UNIVERSIDAD PARA LA COOPERACION INTERNACIONAL
(UCI)

Feasibility Study for facility improvements of the Naranjo site camping area in the Santa Rosa National Park (Costa Rica)

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DEDICATION

This achievement is dedicated to those who are always by my side, understanding, helping, encouraging and above all supporting me. To my favorite team members, who demonstrate every day that love and dedication exist between them and to their children, demonstrating it every day. There are many demonstrations of solidarity received from them and yet not so many returned, so this document that ends up two years of frustrations, distances and stress is dedicated to them, who unknowingly have been my constant support to move forward, get up, dry my tears and finally, achieve the goal.

And this puzzle would not be complete without my older brother, whom I know better every day and understand more, a transparent person with a lot of personality who is on the way to seek happiness doing what he really likes and being as he really is, no matter what others think. David, you do not imagine all you're teaching me and how much I admire you.

For my team, with all my love, I love you very much.

ACKNOWLEDGMENTS

To Fabio Muñoz, tutor of this project, who spent time and dedication on me to make things go through.

To my master professors, for communicating their knowledge to us and for their availability.

To all my master fellows, for all the companionship, effort and sacrifice that meant achieving this goal. Especially to my work team formed by Cassandra, Carolina, Lunce, Flor, Pettia and Dulcine.

To Marco Bustos, excellent professional of Santa Rosa National Park, team leader as well as direct contact with the park and professional tutor. I can confirm he has suffered for this project as much or more than me, encouraging, helping and supporting me at all times, I feel totally grateful for his work.

To the ACG for providing me with information to include in my document.

INDEX OF CONTENTS

INDEX OF FIGURES

INDEX OF CHARTS

ABBREVIATIONS AND ACRONYMS

AC	Actual Cost
ACG	Área de Conservación Guanacaste
ASCATUR	Asociación Cámara del desarrollo del Comercio y Turismo de la Cruz
ASP	Área Silvestre Protegida
CALITUR	Cámara de Turismo de Liberia
CATURGUA	Cámara de Turismo Guanacaste
CPI	Cost Performance Index
CV	Cost Variance
EV	Earned Value
ICC	Índice de Competitividad Cantonal
IDC	Índice de Desarrollo Cantonal
INEC	Instituto de Estadística y Censos
ICT	Instituto Costarricense de Turismo
MIDEPLAN	Ministerio de Planificación
MINAE	Ministerio de Ambiente y Energía
MPM	Master in Project Management
PMBOK® Guide	Project Management Body of Knowledge Book
PDM	Precedence Diagramming Method
PNSR	Parque Nacional Santa Rosa
PNUD	Programa de las Naciones Unidas para el Desarrollo
PMI	Project Management Institute
PV	Planned Value
RBS	Risk Breakdown Structure
SINAC	Sistema Nacional de Áreas de Conservación
SPI	Schedule Performance Index
SV	Schedule Variance
SWOT	Strengths, Weaknesses, Opportunities and Threats
UCI	Universidad para la Cooperación Internacional
WBS	Work Breakdown Structure

EXECUTIVE SUMMARY (ABSTRACT)

The National System of Conservation Areas (Sistema Nacional de Áreas de Conservación, SINAC) of Costa Rica is divided into 169 protected wild areas and 11 conservation areas, both terrestrial and marine, being the Guanacaste Conservation Area (Área de Conservación Guanacaste, ACG) one of them and in which The Santa Rosa National Park (PNSR) is located.

Historically, the Santa Rosa National Park (PNSR), is one of the most important areas of the country since its Casona and its stone corrals were the scene of the Battle of Santa Rosa in March 20, 1856. The beach area called Naranjo, was for many years one of the farms of Santa Rosa, whose main objectives were the livestock production for meat and milk, the extraction of salt and wood.

In this area, it has been tried to maintain the original conditions, so that improvements have never been made. However, due to the creation of the Tourism Plan of this Park and the unique combination of beach, trails, dry forest, mangrove and other geological formations of interest, there is a change in mentality to launch a proposal for an improvement plan which will expand the tourist options of the Park and will renew the camping facilities.

Based on this, the fundamental purpose of this research was to determine the feasibility of the improvements and if they meet the needs of tourism.

The project general objective was to develop a feasibility study on the expansion and quality improvement and the sustainable tourism services offer in the camping area of Naranjo Site in the Santa Rosa National Park (Costa Rica) to determine the viability of the proposal. The specific objectives were: To carry out a market analysis to identify the current trend of the market, the profile of visitors and the main areas of influence, in addition to analyzing supply, demand and a SWOT analysis; to develop a general analysis of the current situation of the Santa Rosa National Park, with emphasis on the legal, environmental and financial aspects; create a Scope Management Plan to ensure that the project has all the work required to complete it successfully; establish a Schedule Management Plan to conduct the completion of the project on time; design a Cost Management Plan to estimate, budget and control the costs in such a way that the project is executed with the approved budget, not exceeding the project budget; develop a Quality Management Plan where the processes and activities that determine the responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily; produce a Stakeholder Management Plan that seeks to understand and evaluate stakeholder expectations and their impact on the project; and finally, implement a Risk Management Plan where the processes related to management planning, identification, analysis, risk response planning, as well as monitoring, control and minimization in the project are developed; all of this to determine the viability of the described proposal.

The methodology used for this research was mainly content analysis which is a

descriptive methodology, this is due to the fact that a data collection and analysis process was performed through surveys, interviews and market analysis, and the data was analyzed in detail for the development of an optimal solution that meets the needs of the Park and the preferences of the main visitors and its workers.

Regarding the Results Chapter, it can be observed that the visitor profile does not make any distinction with regard to age, including all ranges and it should be noted that visitors who are national represent 88% of the total. In relation to the legal analysis, the legislation corresponding to the protected areas is presented, highlighting the activities prohibited according to the Law of Service of National Parks No 6084. With respect to the financial analysis, a review of the investments on the park is made based on the infrastructure tourist proposal, detailing its distribution, plus an estimate of income, being in 2017 of about 135,803,089.00 colones. From the Scope Management Plan point of view, it is worth highlighting the development of the Project Charter in which each of the fundamental and crucial aspects of every Project are detailed. With reference to Cost Management, the project cost estimate stands out and then, in regard to the Quality Management, the quality assurance matrix is included. Regarding the Stakeholders Management section, the Stakeholder Register which specifies the main interlocutors and the Power / Influence Matrix are included. Finally, with regard to Risk Management, the Risk Register is included, where they are ordered based on their probability and impact.

It is expected that with the proposed improvements, the quality of the services offered at the Naranjo Beach site will increase and consequently the offer will be more attractive for visitors, thus improving the number of people who decide to discover the attractions of the PNSR.

After carrying out the studies, it can be concluded that the proposed feasibility project is positive, so that improvements in the camping area are viable and are considered to be enriching for the tourism development of the PNSR. Due to lack of time, six of the ten areas of knowledge and the first two groups of processes have been developed, however, it is recommended to finalize the complete study to make a more precise decision. The PNSR presents an advantageous situation with the presence of both, cultural and natural elements, protecting a unique ecosystem such as the dry forest.

As a main recommendation, the PNSR directive is advised to carry out an environmental study since it is currently non-existent, which should be updated annually, including not only the impact that the project would generate, but also the recovery that the environment could have in this site.

In addition, it is recommended that the SINAC Board of Directors, and especially the Ecotourism Program of the PNSR (ACG), implement the methodology established by the *PMBOK® Guide* for future processes and approaches for improvement projects within an ASP.

1 INTRODUCTION

1.1 Background

The SINAC is an institutional management system that integrates the competencies in forestry, wildlife, water systems and protected wild areas, of the Ministry of Environment and Energy (Ministerio de Ambiente y Energía, MINAE), to establish policies, plan and execute processes oriented in achieving sustainability in the management of Costa Rica natural resources.

It is divided into 11 conservation areas, terrestrial and marine (Figure 1) and 169 protected wild areas (ASP) under different management categories; such as national parks, biological reserves, wildlife refuges, protection areas, national monuments and forest reserves.

Figure 1. Conservation Areas of Costa Rica (ACG, 2014)

Additionally, 26.5% of this land area is found in 166 ASPs (Figure 2) corresponding to different categories of protection, in which there are higher levels of restriction to human activities, in order to conserve biodiversity and natural resources.

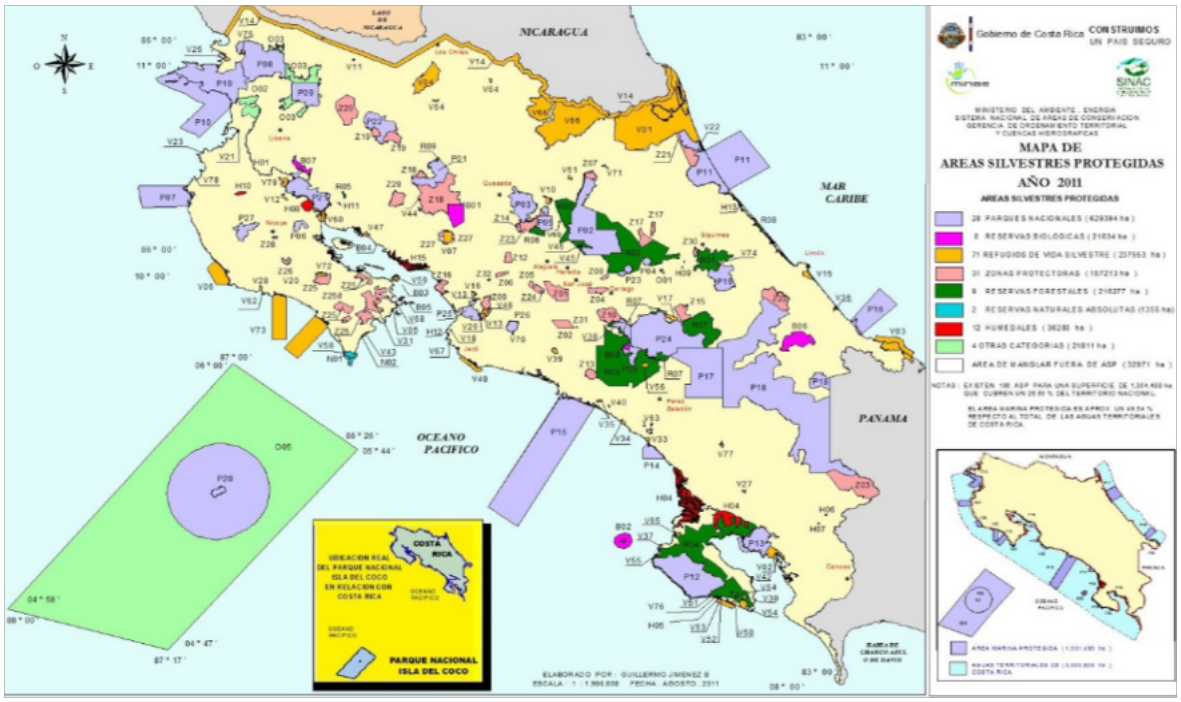


Figure 2. Protected Wilderness Areas of Costa Rica (ACG, 2014)

One of the 11 conservation areas is the Guanacaste Conservation Area (ACG), located in the Santa Rosa National Park (Figure 3), which is found on the Santa Elena Peninsula, specifically in the cantons of La Cruz and Liberia. This park is integrated by the zones of Santa Rosa, Santa Elena, Murciélago and the Marine Zone.

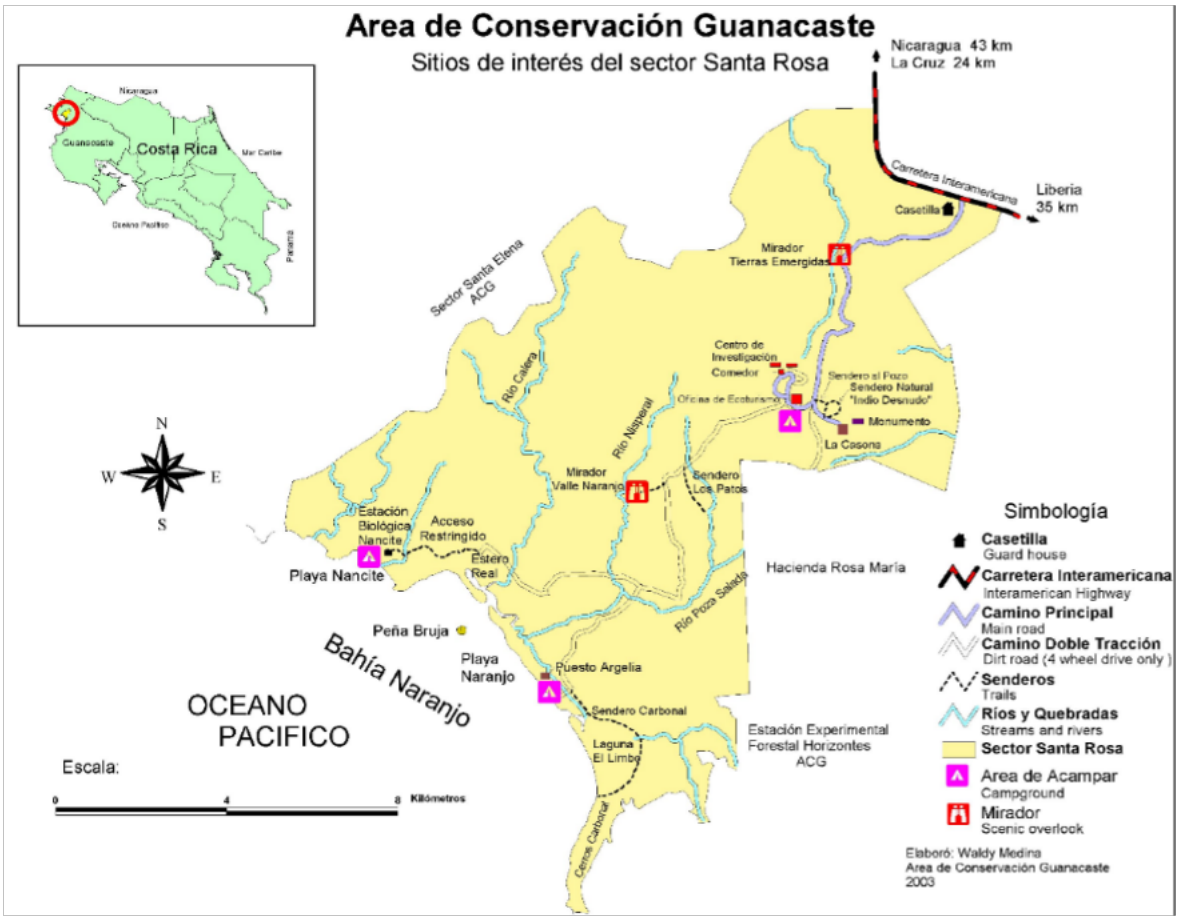


Figure 3. Santa Rosa National Park Map (Medina, 2003)

The history of the National Park dates back to July 1st 1966, when La Casona of Santa Rosa was stated a National Monument, including some 1,000 hectares surrounding the site. Historically, Santa Rosa National Park has been one of the most important areas of the country, since La Casona and the stone corrals were the scene of the greatest national heroic act: the Battle of Santa Rosa on March 20th 1856.

