Store / ___ Laundry ___ Bakery / ___ Café Internet / ___ Souvenirs Store/ ___ Carrier

Name of the enterprise: _____

Name of The interviewee: _____

Position of the interviewee: _____

General Questions

1. How long do you offer the service?

2. What did you do before working in the company?

3. What types of services or products are offered by the enterprise?

4. Do you know what percentage of people are nationals and foreigners?

_____ Foreigners

_____ Nationals

Questions about providers

5. Where do the goods you use in your business come from?

6. What kind of means of transportation do they use (boats, cars, trucks, etc) to bring and carry goods?

7. Where did you buy the furniture and equipment that you use in your local?

Fixed and operating costs

8. Is the business own or rented?
 ___ Own
 ___ Rented How much do you pay per month? _____

9. What is your monthly expenditure in terms of?

Item	Monthly Cost
Electricity	
Water	
Telephone	
Internet	
Cable TV	
Cleaning	
Maintenance	
Other services	

10. How many people work in the enterprise each season? (including yourself)

	High Season	Low Season
Relatives		
Employees		

11. How much do you pay for wages monthly?

Incomes

12. Do you live only of this activity or do you have other sources of income?
 ___ YES/ NO ___ which one? _____

13. What percentage of your income comes from tourism?

14. How much raises the monthly / annual sales that are carried out in the following seasons?

	Low Season	High Season
Monthly		
Annual		

15. What percentage of your sales is made to visitors of the Corcovado-Caño Island National Park?

Investment

16. Are you planning on expanding the capacity of the business (to build more or to offer more services) ____ YES / NO ____ . What services will you expand _____
17. How much money has you invested in your business so far?

18. Where does the water you use come from?
_____ Concession (Well) _____ Aqueduct Other _____
19. Do you have a treatment plant for sewage water? ____ YES / NO ____ .
20. How do you manage the solid wastes (garbage)?

21. Do you practice the separation and recycling of wastes? ____ YES / NO ____ .
22. Do you have any certification? ____ YES / NO ____ . Which one? _____

Organization and relationship with the Park

23. Is the enterprise a member of a communal, commercial, tourism association (at national or regional level)? ____ YES / NO ____ which one? _____
24. In your opinion: Would you be in favor of an increase in tourism towards the park? ____ YES / NO ____ . Why?

25. In your opinion: What can be done to promote and sustain tourism towards the National Park?

26. Do you agree with the management being undertaken by the MINAE in the park? ____ YES / NO ____ Why? _____

Analysis of the Contributions of National Parks and Biological Reserves to the Socio-economic Development of Costa Rica.
Case Study: Corcovado National Park – Caño Island Biological Reserve



No. Survey	Interviewer code

Interviews for local actors in Corcovado National Park

Project “Systematization and analysis of the contribution of National Parks and Biological Reserves to the economic and social development in Costa Rica”

The National University is carrying out a research project which its objective is to quantify the contributions of National Parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Date: _____

Place: _____

Position: _____

1. What kind of socio-economic and environmental changes have happened in the local or communal level through the development of tourism in the Corcovado National Park and Caño Island Biological Reserve?

2. What productive activities have grown rapidly and which ones have been disappearing?

3. In your opinion, what are the benefits and negative effects arising from the presence of the Corcovado National Park and Caño Island Biological Reserve to socio-economic development?

Benefits	Negative effects

4. What has been the development of infrastructure associated with the creation of the Corcovado National Park and Caño Island Biological Reserve?

5. Does tourist activity related to the Corcovado National Park and Caño Island Biological Reserve generates enough jobs for the people to stay working in the community or should they emigrate?



No. Survey	Interviewer Code

Interview Local Airlines

Project “Systematization and analysis of the contributions of National Parks and Biological Reserves to the economic and social development in Costa Rica”

In the Universidad Nacional we are carrying out a research Project, which its objective is to quantify the contributions of national parks to the socio-economic development of Costa Rica. In this sense, we require your collaboration to complete the following questionnaire. All the information gathered will be used only for academic purposes.

Date: _____

Name of the airline _____

1. What percentage of national and foreign tourists travel in each of the following seasons?

	High Season	Low Season
National		
Foreigners		

2. With the lowest Price and with the highest price of the tickets, on average, what percentage of people travel per month?

	Lowest Price	Highest Price
National		
Foreigners		

3. How many people do you consider are required to operate a fly (since the reservation is made until the person is taken to his/her final destination) and which is on average the salary of each one who receives it monthly? (travel agencies, pilots, in charge of operations etc)

Type of official	Amount	Approximate Monthly Salary

4. Where do your employees come from mainly?

5. What type of fuel do the airplanes use?

6. Where do you buy the fuel that the airplanes use?

7. What amount of fuel is consumed on Average by an airplane km/h in a back and forth trip from the airport to Drake/Puerto Jiménez/Carate?

Route	Approximate consumption of fuel
San José-Drake (vice versa)	
San José-Puerto Jiménez (viceversa)	
San José-Carate (vice versa)	

8. Which have been on average the fees of the tickets in the different seasons from 2006-2008?

	High Season	Low Season
2006		
2007		
2008		

9. What is the reason by which you change the fees of the tickets in a same season: preferential seats, nationality, discounts, and promotions?
-

10. Which is the number of flies weekly that on average you make to the following destinations according to the season?

	High Season	Low Season
Drake		
Puerto Jiménez		
Carate		

11. What type of rights must the agency pay to operate (taxes by the usage of the airport, insurance policies to INS, certifications to ICT, patents? Which is the cost of each one?

Item	Approximate Amount
Taxes by usage of the airport	
Insurance Policies	
Certifications	
Others	

12. What is the approximate annual cost of operation and maintenance of each airplane?
-
-

13. Who provides the service of reparation and where are acquired the necessary parts?
-
-