In 1971, it was declared a National Park, increasing its area to more than 10,000

hectares. Later it was expanded in different stages, reaching in the year 2000 the current 81,000 hectares of rough extension, of which 42,465 hectares are marine and 38,674 are terrestrial.

The park is located in what is known as the Dry Pacific, and has special importance due to the protection and recovery it supposes for the habitats under this climate. In Santa Rosa there are about ten different habitats, among them: deciduous forests, holm oak forests, evergreen forests, mangroves, swamps, riverine forests, shrub forests, vegetation of beaches and grasslands or savannahs.

The beach of Naranjo, which has 7 km. of extension, is located 12 km. away from the administrative area of Santa Rosa National Park. In this area it can be identified different formations such as mangroves, dry forests, estuaries, which have numerous species of fauna, such as turtles, raccoons, deer, jaguars, crocodiles and many species of birds. This beach, apart from the great scenic beauty it presents, plays a fundamental role in the spawning of sea turtles such as olive and leatherback turtles.

Due to its tradition and eagerness to maintain the essence of the place, it wasn't until the year 2016 when a Tourism Plan of Santa Rosa was created and with it the possibility of improving the area and offering a quality service to its visitors.

The proposed feasibility study will pursue to determine the practicality of developing an Improvement Plan for the Naranjo site in order to create better facilities and bring a better service to the visitor. The study will seek to analyze the options of success of the proposal attending to the social, legal and economic part.

1.2 Problem Statement

The Santa Rosa National Park beach area has traditionally been pledged to maintaining the original conditions of the environment, so improvements have never been made. Despite the large number of visitors who decide to enjoy the Santa Rosa National Park, few are those who entry the beach area, due to the lack of adequate facilities in this space; wasting this way a landscape of unique beauty in Costa Rica. Therefore, the incomes from reservations of visitors who spend the night at the campsite are scarce.

However, thanks to the creation of a Park Tourism Plan, there is a mindset of change and enthusiasm to launch a new project that increases tourism options in the area. That is why, the proposal of a plan to improve the Naranjo site, seeks to

provide better quality conditions to its visitors and officials in the camping area, and achieve a greater flow of visitors to this zone. With the help of different studies, it will be analyzed if it is feasible to propose an improvement plan for the beach area of Santa Rosa National Park.

1.3 Purpose

Considering the stages of project management, the feasibility study should conclude with a proposal to suggest the abandonment, immediate application or postponement of the enhancement plan.

The proposed project will be based on the following three stages of a feasibility study:

1. Determine the profile of the project: Preliminary stage of the investigation which seeks to determine if there are reasons to justify its immediate abandonment before going deeper into the study.
2. Prefeasibility: Intermediate stage where the costs and benefits of the project are projected in a previously defined evaluation. It is based on information from external sources.
3. Feasibility: Deeper stage that completes and shows the information used in the evaluation, based on primary sources.

The feasibility study will have an economic, legal and social analysis. The market analysis will provide accurate real information in order to make solid decisions and solve potential problems with a greater level of success. At the same time it will help defining the characteristics of the client and their main preferences, thus being able to respond and adapt to them in a more professional way. This economic analysis will evaluate the relationship between the costs and benefits associated with the project in order to evaluate its profitability and thus determine if it is worth undertaking the project or, on the contrary, it should be stopped. The objective of the legal analysis will be to define the regulations, rights, limitations and permits required in relation to the protected areas and national parks of the country.

Finally, the social analysis pertaining to the demand analysis will help to define the profile of visitors and workers of the park, their conditions and preferences, and thereby seeks the best way to perform the plan so that it is well received. With all this, the feasibility on the establishment of the improvement plan proposed in the

Naranjo site of Santa Rosa National Park (Costa Rica) will be validated.

1.4 General objective

The project general objective was to develop a feasibility study on the expansion and quality improvement and the sustainable tourism services offer in the camping area of Naranjo Site in the Santa Rosa National Park (Costa Rica) to determine the viability of the proposal.

1.5 Specific objectives

1. Perform a market analysis to know the profile of the visitor, interests and their areas of influence, which include:
    1.1. Analysis of the supply
    1.2. Demand analysis
    1.3. SWOT analysis
2. Perform a general analysis of the current situation of the PNSR, subdividing it into:
    2.1. Analysis of the supply
    2.2. Demand analysis
    2.3. SWOT analysis
3. Create a Scope Management Plan to define and control what is and what is not included in the project, ensuring that all work necessary to complete the project successfully has been considered.
4. Establish a Schedule Management Plan to manage the completion of the project on time.
5. Design a Cost Management Plan to estimate, budget and control costs in such a way that the project is executed with the approved funds, so as not to exceed the estimate of the project.
6. Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.
7. Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.
8. Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and

minimization of the project are developed.

2 THEORETICAL FRAMEWORK

The ACG is located northwest of Costa Rica. The access to the administrative area, in the Santa Rosa Region, is located 35 km northwest of the city of Liberia or 24 km south of the city of La Cruz, following the Inter-American Highway.

It is composed of the National Parks: Santa Rosa, Guanacaste and Rincón de la Vieja; in addition to the Horizontes Forestry Experimental Station and the Junquillal Bay Wildlife Refuge.

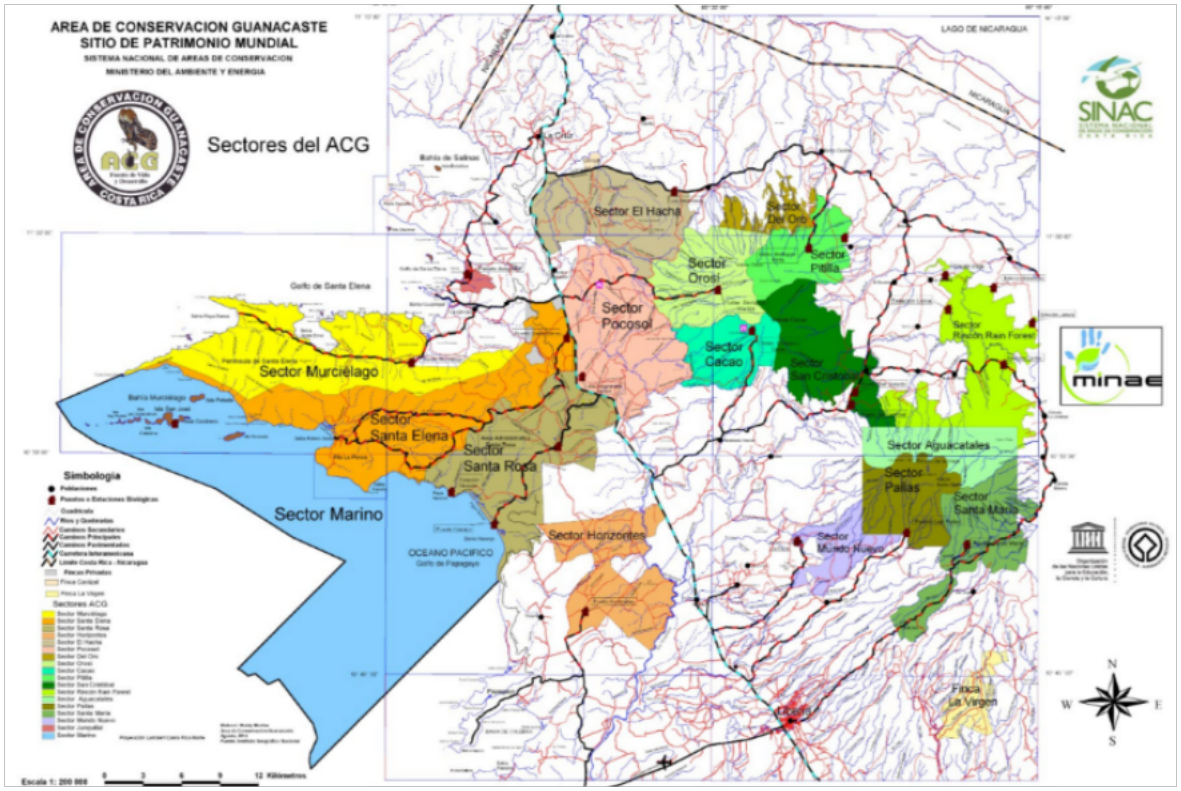


Figure 4. Zones of ACG (ACG, 2014)

In 1986, at the beginning of the project that established what the ACG is now, a national and international campaign was developed to obtain the necessary economic resources, in order to implement a new model of administrative management of wild areas whose purpose was to guarantee the conservation of biodiversity through its non-destructive use by society. In addition, the preservation of natural areas in the ACG, has allowed areas deforested due to agriculture and livestock to be gradually covered by the forest.

This strategy allowed to obtain different donations from non-governmental organizations, national and foreign institutions, and volunteers, who with their help contributed to the development of the administrative structure, the technical programs and the geographical consolidation of the area.

Currently, some of the most important donors are the following:

- o The **yields of the Patrimonial Fund:** a certain amount of economic resources from specific donations has been maintained since 1992 in a bank trust, called ACG's Patrimonial Fund.
- o **Specific donations:** These can be economic donations or technical advice that vary in form and content.
- o **Income generated by Services:** Includes income generated by the ACG for the sale or provision of services such as: accommodation and use of biological stations by tourists, researchers, courses, tickets and use of camping areas.
- o **SINAC Funds:** As part of the decentralization and the allocation of economic resources, SINAC assigned to the Conservation Areas the funds coming from the former Directorate of National Parks, the General Forest Directorate and the Wildlife Directorate.

At present, the ACG has 105 employees, of which 12 work in the Santa Rosa National Park and only two work directly at Playa Naranjo Site.

In addition, the tourist flow in the ACG has been growing in the last 16 years, this requires a special attention to the constant demand for infrastructure by and for the tourist service, and the complementary services necessary to control the tourist activity in order to avoid damage to the environment.

During 2016, ACG concentrated 6% of all visitors registered nationally by SINAC. Therefore, the diversification of the tourist offer and the investment for the operation of services to the user is a latent need due to the growth of the demand-

In PNSR the demand of foreigners has experienced a relative decrease, 8% since 2000, with respect to the demand of nationals.

Finally, during 2016, the highest concentration of tourism was reduced to two registration points, of which Santa Rosa received 26%. This situation requires a greater number of personnel for customer service.

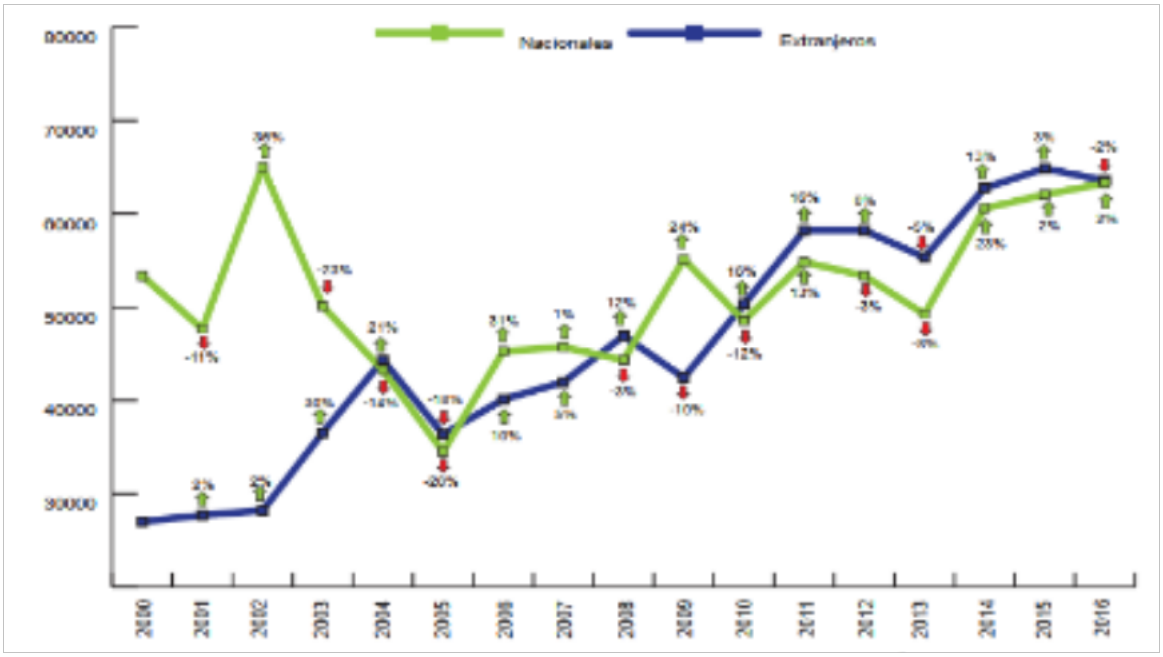


Figure 5. Historical behavior of the segments of national and foreign visitors who entered the Guanacaste Conservation Area (ACG) during the period 2000-2016 (Ecoturism Program, 2014).

The PNSR has maintained an irregular behaviour of demand, characterized by abrupt changes in the number of registered visitors each year with interannual decreases in nine of the seventeen years of study.

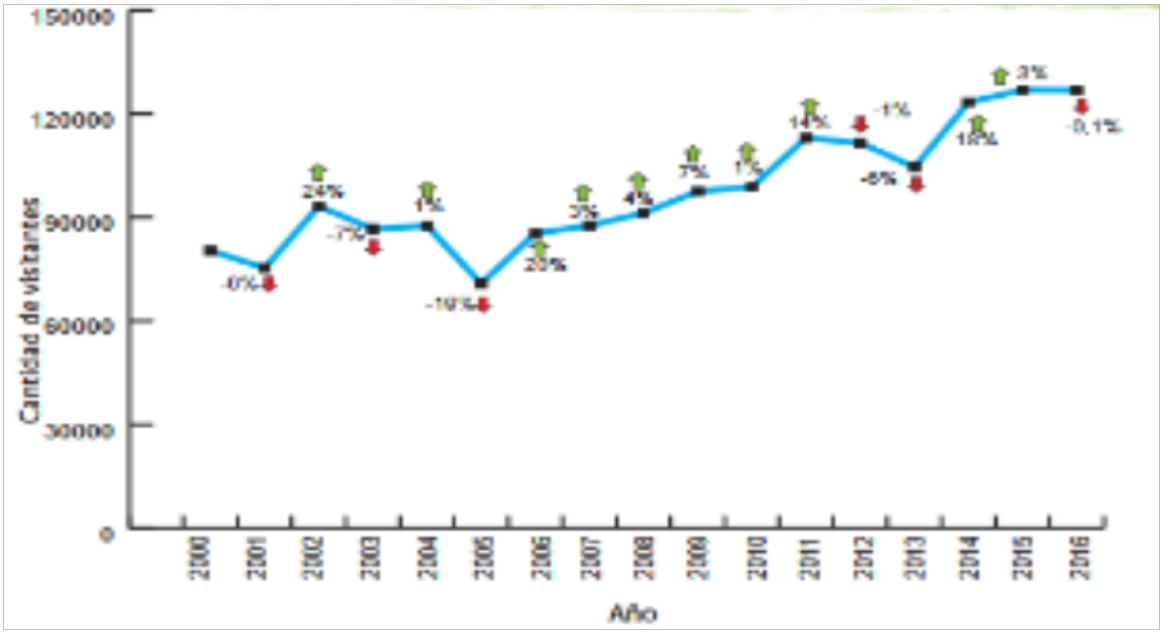


Figure 6. Number of visitors who entered Santa Rosa National Park during the period 2000-2016 (Ecoturism program, 2016)

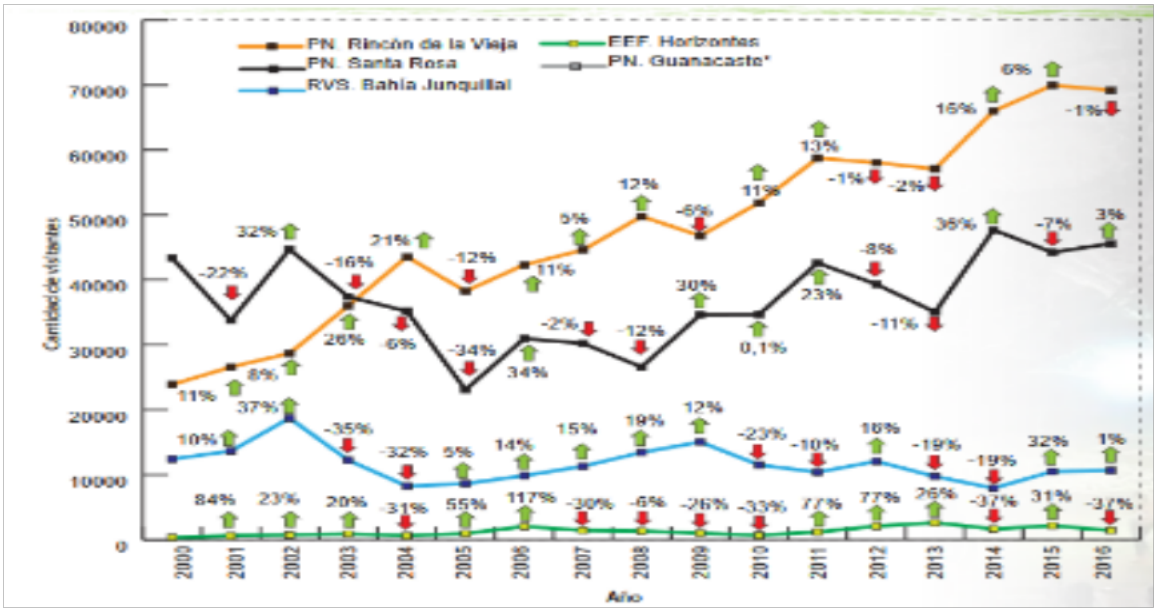


Figure 7. Number of visitors who entered in Guanacaste Conservation Area (ACG) during the period 2000-2016 (Ecoturism program, 2016)

Finally, the group of students, volunteers and researchers visiting the ACG should not be forgotten.

The flow of all groups of people who visit the PNSR, generates a considerable annual income. In addition to admission revenues or entrance fees to the park, the PNSR receives incomes from the research and accommodation center; camping areas and entrances in the marine zone for different activities, such as surfing or diving.

In Figure 8, the estimated revenues that the park could have in the coming years are forecasted, taking into account the figures of the financial analysis of the ACG. It is expected in the near future, the PNSR will be self-sustainable and able to cover the payment of the investments with the income that it generates.

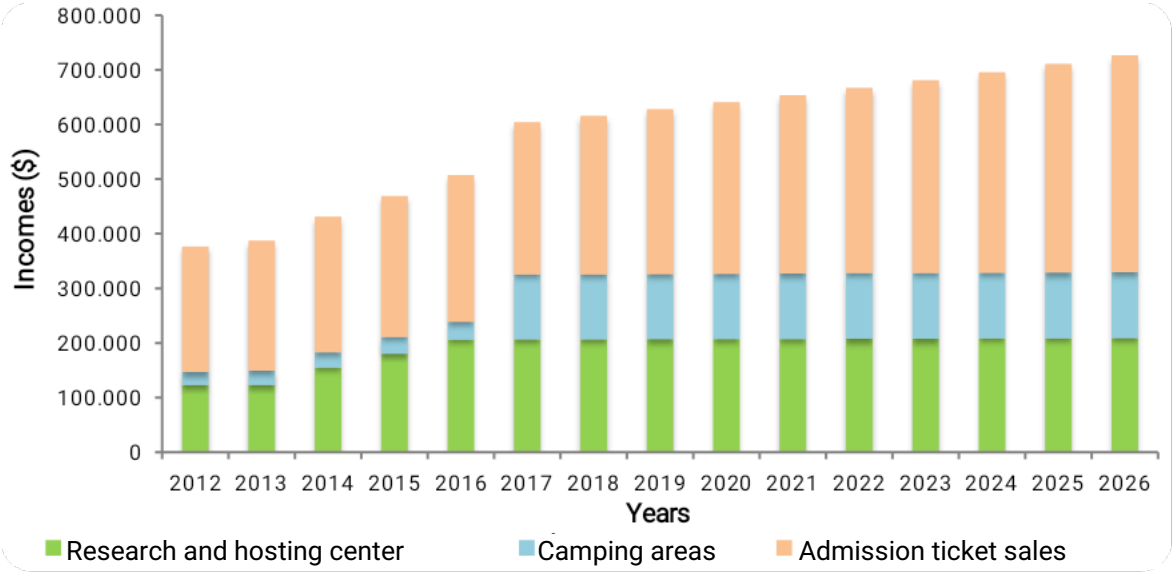


Figure 8. Income forecast for Santa Rosa National Park, from 2012 to 2026. In US dollars (Reyes, 2013)

It should be taken into account that this study was performed in 2013 and since the figures have been modified, the graph will be used only to estimate the behavior and trend in the coming years, highlighting the relevance of the PNSR as a tourist attraction.

This graph shows how it has been estimated that the benefits of the PNSR will increase from US $376,620 generated in 2012 to US $727,090 in 2026, based on different assumptions. With these data, it is clear that the PNSR is an attraction for tourists, researchers and collaborators alike.

It is expected that the improvements in the facilities of the Naranjo site at the PNSR beach will improve the flow of these groups of visitors and will generate greater benefits while improving the experience lived by them, facilitating their stay in a unique and incredible area of Costa Rica. To make the incomes forecast, certain assumptions were used, detailed below:

- The growth of income from the sale of tickets to the PNSR is estimated based on the average growth of visits between 2008 and 2012, which was calculated at 4%.

- To calculate the income growth for the Santa Rosa Shelter, based on a current occupation of 47.7% per year, it is expected that with the IDB-Tourism Project, 70% in 2014 and 80 % as of 2015 will be reached. For this, the Park would implement a promotion strategy with national and foreign universities in order to increase the demand for the services offered by the park in research

activities.

o The PNSR has a capacity in the camping areas of Playa Naranjo, Santa Rosa and Murcielago of 330 people. The project aims to improve and promote camping areas, with the goal of moving from 12 campers per day to 264 campers in high season (December to May), which implies an 80% increase in occupancy starting in 2017. In the winter an occupation of 20% is expected, which implies 66 campers per day.

o The exchange rate used is 514.32 colones/usd, which corresponds to the exchange rate on December 31, 2012.

o 2012 is used as the base year for the incomes forecast for a period of 15 years (2012-2026).

o In 2012, the PNSR generated US $376,620 for admission to land and sea, lodging and camping (Figure 8). However, depending on the assumptions indicated above, it is forecasted the park could generate revenues of up to US $ 727,090 in 2026.

2.1 Company/Enterprise framework

This feasibility study will be performed with the support of Marco Bustos, an official of the Ecotourism Program of the PNSR and responsible for the projects at the Naranjo Beach Site. Bustos will be the person of direct contact with the ACG and the PNSR in addition to the technical adviser.

2.1.1 Company/Enterprise background

In 1986, the Guanacaste National Park Project, titled: Ecological and Biocultural Restoration of the Dry Forest, began, initiating a dynamic and practical process to implement a pilot experimental model of Area in the administration, management, understanding and conservation of nature, through its direct incorporation into local and regional society. This project was based on the accumulated experience of more than 20 years of a fully centralized National Conservation System in San José, capital of the country. It is regulated in functions and responsibilities; has a minimum budget; human resources, training and little Professionalization of workers in the different activities. There was a lack of knowledge to stimulate the

development of the Areas and even worse, there was a context in which the priority of the efforts was mainly focused on administration and protection activities.

With the Pilot Project, it was intended to make a radical change in the management of the country biodiversity and in the administration of state assets; seeking the decentralization of decisions from the capital to the region, incorporating Civil Society in the management of the area and promoting autonomy in making technical, administrative and financial decisions.

At the beginning of this social and administrative "experiment", the support of the different "political, scientific and social forces" was due to the fact that they saw in this Pilot Project, the opportunity to create an administrative structure, a philosophy, a thought, a sense of identity with the region and a model in continuous evolution that does not stagnate in rigid administrative aspects. The key element sought in this "experiment" was to create a management model driven by the experience obtained in the process under the slogan: "Learning by doing".

2.1.2 Mission and vision statements

- **Mission:** To restore and preserve in perpetuity a complete ecosystem of tropical dry forest and its associated ecosystems of rain forest, cloud forest and coastal marine; through the integration of local, national and international society in its biodevelopment (ACG, 2014).

- **Vision:** To know, conserve, restore, manage and use the biodiversity of the ACG in a sustainable way by the different social actors, integrating efforts for the fair and equitable enjoyment of the benefits derived from its sustainable use, to ensure and improve the quality of life of the inhabitants of the region. (ACG, 2014).

In this document, we will continue with the ideas of both mission and vision of the ACG, since they are going to propose improvements that maintain the park philosophy and preserve its sustainability aspects.

2.1.3 Organizational structure

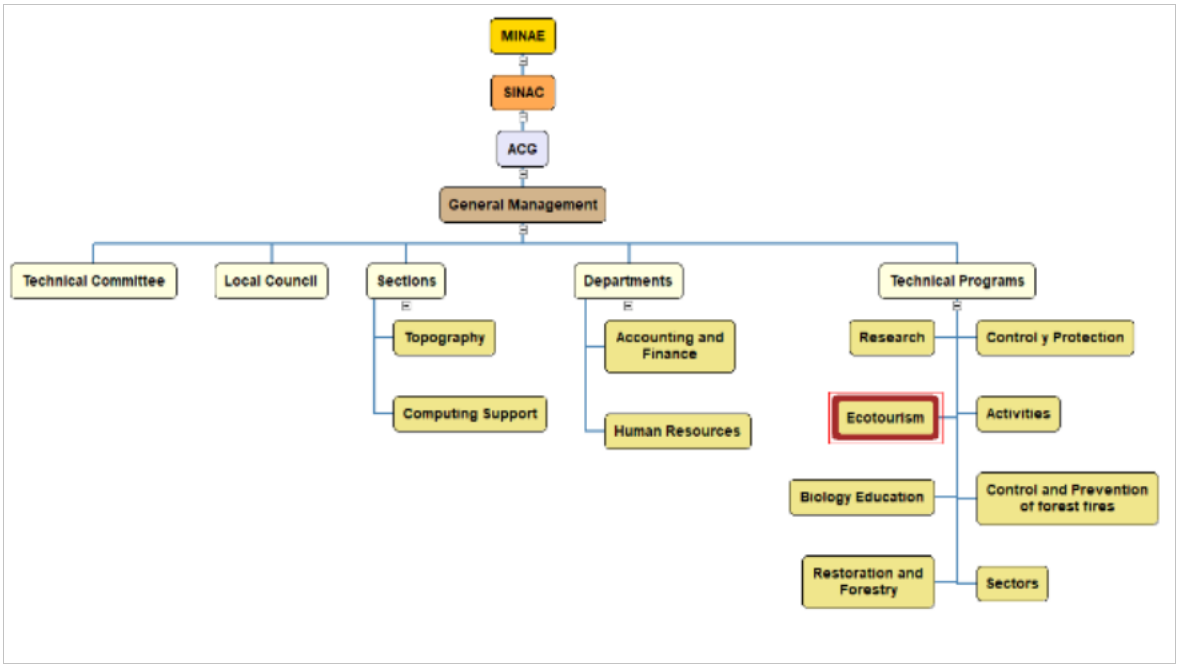


Figure 9. Organizational Structure of the Guanacaste Conservation Area (ACG, 2014)

In the development of the organizational structure of the ACG, the starting point was the incorporation of local civil society in the conservation, management and administration of the region biodiversity. With this, the philosophical vision of the ACG has been emphasized, which claims that conservation of tropical biodiversity is based on the participation of communities. More than 80% of ACG officials are neighbors of local communities, and of the total, approximately 45% are women, which represents a unique case in the management and administration of a wilderness area in Costa Rica. The Organization of the Guanacaste Conservation Area (ACG) is composed of the General Management, which in turn is composed of the Technical Committee, the Local Council, the Departments, the Sections and the Technical Programs. Around 105 of its workers are permanent members and an average of 30 are indirect employees, whether they are research assistants or temporary workers of the Programs.

The Management of the ACG is composed of a general director and three responsible coordinators in the field of Ecodevelopment, Management and Restoration and Forestry. The General Management is responsible for ensuring the technical, administrative and economic functioning of the different Programs, Sections and Departments that make up the ACG, promoting the development of these in an integrated manner and oriented to the objectives and goals of the Area.

The Council is made up of representatives of development associations from different communities, government institutions, private companies/institutions and people/organized groups from the region adjacent to the ACG, who develop their different activities in the Agroscape Area. The council is composed of nine members elected in an annual meeting. Its responsibility lies in the approval, coordination, support, monitoring and consultation of the strategies, plans, programs and budgets of the ACG.

The Technical Committee is represented by the Direction and the Coordinators of Programs, Departments, Sections and the Local Council. It is a group of discussion and analysis of global problems or situations that in one way or another affect the technical and operational management of the ACG; In addition, it is a group of information on reception and dissemination of the other members of the Area.

2.1.4 Products offered

According to the evaluation performed through field trips in conjunction with the staff of the ACG Ecotourism Program and based on the results of the workshops held with officials and actors of the tourism activity, the potential attractions of the PNSR are the following:

- o Dry forest: In its current condition, it can be considered an attraction promoted as an experience for tourists, involving its natural history and the characteristic aspects it possesses.

- o Programmed Events: Development of scheduled events in the PNSR facilities that incorporate the biological, historical and cultural importance of the province of Guanacaste.

- o Historical tour (dramatization): The historical component of Santa Rosa is one of the main attractions for tourists; especially national tourists, which could be renewed as a dramatized tour, giving added value to the Casona of Santa Rosa and the Heroes Monument and rescuing the historical and cultural aspects of the Battle of Santa Rosa in 1856.

- o Integration of attractions and resources: the integration of attractions can help the activation of the local economy and can reduce the weight generated by tourism activity within the AEP, so it is proposed to create tourism products

and experiences that link the proposed initiatives.

2.2 Project Management Concepts

2.2.1 Project

The *PMBOK® Guide* defines a project as "A temporary effort to create a unique product, service or result" (PMBOK® 5th Edition, 2013).

A well-formulated project should answer these questions:

1. What (do you want to do)? Nature of the Project.
2. What for? Objectives and purposes.
3. Where? Physical location of the project.
4. Why? Origin and foundation.
5. How much? Goals.
6. How? Activities and tasks, methodology.
7. When? Timeline.
8. To whom? Audience.
9. Who? Human Resources.
10. With what? Material resources.
11. With what? Financial resources.

The projects have certain characteristics that are summarized below:

- o They have a time limit, that is, they are finite, with a definite beginning and end.
- o Constitute a minimum management unit, headed by a project manager who coordinates its various stages.
- o They lead to non-repetitive changes, there are no equal projects.
- o They are instruments of change.
- o Create products or services that are quantifiable and that can be a finished item or a component.

Projects are a way of organizing activities that cannot be addressed within the normal operating limits of the organization. In general, they are the result of a market demand, an organization need, a client request, a technological advance or a legal requirement, among others. In the case of this feasibility study, this is a short-term project aimed at making a decision on whether or not the improvement of the services of the PNSR beach site can be developed in a positive investment

scenario. The achievements of this study can have great benefits for all involved. Both ACG officials and researchers as well as visitors, will benefit from improved facilities and better quality service. These improvements will provide new opportunities to the PNSR, improving the flow of visitors to the beach area, thus achieving a complete experience and increasing the revenues of the Park.

2.2.2 Project management

According to the *PMBOK® Guide*, Project Management is the "application of knowledge, skills, tools and techniques to project activities that meet the project requirements", and was performed through a meticulous application and incorporation of "47 project management processes" Logically grouped and classified into five groups of processes" (PMI, 2013).

Detailed knowledge of these practices becomes necessary to turn into a professional project manager. Project management offers a unique approach in the form of objectives, resources and schedule for each project. The value of this approach is demonstrated by the rapid global growth of project management.

The project management activities involved in the feasibility study are aimed at guaranteeing that the project is completed and all its objectives are achieved, while the time, cost, scope and quality limitations are exceeding.

2.2.3 Project life cycle

The project life cycle serves to define the beginning and end of it. It is a model of analysis of the evolution trend of sales from its launch in the market until its withdrawal, which determines and defines a set of consecutive stages with specific characteristics that allow to analyze the different conditions throughout the period in which the product remains active in the market.

The best time to launch a new product should be based on the analysis of the market, zone, competition, technology, capacity and many other aspects that determine, a priori, the suitability of that moment.

In addition, the definition of the life cycle determines what transitory actions should be included in the finalization of the project.

The project life cycle generally defines:

- The technical works that must be performed in each phase.
- When the deliverables must be generated in each phase and how each

deliverable product is reviewed, verified and validated.

o Who should be involved in each phase.

o How to control and approve each phase.

The project life cycle will help the project manager to determine whether to treat the feasibility study as the first phase of the project or as a separate and independent project. In this case, the feasibility study will be performed in the initiation phase, where the key questions about whether or not to continue with the project will be resolved. Then, the planning stage will begin, in which the feasibility proposal will be developed and the necessary steps will be followed to meet the required objectives. After that, in the execution phase, the action plan will be launched and the objectives will be established. Finally, in the closing phase, the final document is delivered to the client, in this case the SINAC.

2.2.4 Project management processes

The *PMBOK® Guide* describes the management of processes in terms of their component processes and their interactions, in order to emphasize the importance of integration. It is understood as a process, a series of actions that give a result. The processes of a project are developed by people and are generally classified as project management processes or product-oriented processes.

The most commonly used project management processes are: initiation, where it is recognized that a project or a phase must begin; the planning process, in which a feasible scheme is maintained to meet the needs of business with which the project must deal; the execution process, where people and other resources are coordinated to perform the plan and then the control and monitoring process, in which it is ensured that the objectives are being met through monitoring and progressive measurement, taking corrective actions when necessary; and finally, the closing process, through which the acceptance of the project is formalized.

In the case of the feasibility study, it will be performed in the initiation process to determine if the project is feasible before spending resources on it. The purpose of conducting a feasibility study at this stage is to determine whether or not the proposal will be received by the intended audience and, in general, to decide if it makes sense.

2.2.5 Project Management Knowledge Areas

Each of the activities required for project management is within one of the 10 areas of knowledge defined by the Project Management Institute (PMI). The set of knowledge is recognized as a set of good practices in project management, which means that they are applicable to most processes and that their application can contribute to increasing the chances of success of a wide variety of projects.

The six areas of knowledge developed in this feasibility project are:

- **Project scope management:** defines and controls what is included and what is not in the project. The deliverables for this area of knowledge are: the Scope Statement, Requirements Documentation, Requirements Traceability Matrix, WBS, WBS Dictionary and Change Requests.
- **Schedule Management:** ensures that the project is completed on time. The expected deliverables are the Schedule and the Schedule Baseline.
- **Cost management:** ensures that the project is within budget. The deliverables for this area of knowledge are: Budget and Cost Baseline.
- **Quality management:** ensures that all the resources needed to execute the project satisfactorily are available successfully. The deliverable will be the Verification Checklist, Cost Benefit Analysis, Cause and Effect Diagram.
- **Stakeholders Management:** knows and evaluates the stakeholders expectations and their impact on the project. The deliverables are: Stakeholder Registration and Change Requests.
- **Risk management:** details the process that will be used in the project to manage the risk. The deliverable is: Risk matrix.

The other four areas of knowledge have not been developed due to lack of time, but it is recommended that for a more precise analysis they be carried out.

The project manager must have the most possible detailed knowledge of each of the aforementioned areas, both in the theoretical and practical aspects related to processes, techniques and tools.

Figure 10. Knowledge areas studied in the project (Own development)

3 METHODOLOGICAL FRAMEWORK

3.1 Information sources

Information sources are the different types of documents that contain useful data to satisfy a demand for information or knowledge. Knowing, distinguishing and selecting the correct sources of information for the work that is done is part of the research process.

3.1.1 Primary

The main information sources contain new and original information, the result of an intellectual work. They are main documents: books, scientific and entertainment magazines, newspapers, official documents of public institutions, technical and research reports from public or private institutions, patents, technical standards.
The main sources of primary information that will be used for the feasibility study are interviews, surveys, ACG records, *PMBOK® Guide*, annual reports of the ACG and notes of the Master in Project Management (MPM).

3.1.2 Secondary sources

Sources of secondary information contain organized, elaborated information, product of analysis, extraction or reorganization that refers to original primary documents. They are secondary sources: encyclopedias, anthologies, websites, biographies, observation, books or articles related to other works or investigations.
The secondary sources of information used in the feasibility study are websites, articles, books and blogs.

Chart 1. Information resources used (Own development)

Objectives		Information Resources	
		Primary	Secondary
1	Perform a market analysis to identify the current market trend, profile of visitors, interests and area of influence.	Interview, questionnaires, MPM course notes, register control and annual reports of the ACG and SINAC	Online research, analysis of historical information of ACG.
2	Execute a general analysis of the current situation of the PNSR.	Interview, questionnaires, MPM course notes, register control and annual reports of the ACG and SINAC	Online research, analysis of historical information of ACG.
3	Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that all work necessary to complete the project sucessfully has been considered.	Interviews with those responsible for research, development and quality on the expected need of the Project and the expected results.	Historical information, web pages and related articles.
4	Establish a Schedule Management Plan to manage the completion of the project on time.	Interviews with the manager of the Ecotourism Program.	Review of previous projects.
5	Design a Cost Management Plan to estimate, budget and control costs in such a way that the project is executed with the approved budget, so as not to exceed the budget of the project.	Interviews with the manager of Ecotourism and the person in charge of the financial part of SINAC.	Historical cost information, review of projects developed in the ACG, online research.
6	Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.	Interviews with the manager of the Ecotourism Program. Surveys to visitors of the parameters required by the Project.	Check web pages of builders, comparison of materials.
7	Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.	Meetings with the project team, in charge of the Ecotourism Program, ACG and SINAC to determine by expert judgment who are the groups of interest and the impact they generate in the Project.	Investigation of similar projects, consultation in web pages, analysis of historical information.
8	Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.	Interviews with the manager of the Ecotourism Program.	Online research, study of the associations related to the project in the areas of influence.

3.2 Research methods

Method is known as a model responsible for following the methodological procedures of an investigation. This in turn studies, analyzes, reviews and processes the most important and concrete aspects of the method that is implemented in each investigation.

Although, the methodology is a series of steps to follow that are used to reach a common goal or the resolution of something, it is also responsible for the description, analysis and scientific evaluation of the research methods; In turn, it is the instrument to link the subject with the object, since without this it is almost impossible to end up with the logic that leads to scientific knowledge (González Torreblanca, 2011).

The choice of research method is crucial for the conclusions that can be made about a phenomenon. It affects what is said about the cause and the factors that influence the phenomenon.

It is also important to choose a research method within the limits of what the researcher can do. The timeline, cost, feasibility, ethics and availability to measure the phenomenon correctly are examples of problems that limit research.

As part of the selection process to define the route, and reach the proposed goal, the different types of research methods will be described, relating them to the specific objectives in Chart 2.

3.2.1 Analytical-Synthetic method

"The analysis handles judgments". The synthesis considers the objects as a whole. The method used by analysis and synthesis consists in separating the object of study into two parts and, once its essence is understood, constructing a whole.

The synthetic method is the one used in all the experimental sciences since by means of this the generalizing laws are extracted, and the analytic is the process derived from the knowledge from the laws. The synthesis generates a superior knowledge when adding a new knowledge that was not in the previous concepts, but the synthetic judgment is something difficult to acquire since it is based on reflective intuition and common sense, components of the personality which do not allow for big temporary change" (Rivero, 2008).

3.2.2 Deductive logical method

Through this method, the principles are applied to particular cases based on the linking of judgments. "The role of deduction in research is double":

1. First, it consists in finding unknown principles, starting with the known ones. A law or principle can be reduced to a more general law that includes it. If a body falls we say that it weighs because it is a particular case of gravitation.
2. It is also used to discover unknown consequences, of known principles. If we know the formula to calculate the speed, we can then calculate the speed of an airplane. Mathematics is the deductive science par excellence; part of axioms and definitions "(Rivero, 2008).

3.2.3 Inductive method

The inductive method "creates laws from the observation of facts, through the generalization of observed behavior; in reality, what he does is a kind of generalization, without which through logic a demonstration of the aforementioned laws or set of conclusions can be achieved. These conclusions could be false and, at the same time, the partial application of the logic could maintain its validity; therefore, the inductive method needs an additional condition, its application is considered valid as long as no case is found that does not comply with the proposed model "(Rivero, 2008).

3.2.4 Experimental method

The experimental method has been the one that has provided the most results and is the most used. "Applies the observation of phenomena, which at first is sensorial. With abstract thinking hypotheses are elaborated and the experiment is designed, in order to reproduce the object of study, controlling the phenomenon to prove the validity of the hypothesis ". The essence of the conception of experiment is that it involves the intentional manipulation of an action to analyze its possible effects. It refers to the deliberate manipulation of one or more independent variables to analyze the consequences of that manipulation on one or more dependent variables, within a control situation for the researcher" (Rivero, 2008).

3.2.5 Observational research method

Observational studies (OS) are clinical research designs whose objective is the

observation and description of events without any intervention in their natural course.

The measurements can be made over time (longitudinal study), retrospectively or prospectively, or in a unique way (cross-sectional study).

In addition, the OS can be descriptive, when the objective is to observe and describe the behavior of one or more variables in a group of subjects over a period of time; and analytical, which allows the comparative analysis of groups of subjects without a process of assignment to a specific topic, but it happens according to current clinical practice, and therefore, the researcher is a simple observer and descriptor of what is happening (Manterola, 2014).

For this project, the methods of analytical observation with longitudinal measurements will be used to describe and record what´s observed and thus understand the behavior of Park visitors.

Chart 2. Research methods used (Own development)

Objectives		Research Methods			
		Synthetic Analytical	Inductive deductive	Experimental	Observational
1	Execute a market analysis to identify the current market trend, profile of visitors, interests and area of influence.	Identify the different trends, current market situation and interests of visitors to create different indicators.	Deduction of the behavior of society and stakeholders.		
2	Execute a general analysis of the current situation of the PNSR.	Identify the current situation of the PNSR.	Estimation of requirements necessary to perform the project.		
3	Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that all work necessary to complete the project sucessfully has been considered.	The Cost Management Plan is composed of different components, therefore, it must be defragmented and later re-unified the information again. All the variables and inputs for the development of the project must be identified.		Generate all the methodology for a field investigation of the ecotourism program.	Staff trained to have the necessary criteria to identify needs in the campground facilities.
4	Establish a Schedule Management Plan to manage the completion of the project on time.	Fraction the expected schedule for each of the activities to conform the total project schedule.	Each activity is linked to the other until a predetermined order is found to be favorable for the project.		

Objectives		Research Methods			
5	Design a Cost Management Plan to estimate, budget and control costs in such a way that the project is executed with the approved budget, so as not to exceed the budget of the project.	Unification of criteria of the individual cost of each stage, deliverable or process to determine a total budget.	The cost estimate will be based on historical information from previous projects developed in the Naranjo site.	Investigating what will be a final proposal through experimental variation, generates a method that will be affordable.	The constant variation of inputs and processes involves analyzing which is the most cost efficient process.
6	Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.	The set of quality parameters will allow to provide a final deliverable that meets the needs of the client.	The quality estimate will be based on historical information of previous projects developed in the Naranjo site.	Based on the climatic conditions of the area, determine the necessary characteristics of each material so that the quality is appropriate.	Through observation in the field, determine if a change in the variation of the materials could generate improvements in the project.
7	Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.	Unify the different needs of stakeholders to create a matrix.	Deduction of stakeholder behavior in the stakeholder matrix.	Generate a procedure to capture the information collected in the process which must be organized and understandable for each of the stakeholders.	Observe the different stakeholders to be included within a specific behavior and what impact can be generated within the project.
8	Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.	Identify the different risks of all project activities to create the risk registry matrix.	Estimate the impact of each risk and the responsible person in the risk registry matrix.		

3.3 Tools

Project management tools will be used to provide the structure, flexibility and control necessary for team members in order to achieve extraordinary results on time and within budget (Dorado, 2013). The tools listed below will help achieve

each task and thus achieve a complete feasibility study.

Chart 3. Tools used (Own development)

	Objectives	Tools
1	Execute a market analysis to identify the current market trend, profile of visitors, interests and area of influence.	SWOT analysis
2	Execute a general analysis of the current situation of the PNSR.	
3	Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that all work necessary to complete the project sucessfully has been considered.	Trial of Experts, Charter, WBS.
4	Establish a Schedule Management Plan to manage the completion of the project on time.	Expert Judgment, Schedule. Development of Resource Optimization, Performance Review
5	Design a Cost Management Plan to estimate, budget and control costs in such a way that the project is executed with the approved budget, so as not to exceed the budget of the project.	Expert Judgment. Performance Review, Sum of Costs, Projections
6	Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.	Expert Judgment, Benefit Cost Analysis
7	Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.	Stakeholder analysis, stakeholder matrix (power/influence, influence/impact, power/interest and relevance model)
8	Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.	Risk registration matrix

3.4 Assumptions and constraints

Assumptions are circumstances and events that must happen for the project to be successful, which are not under the control of project team. Assumptions are always accepted as true even if they are not proven. The restrictions are those elements that restrict, limit or regulate the project and, as well as the assumptions, they are not controlled by the project team. In short, assumptions bring possibilities and restrictions bring limits (Jaramillo Parla, 2013).

Degree Final Project **assumptions** are:

- o It is assumed that all resources will be acquired.
- o It is assumed that the budget, scope and schedule will be met as much as possible.
- o It is assumed that sufficient support will be received from the support organization and technical advice.
- o It is assumed that the project manager will have the necessary knowledge to complete the project on his own.
- o The project is supposed to be completed in three months.
- o It is assumed that the review and feedback of the deliverables of the project will be performed in a timely manner.

Degree Final Project **restrictions** are:

- o Schedule: the project must be completed in a maximum of three months.
- o Resources: the project must be completed only with one person, the Project Manager.
- o Scope: Due to time constraints, the scope of this project will be limited only to meet this academic effort. The investigation will continue further.
- o Technical: supervisory support is mandatory to review project deliverables.

Chart 4. Assumptions and Constraints (Own development)

	Objectives	Assumptions	Constraints
1	Execute a market analysis to identify the current market trend, profile of visitors, interests and area of influence.	All information will be analyzed, studied and filed in an orderly manner.	Time
2	Execute a general analysis of the current situation of the PNSR.	All information will be analyzed, studied and filed in an orderly manner.	Time
3	Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that all work necessary to complete the project sucessfully has been considered.	-All the information required for the study will be available and will be provided by the direct contact person in the Park. -Sufficient support will be received from the support organization. -The scope of the project will not be modified.	Time Scope Resources Cost
4	Establish a Schedule Management Plan to manage the completion of the project on time.	-All the information required for the study will be available. -The schedule will be met as much as possible.	Time Scope Resources
5	Design a Cost Management Plan to estimate, budget and control costs in a way that the project is executed with the approved budget, so as not to exceed the budget of the project.	-The estimated budget will be met as much as possible.	Time Scope Resources Cost
6	Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.	-Materials will meet the needs required by the climatic conditions of the Naranjo site.	Time Scope Resources
7	Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.	-All information is analyzed, studied and filed in an orderly manner.	Time Scope Resources Cost
8	Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.	-Risks and its impact will be minimum	

3.5 Deliverables

Deliverable is any measurable and verifiable product that is made to complete a project or part of a project. There are intermediate (internal) deliveries, which are used to produce the final deliverables that will be validated by the project client. The deliverables help define the scope of the project, and the progress of project work must be measured by controlling the progress in deliverables (Esterkin, 2010).

Chart 5. Deliverables (Own development)

Objectives			Deliverables
1	Market analysis	Offer Analysis	Attractions, products offered, characterization of the environment, censuses of Costa Rica.
		Demand Analyisis	Visitor profile, annual visitation.
		SWOT Analysis	SWOT analysis of the PNSR.
2	General analysis	Legal Analysis	ASP regulations
		Environmental analysis	
		Financial analysis	Investment analysis, rates, income estimation.
3	Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that all work necessary to complete the project sucessfully has been considered.		Constitution Act, Scope Management Plan, Requirements Management Plan, Stakeholder Registration, Scope Statement, WBS, WBS Dictionary, Accepted Deliverables, Scope Change Requests.
4	Establish a Schedule Management Plan to manage the completion of the project on time.		Schedule Management Plan, List of Activities, List of Milestones, Required Resources, Estimation for three values, Schedule, Performance estimation, Change requests.
5	Design a Cost Management Plan to estimate, budget and control costs in such a way that the project is executed with the approved budget, so as not to exceed the budget of the project.		Cost Management Plan, Rates by roles, Estimation of cost activities, Budget, Cost baseline, Earned Value, Change requests.
6	Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.		Quality Management Plan, Quality Metrics, Change Request, Validated Changes, Quality of deliverables.

	Objectives	Deliverables
7	Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.	Areas of Influence, Stakeholder Registration, Power-Influence Matrix, Stakeholder Matrix, Stakeholders Management Plan.
8	Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.	Risk Management Plan, Definition of Probability and Impact, Likelihood and Impact Matrix, Risk Register, Risk Matrix.

4 RESULTS

4.1 Market Analysis

4.1.1 Offer Analysis

Attractions: According to the evaluation performed through field trips in cooperation with the staff of the ACG Ecotourism Program and based on the results of the workshops held with officials and partners, it is considered that tourism activity can be developed both within the park as in its area of influence, being the potential attractions of the PNSR the ones below:

Dry forest: Its current condition can be considered as an attraction, therefore, it can be promoted as an experience for tourists, in which natural history and characteristic aspects are involved.

Scheduled Events: Development of scheduled events at the PNSR facilities that incorporate the biological, historical and cultural importance of the province of Guanacaste.

Historical tour: The historical component of Santa Rosa is one of the main attractions for tourists; especially the national tourists, who are the most interested in this part. It is considered that this tourist attraction could be improved by promoting a dramatized tour that gives an added value to the Casona of Santa Rosa and the Heroes Monument, thus recovering the historical aspects of the Battle of Santa Rosa in 1856 and the cultural aspects of the haciendas settled in the area.

Integration of attractions and resources: the integration of attractions can help the activation of the local economy and can reduce the weight generated by tourism activity within the AEP, so it is proposed to create tourism products and experiences that link the proposed initiatives.

In addition, focusing the analysis on the Naranjo beach zone, the attractions continue as you can see different ecosystems, mangrove forests, dry forest, estuaries, a beautiful beach, and species of flora and fauna, such as turtles, raccoons, deers, coatis, agoutis, jaguars, crocodiles and many species of birds.

In this zone different activities can be made, such as hiking trails, surfing, camping and enjoy the beach, being the most attractive for tourists the following:

Palo Seco Trail: It consists of a route of 1.5 km through secondary forest, with the

presence of some mangrove species, with flat topography, and access to a viewpoint, where you can see the Peña Bruja and the Estero Real. Usually white-faced monkeys, colorados and congos, a great variety of birds, deer, agoutis, raccoons, coyotes, and with luck and patience, you can get to observe even mountain pigs, ocelots, tapirs and jaguars, among others. .

Sendero Carbonal: Trail of 4.8 km and approximately three hours. It crosses a secondary forest with presence of trees of more than 20 meters height, emerging in the way; a "water eye" with a light blue color; a seasonal lagoon and you can see the Cerro Carbonal. Its topography is flat, connects with the beach and in rainy season it can present marshy areas. The passage through these habitats facilitates the observation of mammals, reptiles and waterfowl.

Aceituno Trail: Territory of unique habitat, with mangrove vegetation where water birds, crocodiles, crustaceans and species of the Estero Real interact. It is a route of 2.5 km parallel to the beach that ends in the proximity of the Peña Bruja, after a journey between flora and fauna characteristic of a marine-coastal ecosystem.

Beach: This area of Playa Naranjo consists of 7 km of a beautiful beach of white-grayish sand, where good waves can be enjoyed, sun and sand, in summer time. Particularly it is recognized as a unique place for surfing, presenting strong waves and marine currents in some areas of the beach.

Products offered:

Attending to the services offered by the Santa Rosa National Park and making a difference between those provided in the Santa Rosa and Naranjo sites, the following are listed:

o Santa Rosa Site:

- Visitor attention
- Talks and guided tours
- Written or digital information
- Temporary exhibitions
- Lunch area
- Health services
- Drinking water
- Telephone signal
- Universal access path

- Cafeteria service
- Accessibility for people with disabilities

o Naranjo Site:

- Visitor attention
- Interpretation
- Showers (to be improve)
- Tables (to be improved)
- Lunch area (to be improved)

Characterization of environment:

Most of the territory of the PNSR is within the jurisdiction of the canton of La Cruz, with another zone belonging to the canton of Liberia. Despite their proximity, these cantons have very different socio-economic conditions that are reflected in different productive activities and in various social and economic indicators. While Liberia is the gateway to tourism to the North Pacific, La Cruz is a border canton with Nicaragua that faces significant challenges. Below is the most up-to-date information found in censuses conducted by the Government of Costa Rica:

Chart 6. Costa Rica (Own development)

Source and Year	Indicator	Cantons	
		Liberia	La Cruz
National Institute of Statistics and Census (INEC, 2011)	Total number of inhabitants	62.987	17,856
National Institute of Statistics and Census (INEC, 2011)	Primary zone occupation (%)	6,4%	37,2%
National Institute of Statistics and Census (INEC, 2011)	Secondary zone occupation (%)	23%	9,5%
National Institute of Statistics and Census (INEC, 2011)	Tertiary zone occupation (%)	80,6%	53,3%
National Institute of Statistics and Census (INEC, 2011)	Unemployment rate	5,1	3,6
National Institute of Statistics and Census (INEC, 2011)	Inactive population (%)	47,2%	54,6%
Ministry of Planning (Ministerio de Planificación, MIDEPLAN, 2015)	Cantonal Social Development Index	41 / 81	72 / 81

Source and Year	Indicator	Cantons			
United Nations Development Program (Programa de las Naciones Unidas para el Desarrollo, PNUD, 2011)	Cantonal Development Index (IDC)	24 / 81		67 / 81	
Ministry of Planning (Ministerio de Planificación, MIDEPLAN, 2015)	District Development Index	236 / 477		139 / 477	
United Nations Development Program (Programa de las Naciones Unidas para el Desarrollo, PNUD, 2011)	Cantonal Competitiveness Index (ICC)	19		57	
National Institute of Statistics and Census (INEC, 2011)	Economic activities	Trade and repair of vehicles	37%	Agriculture, livestock and fishing	37%
		Accommodation and food services	11%	Commerce	13%
		Agriculture, livestock and fishing	8%	Public Administration	9%
Ministry of Planning (Ministerio de Planificación, MIDEPLAN, 2013)	Productive activities	Livestock, agriculture and services zone (tourism)		Livestock and basic services zone	
Costa Rican Institute of Tourism (ICT, 2013)	Lodging offer	16 companies	311 hab	49 companies	1653 hab

4.1.2 Demand Analysis

Visitor profile, current and potential visits:

The PNSR seeks to encourage the development of ecotourism as the main modality. However, due to the varied offer of attractions, other modalities are given, such as cultural, scientific, recreational and adventure tourism. In this sense and according to the records of the ACG Ecotourism Program, the profile of PNSR visitors can be classified into the following categories:

- **Students:** Groups of university students whose main motive is access to field information on topics associated with their study requirements. These types of visitors usually book their visit in advance. There is also an important group of primary and secondary students who visit the park, particularly the historical site La Casona.

- **Scientists:** They are considered scientific tourists, all those who spend the night inside or outside the ASP. They schedule their visit according to the need for field information and access to tourism and scientific services provided by the PNSR, for a specific period of time.
- **Hikers:** Visitors who determine the reason for the trip to leisure and excursion to new places or with high scenic or sentimental value, where their search is for satisfaction and recreation, subject to holiday or seasonal periods. They are part of this category, visitors who attend the PNSR in search of varied options without limiting their visit to a single activity or space.
- **Campers:** Visitors whose reason for traveling consists in staying in individual or group camping for the enjoyment of the natural environment, as a recreational and leisure form, during a specific period. Many of the above described types of tourists can also become campers.
- **Naturalists:** Individual visitors or groups, whose main objective is the appreciation of flora and fauna, in harmony with the natural processes that take place in the ecosystem. This type of tourist invests many hours within the ASP, seeking to expand their personal knowledge in natural resources through observation and hiking. In addition, there is a presence of tourists who visit the diving sites in the marine area.
- **Surfers:** Those who enjoy surfing which can fall into three categories: beginners, intermediate and advanced surfers, and its affluence is associated with changes in the tides. In addition, they can use the camping facilities as a means of permanence in a site selected for the practice of this sport.

Due to the particular characteristics of the PNSR, it receives visitors of different age ranges, including children, teenagers, adults and the elderly.

Regarding the origin of the visitor, according to ACG statistics, the majority are nationals or residents, in 2017 they accounted for 88% of the total, while foreigners and non-residents, only 12%.

Chart 7. Annual visit in the Santa Rosa National Park (Own development)

Annual Visits			2013	2014	2015	2016	2017	Totals
Santa Rosa National Park	Market Stall Santa Rosa	Nationals	17188	27843	26998	28846	32559	133434
		Foreign	4123	4449	3423	3997	4215	20207
	Market Stall	Nationals	5259	6133	4274	2711	1681	20058

	Playa Naranjo	Foreign	1868	2038	1306	837	379	6428
Total			28438	40463	36001	36391	38834	**180127**

4.1.3 SWOT Analysis

This chapter summarizes the results of the analysis of strengths, opportunities, weaknesses and threats (SWOT) linked to the construction of improvements in the PNSR, which are detailed below.

The PNSR has as strengths to be a site with cultural and historical elements associated with nature. It was declared a National Historic Monument and Cultural Heritage by the Ministry of Culture in 1971 and is part of the ACG, which due to its importance, was named a Natural World Heritage Site by UNESCO.

On the other hand, it protects a unique ecosystem such as the Dry Forest, which is strongly threatened. The Park has the largest spot of this type of forest in the country, with the possibility of regeneration. In addition, this ecosystem is a tourist attraction that has not been positioned in the region or in the country. It is also a strength that its attractions are complemented by the presence of geological formations of great scientific relevance.

The PNSR is a fundamental part of the ACG Protected Block, which allows access to programs such as Ecotourism, as well as being the administrative headquarters of said conservation area. It also has qualified professional staff, capable of receiving both national and international tourism.

One aspect of relevance is the infrastructure that the park has, which although it needs to be improved, allows for the development of activities such as lectures, meetings, conferences and scientific research.

In addition to these strengths, there are a number of opportunities that increase the possibilities of the PNSR to increase visits. These include the opportunity to maximize the attractions offered by the park through the organization of activities such as surfing contests, races, recreational bike rides, concerts and tours of the different geological attractions.

In the area, there is pressure from some tour operators who request the improvement of the conditions for the visitor in order to include this destination within their tourist offer. Additionally, in the region there is an important development of tourist projects such as the presence of cruises and boats that could attract a greater number of visitors to the park.

Among these opportunities, should be noted the possibility of offering other tourist and scientific destinations located within the ACG, as well as the collaborative relationships that exist between the park and government, national and international higher and technical education institutions.

Chart 8. Analysis of the strengths, opportunities, weaknesses and threats of the Santa Rosa National Park associated with tourism (ACG, 2014)

Strenghts	Opportunities
The vast majority of infrastructures in good condition	Development of activities such as surfing contest, bicycle, concerts
Place classified as Natural World Heritage by UNESCO	Possibility of developing new products as a geological tour
Place declared a National Historic Monument by the MCJ	It is part of a larger ecosystem made up of the other ASPs
Highly important attractions, such as unique ecosystems (dry forest), archaeological and geological	There is interest from tourism companies to make improvements in the park and offer it as a destination
It has an administrative program of eco-tourism activity within the protected wild area, such as the Ecotourism Program of the ACG	It constitutes a new tourist alternative for North Guanacaste, highlighting elements that motivate the visit for the enjoyment of historical-cultural-architectural, archaeological, geological, among others
It constitutes a Historical-Biological-Cultural Research and Heritage Center	It has the support, advice, training of higher education institutions such as public and private universities of technical education such as INA, museums and other state institutions through the support of the Ministry of Culture, among others.
It has professional and bilingual staff	It is located a few minutes from Bahia Salinas, Cuajiniquil Bay, Junquillal Bay, and Culebra Bay, sites highlighted by the arrival of cruises and tourist transit boats
It has availability of camping areas	It is the seat of the administrative platform and general management of the whole area
Weaknesses	**Threats**
Lack of staff	Tourism development in Nicaragua
Lack of budget	Low security in the area / High crime index
Lack of tourism marketing strategy	Wildfires
Lack of positioning of the attractions	Bad economic situation
Weakness in community relations with the marine theme	

4.2 Analysis

4.2.1 Legal Analysis

Regulation on permitted actions in protected areas

In order to define the environmental impacts, it is necessary to know what the corresponding legislation is for the Protected Areas, in order to establish what activities can be performed within the areas, and what are the obligations and rules to be met during the visit to a ASP. The fundamental national laws that set parameters and give necessary basic concepts are: the Biodiversity Law Nº 7788

of 1998, the Organic Law of the Environment Nº 7554 and the Forestry Law Nº 7575 of 1996; and National Parks Services Law Nº 6084 of 1977.

In addition to the aforementioned laws, there is a diversity of laws that regulate activities performed with water resources such as, for example, Water Law Nº 276 of 1942. As part of the tourism policies that has been developed for all the National Parks of Costa Rica, the Law on Service of National Parks Nº 6084, art. 8 has determined the activities that are totally prohibited to perform, these are:

1. Cut trees and extract plants or any forest product.
2. Hunt or capture wild animals; collect or extract any of their products or dispossession.
3. Hunting sea turtles of any species; collect or extract their eggs or any other product or dispossession.
4. Scratching, marking, staining or causing any damage or deterioration to plants, equipment or facilities.
5. Sport, artisanal or industrial fishing, except in the case foreseen in article ten.
6. Collect or extract corals, shells, rocks or any other product or waste from the sea.
7. Collect or extract rocks, fossil minerals or any other geological product.
8. Carry firearms, harpoons and any other instrument that can be used for hunting.
9. Introduce exotic animals or plants.
10. Grazing and watering cattle or raising bees.
11. Causing any type of environmental contamination.
12. Extract stones, sands, gravel or similar products.
13. Feed or drink the animals.
14. Construct electricity or telephone lines, aqueducts, roads or railways.
15. Perform any type of commercial, agricultural or industrial activity.

The properties where it is proposed the investment to be made in the PNSR Naranjo are owned by the State and are governed by the aforementioned laws. As far as the project is concerned, the project in question will work taking into consideration and complying with the laws in force in the country, so there is no legal impediment that prevents the development of the proposed activities.

4.2.2 Environmental Analysis

The PNSR lacks of the environmental impact study for the construction of improvements to the camping area of the Naranjo site, which must be approved by the Environmental Technical Secretariat. Therefore, this study must be contracted along with the design and construction of the works by the Sustainable Tourism Project in ASP or any other source of financing.

4.2.3 Financial Analysis

Investment analysis

An investment in tourist infrastructure is proposed at the Naranjo Beach site, offering tourists the necessary conditions that will allow them to enjoy a better way of the attractions of the Park.

The proposed investment for the design and construction of the camping area in Playa Naranjo is detailed below:

Due to the bad existing conditions, the improvement of the camping area in Playa Naranjo is proposed. It is estimated that the conditioned surface will be 4,230 m^2 (45 m wide x 94 m deep), which will be filled with sand to allow for a homogeneous and comfortable surface for the installation of tents. This area will be delimited with logs and will be divided into two sections: one part of the camping area will be allocated to tourists with small tents (two people) and the other division will be assigned to tourists who settle with medium or large tents (from 4 to 6 people).

With the improvements and new distribution, it is expected to offer a total capacity of 80 seats distributed in approximately 20 small tents and 10 medium or large. Both sections will include washing stacks, tables and grills. It also requires the construction of an area for lunch (picnic area) that includes 10 tables for 60 people. Additionally, a module of five sanitary services and five showers will be built, including a wastewater treatment plant. In addition, two external showers designed for tourists who only spend the day will be installed.

There is a water well 100 m from the proposed area, however, the water is not potable and therefore it is considered necessary to evaluate the need to excavate a new well.

Additionally, the construction of a parking lot for 30 vehicles with an area of 640 m^2 is required.

Figure 11. Photography of the Naranjo camping area (M. Bustos, 2018)

Figure 12. Playa Naranjo Map (ACG, 2017)

Based on the information provided by the ACG and the collaboration of the architect Ana Monge, it is estimated that the proposed design and construction of the Playa Naranjo camping area is $232,068. It is important to emphasize that since the data is based in estimates, the budget should be reviewed once the final contracting and construction is performed. In addition, it must be taken into account that the estimates were made based on a cost of $1000 per square meter of construction.

Income estimation:

The revenues that are collected by the Santa Rosa National Park (PNRS) are directed to the National Parks Fund under a solidarity scheme. This implies that the ASPs that have higher revenues subsidize those that generate less income or even those that do not generate any type of income. In this sense, Santa Rosa receives an income each year in the form of a budget that covers the basic needs of the area, including operational costs and salaries.

In the case of PNRS, in addition to incomes from admission or payment of admission to the park, it receives incomes from the research and lodging center; camping areas and admission to the marine zone for surfing and diving. Admission to the Park has a cost of:

Chart 9. Santa Rosa National Park entrance fees in 2018 (ACG, 2018)

Visitors	Day rate (person/day)	Camping rate (person/day)
Nationals and residents	1,95$	5.85$
Children	0.89$	4.78$
Students	0.89$	4.78$
Non resident foreign adults	15$	19$
Non resident foreign children	5$	9$

₡= Colones; $= American dollars.

Chart 10. Santa Rosa National Park Revenue (ACG, 2018)

Protected Wild Area	Total Incomes (₡)			
	2014	2015	2016	2017
Santa Rosa	59.535.613,76	52.371.074,00	65.412.535,00	130.609.748,00
Naranjo	10.515.116,00	12.157.582,00	5.659.902,00	5.193.341,00
TOTAL	70.050.729,80	64.528.656,00	71.072.437,00	135.803.089,00

4.3 Scope Management Plan

In accordance with the PMBOK® guide, "planning the scope management is the process of creating a plan that determines how the scope of the project will be defined, validated and controlled, including the requirements management of all the work to be performed." It is aimed to meet the stakeholders expectations through the protocol management description.

The key benefit of this process is that it provides guidance and direction on how the scope will be managed throughout the project "(PMI, 2013). The Scope Management Plan is one of the subsidiary plans of the Project Management Plan that describes how the scope will be defined, developed, monitored, controlled and

verified, and in which all the elements generated in the area management processes will be added.

4.3.1 Inputs

Chart 11. Project Charter (Own development)

Date	**Project Name:**
November 13, 2017	Feasibility study of facility improvements in the camping area of the Naranjo site in Santa Rosa National Park (Costa Rica)
Knowledge Areas / Processes	**Applicacion Area (Zone / Activity)**
Knowledge areas: Project Scope Management Project Schedule Management Project Cost Management Project Quality Management Project Risk Management Project Stakeholder Management. Process groups: Initiating Planning Executing Monitoring and Controlling Closing	Ecoturism
Start date	**Finish date**
November 13, 2017	July 15, 2018
Project Objectives (general and specific)	

General objective:

The project general objective was to develop a feasibility study on the expansion and quality improvement and the sustainable tourism services offer in the camping area of Naranjo Site in the Santa Rosa National Park (Costa Rica) to determine the viability of the proposal.

Specific objectives:

1. Execute a market analysis to know the visitors profile, interests and their areas of influence, which include:
   1.1 OfferAnalysis
   1.2 Demand Analysis
   1.3 SWOT Analysis
2. Perform a general analysis of the PNSR current situation, subdividing it into:
   2.1. Legal Analysis
   2.2. Environmental Analysis
   2.3. Financial Analysis
3. Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that the project has all the work necessary to be completed successfully.
4. Establish a Schedule Management Plan to conduct the project completion on time.
5. Design a Cost Management Plan to estimate, budget and control the costs in such a way that the project is executed with the approved funds, so as not to exceed the project estimate.
6. Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.
7. Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.
8. Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.

Project purpose or justification (Merit and expected results)

The beach area of Santa Rosa National Park has traditionally been committed to maintaining the place original conditions, so that improvements have never been made. However, currently, thanks to the creation of a Tourism Plan of the Park, there is a mentality of change and enthusiasm to launch a new project that expands the tourist options of the area.

In contrast, Naranjo is a unique mix of beach, trails, dry forest and mangrove, with attractive geological formations; among which stands out the Peña Bruja (rock embedded in the sea), the Carbonal hill and the Naranjo Valley. The appreciation of varied flora and fauna is part of its attraction, where according to the time is possible the nesting of sea turtles, the presence of crocodiles, added to the beauty of the lagoon limbo and its estuary.

It is for these two reasons that it is evident the need to create a proposal for a plan to improve the area, which would propose the improvement of aspects such as the comfort of visitors in the camping area

Based on this, the fundamental purpose of this research will be to determine if these improvements are feasible and analyze if they respond to visitor needs.

Description of Product or Service to be generated by the Project – Project final deliverables

The final deliverable of the project will be the conclusion obtained from the feasibility study being handled. The conclusion will indicate whether or not the development of the different projects is a viable idea.

Throughout this feasibility analysis, the following deliverables will be developed:

- o Market study to analyze the existing offer and demand in the PNSR, and based on the results obtained, the most appropriate decisions will be taken.
- o General Analysis. Legal analysis to conduct the project within the established regulations.
- o Scope Management Plan which details how the project scope will be defined, developed, and verified in order to meet the project objectives throughout the project lifecycle.
- o Schedule Management Plan which will include activities that ensure the project is completed on time.
- o Cost Management Plan which will make certain that the project remains within budget.
- o Quality Management Plan in which the resources needed to complete the project successfully will be highlighted along with the activities needed to achieve them.
- o Stakeholder Management Plan which is a plan that details the project activities related to engaging stakeholders and making the most effective use of their participation as well as determining the level of interest in the project.
- o Risk Management Plan where the processes related to management planning, identification, analysis, risk response planning, as well as its monitoring, control and minimization in the project are developed.

Assumptions

It is assumed that all resources will be procured.

It is assumed that the budget, scope and schedule will be met as much as possible.

It is assumed that sufficient support will be received from the supporting organization and technical advice.

Constraints

Schedule: The project must be completed within a maximum of three months.

Resources: The project must be completed just with one person, the Project Manager.

Scope: Due to time constraints, the scope of this project would be limited only to meet this academic endeavor. The research shall continue beyond.

Technical: Supervisory support is mandatory for reviewing the project deliverables.

Preliminary risks

If the supervision support is not performed adequately or the feedback time exceeds the stipulated time, this situation could cause a delay that affects the scope, schedule, cost and quality of the project.

If not all project requirements are identified and, consequently, the project is delayed in issuing the deliverables and the development of WBS, WBS dictionary and Schedule.

If the stakeholders are not identified and managed, it could affect the scope, time and quality of the project.

If the time is insufficient to complete the study, this could affect the scope and quality of the project.

If the documentation is not available, it could cause delays that affect the schedule.

If the approval of the deliverables is inadequate, this could change the milestones of the project.

If access to information is inadequate, it could worsen the quality, schedule and scope of the project.

Budget

Not defined yet.

Milestones and dates

WBS Code	Milestone	Start date	End date
DEGREE FINAL PROJECT		November 13, 2017	July 15, 2018
1	GRADUATION SEMINAR	November 13, 2017	January 7, 2017
1.1	FGP Deliverables	November 13, 2017	December 17 , 2017
1.1.1	Project Charter	November 13, 2017	November 19, 2017
1.1.2	Project WBS	November 13, 2017	November 19, 2017
1.1.3	Chapter 1: Introduction	November 20, 2017	November 26, 2017
1.1.4	Chapter 2: Theorical Framework	November 27, 2017	December 3, 2017
1.1.5	Chapter 3: Methodological Framework	December 4, 2017	December 10, 2017
1.1.6	Project Annexes	December 11, 2017	December 17, 2017
1.1.6.1	Bibliography	December 11, 2017	December 13 , 2017
1.1.6.2	Schedule	December 14 , 2017	December 17, 2017
1.2	Graduation seminar approval	December 31, 2017	January 7, 2017
2	TUTORING PROCESS	February 19, 2018	May 20, 2018
2.1	Tutor	February 19, 2018	February 21, 2018
2.2	Adjustments of previous chapters	February 22, 2018	February 28, 2018
2.2.1	Adjust charter	February 22, 2018	February 23, 2018
2.2.2	Adjust WBS	February 23, 2018	February 24, 2018
2.2.3	Adjust Chapter 1	February 24, 2018	February 25, 2018
2.2.4	Adjust Chapter 2	February 25, 2018	February 26, 2018
2.2.5	Adjust Chapter 3	February 26, 2018	February 28, 2018
2.3	Chapter 4: Development results	March 1, 2018	May 6, 2018
2.4	Chapter 5: Conclusions	May 7, 2018	May 13, 2018
2.5	Chapter 6: Recommendations	May 14, 2018	May 20, 2018
3	READING BY REVIEWERS	May 21, 2018	June 10, 2018
3.1	Reviewers assignment request	May 21, 2018	May 31, 2018
3.2	Reviewers work	June 1, 2018	June 10 , 2018
4	ADJUSTEMENTS	June 11, 2018	July 8, 2018
4.1	Report for reviewers	June 11, 2018	June 20, 2018
4.2	FGP Update	June 21, 2018	June 30, 2018
4.3	Second review by reviewers	July 1, 2018	July 8, 2018

5	PRESENTATION TO BOARD OF EXAMINERS	July 9, 2018	July 15, 2018
5.1	Final review by board	July 9, 2018	July 12, 2018
5.2	FGP grade report	July 13, 2018	July 15, 2018

Relevant historical information

The National System of Conservation Areas is an institutional management system that integrates the competences in forestry, wildlife, water systems and protected wild areas, of Ministry of Environment and Energy (MINAE), in order to dictate policies, plan and execute processes aimed at achieving sustainability in the management of Costa Rica natural resources.

SINAC is divided into 11 terrestrial and marine conservation areas and 169 protected wild areas under different management categories; such as national parks, biological reserves, wildlife refuges, protective areas, national monuments and forest reserves. One of the 11 conservation areas is Guanacaste (ACG), where it is located the Santa Rosa National Park. It is located in the Santa Elena Peninsula, in the cantons of La Cruz and Liberia and is made up of the zones of Santa Rosa, Santa Elena, Murciélago and the Marine Zone.

The backgrounds of the Santa Rosa National Park date back to July 1, 1966, when La Casona of Santa Rosa was declared a National Monument, along with some 1,000 hectares of land surrounding the historic site. In 1971 it was declared as a National Park and was increased to little more than 10 thousand hectares. Later the park was expanded in different stages, achieving in the year 2000 a current extension of 81,000 hectares, consisting of 43,000 hectares of land and 38,000 hectares of land.

In Santa Rosa National Park is located one of the most historically important areas of the country; La Casona and stone corrals which were the scene of the greatest national heroic deed: The Battle of Santa Rosa on March 20, 1856. The park is important for the protection and restoration of the habitats of the so-called Dry Pacific climate. The beaches Nancite and Naranjo are of great scenic beauty and important areas for the spawning of sea turtles such as the olive and leatherback. There are about ten habitats in Santa Rosa, among them: deciduous forests, oak forests, evergreen forests, mangroves, swamps, riverine forests, scrubby forests, beach vegetation and grasslands or savannas.

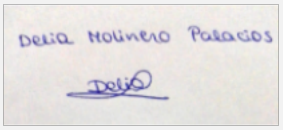
Naranjo was for many years one of the haciendas of Santa Rosa, where its main objective was the possession of dual purpose cattle (meat and milk), the extraction of salt, as well as the extraction of wood associated with eras.

In Naranjo you can see different ecosystems, mangrove forests, dry forest, estuaries, a beautiful beach, and species of flora and fauna, such as turtles, raccoons, deer, jaguars, crocodiles and many species of birds.

Stakeholders

DIRECT STAKEHOLDERS

Project Manager	Delia Molinero
Technical Advice	Marco Bustos
Main visitors	Students, Scientists, Naturalists, Surfers, Hikers, Campers
Officials of the different programs of the Guanacaste Conservation Area (ACG)	Eotourism, Control and Surveillance, Fire Control and Prevention, Environmental Education, Investigation and
University Academic Staff	Tutor, Course Facilitator, FGP Lecturer

INDIRECT STAKEHOLDERS	
Society	
Government of Costa Rica	
National System of Conservation Areas (Sistema Nacional de Áreas de Conservación)	SINAC
University Academic Staff	Academic Assistant, Course Facilitator, Project Review Board,
Project Manager: Delia Molinero Palacios	**Signature:** 
Authorized by:	**Signature:**

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.
- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets: One must not ignore a set of variables that can influence the project. The most outstanding organizational process assets in this project have been, the database and historical information on similar activities in the ACG with special emphasis in the PNSR, and the existing legislative regulations on the country's National Parks.

Tools used: Meetings have been held with different technicians with the purpose of

doing research, review of historical documentation and to obtain expert judgment, seeking to achieve a more real picture and work with updated information.

4.3.2 Outputs

Chart 12. Scope Management Plan (Own development)

Element	Description
Project Scope	The scope of this project is developed based on the requirements of the Feasibility Study for the development of quality improvements and services of the Naranjo site camping area, in order to offer a better experience to its visitors. For this purpose, meetings will be held with the Project team, Project Manager and Sponsor.
WBS creation	Each of the deliverables is identified and broken down to work packages.
Formal Acceptance of Project Deliverables	It is the process that describes the way the project deliverables are accepted. The SINAC is the one to determine if all the deliverables meet the Management Plan.
Change Requests	Each change must have an order, which must be addressed to the Project team, it applies to the different request templates, approval and changes register.

The Scope Management Plan includes six processes that will be described below: scope scheduling, requirements gathering, scope definition, Work Breakdown Structure (WBS) creation, scope validation and scope control.

4.3.3 Planning the Scope Management

It describes how the scope will be defined, developed, monitored, controlled and verified (PMI, 2013). It includes the necessary processes to ensure that the project includes all the work required to be completed it successfully. Integrates and consolidates all the secondary plans and baselines of the planning processes.

The development of the Project Management Plan will make sense once the feasibility study has been completed and the proposal is considered an achievable project. That is why, in order for the feasibility proposal to be positive and beneficial, the Scope Management Plan must ensure that the information gathered meets the requirements necessary to determine the feasibility of improvements to the camping area.

Chart 13. Requirements Management Plan (Own development) (revisar tabla request/requirements)

Components	Process Description
Requirements Documents	It is the process that describes how the requirements are obtained. For this project it will be done during the start phase and will be approved by the Project Sponsor.

Requirements Changes	This process is similar to the scope change requests. Each change must have an order, which must be addressed to the Project team, it applies to the different request templates, approval and changes register.
Requirements Prioritisation	It identifies, according to the degree of complexity, each of the requirements and their importance in the process.
Requirements Metrics	It identifies the degree of satisfaction of each of the requirements, with 80% degree of acceptance.

4.3.4 Requirements Gathering

It consists in documenting the needs, wishes and stakeholders expectations that are quantified and documented, in order to convert them into project requirements. It includes managing the client's expectations and is the basis for the WBS creation (PMI, 2013).

The purpose is to gather adequate and correct requirements for the project, and to negotiate with all stakeholders what is convenient for the project, evaluating what is outside or within the Project Charter.

The project requirements should be gathered and documented, indicating the relationship they have with the specifications. This could be done through the use of a project requirements traceability matrix. This traceability matrix has not been made due to lack of information, however, its purpose is to ensure compliance with the validated requirements.

4.3.4.1 Inputs

Scope Management Plan: Previously described (Chart 12).

Requirements Management Plan: Previously described (Chart 13).

Project Charter: Previously described (Chart 11).

Stakeholders Register:

Chart 14. Stakeholder register (Own development)

Stakeholder name	Project role	Role	Communication required	Email
Delia Molinero	Project Manager	Lead the team responsible for achieving the objectives of the project. Coordinate all project stakeholders. Control the resources assigned to the project. Manage restrictions Apply a standard to direct projects (*PMBOK® Guide*)	Project reportings, team meetings	delia.molinero@hotmail.com
SINAC – ACG	Project Sponsor	Provide resources and support to the project. Responsible for facilitating the success of the project	Project meetings	info@sinac.go.cr acg@acguanacaste.ac.cr
Marco Bustos	Team leader	Communicate the instructions, provide direction and guide the team..	Team meetings, reporting	mbustos@acguanacaste.ac.cr
Ecoturism program	Team member	Support the different activities of the project.	Project meetings	ecoturismo@acguanacaste.ac.cr
Ecotourists		People interested in: -To know an area little threatened by man. -To make activities with a high educational content. -To live new experiences. -To support the community financially.	Consultative	
Environmental Consultor		Provide environmental studies. Approve the proposed management regarding environmental limitations.	Project meetings	
Volunteers		Support the different activities of the project in a disinterested way.	Collaborative	
Officials		Follow the main ideas of the project. Support with proposals. Supply information.	Consultative	
Researchers / Scientists		Supply information..	Consultative	
Construction company		Support the construction of the project. Propose improvements.	Collaborative	

Stakeholder name	Project role	Role	Communication required	Email
Government of Costa Rica – Ministerio de Ambiente y Energía (MINAE)		Provide resources and support to the project. Responsible for facilitating the success of the project.	Project meetings	info@minae.go.cr
Liberia Surfers Association		Supply information.	Consultative	
Operadores de surf		Supply information.	Consultative	
Guías locales de surf		Supply information.	Consultative	
Prestadores servicios surf		Supply information.	Consultative	
Costa Rican Tourism Institute (Instituto costarricense de turismo, ICT)		Support with proposals. Supply information.	Collaborative	contactenos@ict.go.cr
Liberia Chamber of Tourism (Cámara de Turismo de Liberia, CALITUR)		Support with proposals. Supply information.	Collaborative	calitur@calitur.com
Chamber of development of Commerce and Tourism of La Cruz (Asociación Cámara del desarrollo del Comercio y Turismo de La Cruz, ASCATUR)		Support with proposals. Supply information.	Collaborative	ascaturlacruz@gmail.com
Guanacaste Chamber of Tourism (Cámara de Turismo Guanacaste, CATURGUA)		Support with proposals. Supply information.	Collaborative	presidente@caturgua.com
Municipality of Liberia		Support with proposals. Supply information.	Collaborative	info@muniliberia@go.cr
Municipality of La Cruz		Support with proposals. Supply information.	Collaborative	info@munilacruz@go.cr

Tools used: The tools used to perform this process were interviews, meetings and historical information research. Through this, information from stakeholders is obtained in order to identify their needs, as well as to determine the project requirements.

4.3.5 Definition of Scope

It is the process that consists in developing a detailed description of the project and the product. This is critical to its success, as it provides a common understanding among the Project stakeholders. It is elaborated from the main deliverables, assumptions and possible restrictions to the project that have been documented in the Initiation phase (PMI, 2013).

During this process, risks, assumptions and existing restrictions are analyzed, updating this information as necessary.

4.3.5.1 Inputs

Scope Management Plan: Previously described (Chart 12).

Project Charter: Previously described (Chart 13).

Organizational Process Assets: One must not ignore a set of variables that can influence the project. The most outstanding organizational process assets in this project have been, the database and historical information on similar activities in the ACG with special emphasis in the PNSR, and the existing legislative regulations on the country's National Parks.

Tool Used: Expert judgement was used for this process.

4.3.5.2 Outputs

Project Scope Statement: The feasibility study scope statement serves as a baseline document to define the scope of the viability project for the improvements development of the Santa Rosa National Park beach side camping area (Guanacaste).

This document lists the project deliverables, their acceptance criteria, the limitations of the project and the assumptions, all intended to ensure a common understanding of the project scope among all stakeholders.

Chart 15. Scope statement (Own development)

Project Scope Statement

Project Scope Statement	
Project Scope Description	The scope of this project is developed based on the Feasibility Study requirements for the development of quality improvements and services of the Naranjo site camping area, in order to offer a better experience to its visitors.
Deliverables	o Market Analysis: • OfferAnalysis • Demand Analysis • SWOT Analysis o General Analysis: • Legal Analysis • Environmental Analysis • Financial Analysis o Scope Management Plan o Schedule Management Plan o Cost Management Plan o Quality Management Plan o Stakeholders Management Plan o Risk Management Plan
Project Requirements	o The Scope Management Plan must be developed in accordance with the goals and objectives of the feasibility study. o Project activities must be performed within the scheduled time described in the Schedule Management Plan, and in the required sequence. o Stay within the budget. o The quality of the project must be maintained throughout its duration. o The means and frequency of communication must be maintained throughout the project duration. o The stakeholders needs must be considered in the project goals and objectives development. o The market must be investigated to determine its strengths, weaknesses, opportunities and threats, competitors, etc. in order to determine the probability for the project to be successful.
Acceptace Criteria	The feasibility project acceptance criteria will be based on a meticulous and accurate verification of the results of the actual project compared with the planned ones. All acceptance criteria must be met in order to achieve the project success. Therefore, complying with all deliverables and milestones within the planned time, scope and cost, according to the project requirements is also a critical acceptance criteria.
Project Assumptions	o It is assumed that all required resources will be available. o It is assumed that adherence to budget, scope and schedule will be met as much as possible. o It is assumed that sufficient support will be received from the sponsors. o It is assumed that the stakeholders will be willing to participate in the project. o It is assumed that project requirements will not change. o The project is supposed to be successful.

Project Scope Statement	
Project Constraints	The most important restrictions that will influence the Project are: o Scope: the project scope can potentially change during the project life cycle. o Cost: the monetary resource obtained from the Government and sponsors is scarce. o Time: the investigation will continue its course once the three stipulated months to develop the Degree Final Project finish. o Quality: the products quality of project will be affected by changes in scope. o Risks: unknown uncertainties and threats may arrive.

4.3.6 Create WBS

It consists in dividing the project into smaller components to facilitate the project planning, through the WBS, a structured approach of what can be delivered, can be given (PMI, 2013).

4.3.6.1 Inputs

Project Scope Statement: Previously described (Chart 15).

Enterprise Environmental Factors: It must be said that environmental factors influence positively or negatively the project execution, so for this process they include: the culture, structure and governance of the ACG.

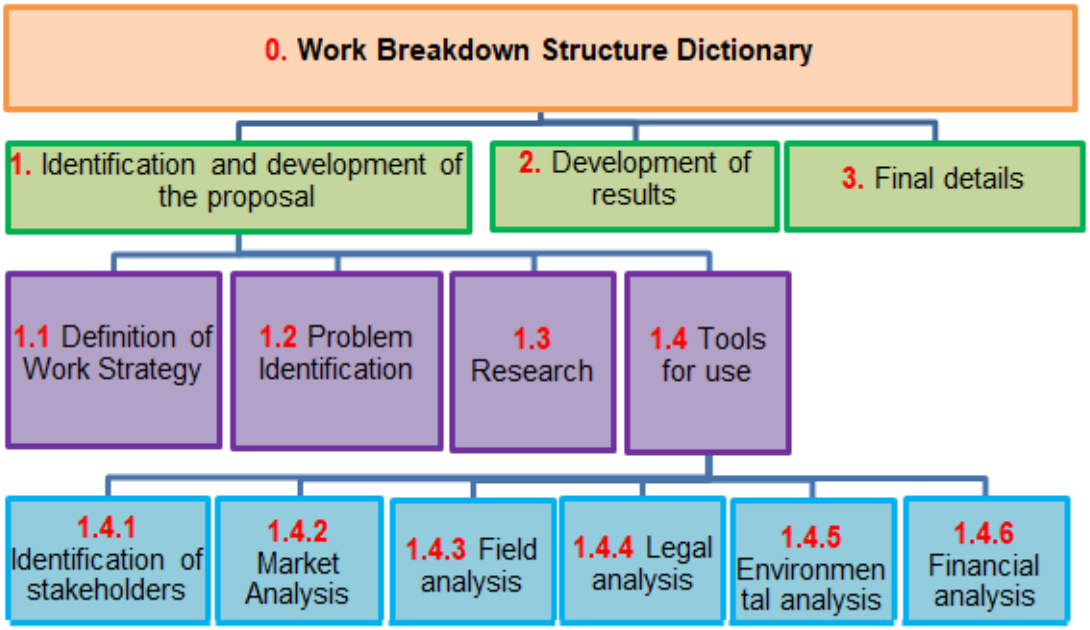
Organizational Process Assets: One must not ignore a set of variables that can influence the project. The most outstanding organizational process assets in this project have been, the database and historical information on similar activities in the ACG with special emphasis in the PNSR, and the existing legislative regulations on the country's National Parks.

4.3.6.2 Outputs

Scope Baseline: It includes the Project Scope Statement described in Chart 12, the WBS and the WBS dictionary described as follows:

Work Breakdown Structure: The Work Breakdown Structure (WBS) is a tool that is used to describe the scope of a project according to its deliverables. It is a hierarchical organizational element that represents the entire project and is used as the basis for project planning, facilitating the communication and integrated change control, allowing for an overall vision so that the work team quickly understands its place in the project.

Figure 13. Work Breakdown Structure (Own development)



WBS Dictionary:

Chart 16. Work Breakdown Structure dictionary (Own development)

Level	WBS Code	Element Name	Definition	Responsible
1	1	Proposal Identification and Development	Development of the guidelines that will be followed to have all inputs required for the investigation.	Project manager
2	1.1	Work Strategy Definition	Process by which the steps that comprise the Process Plan are assigned.	Project manager
2	1.2	Problem Identification	Define the needs to create a proposal for an Improvement Plan for the camping area.	Project manager and Project Team
2	1.3	Investigation	Method used to analyze the situation through meetings, expert judgment, interviews, academic data gathering and official ACG information.	Project manager and Project Team
3	1.4	Tools	Procedures used to develop the proposal.	Project manager
4	1.4.1	Stakeholders Identification	Stakeholders analysis and their influence zone on the Project.	Project Team and team leader
4	1.4.2	Market Analysis	Process through which an analysis of the standard user and their needs is made.	Project Team and team leader
4	1.4.3	Field Analysis	Consultation of specific documentation of ACG administration.	Project Team and team leader
4	1.4.4	Environmental Analysis	Consultation of the environmental requirements of the proposal.	Project manager and Project Team

Level	WBS Code	Element Name	Definition	Responsible
4	1.4.5	Financial Analysis	Consultation of the financial situation of PNSR.	Project manager and Project Team
4	1.4.6	Legal Analysis	Consultation of ASP documentation and Costa Rica environmental regulations.	Project manager and Project Team
1	2	Development of results	Process by which, different plans analyzed in the Project are detailed	Project manager
1	3	Final Details	Procedure in which a list of conclusions and recommendations for proposal are made.	Project manager

4.3.7 Validate the Scope

It consists in formalizing the acceptance of project deliverables that have been completed. The deliverables verified and obtained during quality management are reviewed with the client or sponsor, in order to ensure that they have been completed satisfactorily and they have also received formal acceptance.

The true usefulness of the Scope validation process is that it provides objectivity on customer satisfaction through the formal acceptance of Project deliverables, anticipating and increasing the chances of success in the final acceptance of the result, product or service of the Project.

4.3.7.1 Inputs

Tool Used: In this case, inspections and audits have been used to monitor that deliverables meet the specifications and document the completion of each deliverable.

4.3.7.2 Outputs:

Accepted Deliverables: In order to validate the deliverables that are being accepted by the stakeholders, Chart 17 template is developed. The person in charge of the validation of project deliverables and its acceptance, is the project sponsor.

Chart 17. Accepted Deliverables (Own development)

Deliverables	Acceptance (Yes/No)	Comments
Scope Management Plan which details how the project scope will be defined, developed, and verified in order to meet the project objectives throughout the project lifecycle.		

Deliverables	Acceptance (Yes/No)	Comments
Schedule Management Plan which will include activities that ensure the project is completed on time.		
Cost Management Plan which will make certain that the project stays within budget.		
Quality Management Plan in which the resources needed to complete the project successfully will be highlighted along with the activities needed to achieve them		
Risk Management Plan where the processes related to management planning, identification, analysis, risk response planning, as well as its monitoring, control and minimization in the project are developed		
Stakeholder Management Plan which is a plan that details the project activities related to engaging stakeholders and making the most effective use of their participation as well as determining the level of interest in the project.		
Market study to analyze the existing offer and demand in the PNSR, and based on the results obtained, the most		

4.3.8 Controlling the Scope

It measures the degree of compliance achieved with respect to the project scope and supervises any change request that affects the scope baseline. In addition, it ensures that all changes are processed through integrated change control.

In order to improve the performance of the project scope, the scope control requests for changes, recommends corrective and preventive actions and/or defects repair. The scope control verifies the implementation of all requests that have been approved in said process which affect the Project Scope.

The objective of this project is to develop a feasibility study to expand and improve the quality and offer of tourist services in the Naranjo site camping area of the Santa Rosa National Park (Costa Rica). Therefore, this plan documents the scope management approach; roles and responsibilities in regards to the project scope; scope definition; verification and control measures; scope change control; and the general project work breakdown structure.

For this project, the development and control of the scope management will be the sole responsibility of the Project Manager.

4.3.8.1 Inputs

Tool Used: Variation Analysis, since it allows to study if the deviations in the scope compared with the baseline are significant enough to apply corrective actions.

4.3.8.2 Outputs

Change Requests: When managing the scope changes, it must be ensured that changes are made through the integrated change control. This has to be evaluated by the Project Manager and submitted to the Sponsor for approval.
The following template establishes the formal acceptance of all the deliverables for the feasibility study project for the development of improvements in the service and quality of the Naranjo Beach site camping facilities in the PNSR.

Chart 18. Template used for the scope change request (Own development)

Feasibility Study Acceptance Form *Date: [dd/mm/yyyy]*			
Data of the change request:			
Person requesting the change			
Sponsor			
Project Manager			
Category of change			
Scope		Resources	
Schedule		Stakeholders	
Cost		Other	
Quality			
Cause / Origin of the change:			
Customer request		Preventive action	
Update document		Other	
Corrective action			
Description and justification of the change proposal:			
Impact of the change in the baseline:			
Risks:			
Comments:			

Feasibility Study Acceptance Form *Date: [dd/mm/yyyy]*			
Change committee signatures			
Person in charge	Rol	Acceptance (Yes / No)	Signature

4.4 Schedule Management

It includes the processes required to manage the completion of projects within schedule. The seven fundamental processes for the Schedule Management are as follows: plan the schedule, define activities, sequence activities, estimate activity resources, estimate activity duration, develop and control schedule.

4.4.1 Plan the Schedule

It consists in establishing the policies, procedures and documentation necessary to plan, develop, manage, execute and control the project schedule.

4.4.1.1 Inputs

Project Charter: Previously described (Chart 11).

Enterprise Environmental Factors: During this process the existing infrastructure and human resources have been included.

Organizational Process Assets: The organizational assets that influence the process are the fiscal calendar for ACG projects.

Tool Used: The tool used for the process development consists of analytic techniques and expert judgement.

4.4.1.2 Outputs

Schedule Management Plan: This plan establishes the criteria and activities to be performed in order to develop, monitor and control the schedule, which must answer the following questions: What element will be measured? Which tool is going to be used? What control accounts will be used? What rules are going to be used to measure the progress of activities? How are you going to measure performance?

Chart 19. Schedule Management Plan (Own development)

Element	Definition
Development of a feasibility Project Management Plan	MS Project 2010 is the tool that will be used to manage the schedule, by entering start and end dates of each activity.

Element	Definition
Measuring Tool	In order to determine measuring controls, days established by the tool will be used.
Relationship between activities	The WBS control accounts to manage progress. Each activity will have a relationship with its predecessor and successor.
Progress Measurement	The progress and fulfillment of schedule will be evaluated and updated weekly in meetings between the work team and those involved in the project.
Performance Monitoring	As threshold to determine the schedule performance, a range of action is established for each activity, for this, the execution time is established as the main variable, with a variation of 5% based on the activity
Rules for Performance Measurement	In order to measure the performance, it will be used the progress percentage.
Development of a Project Management Plan to establish improvements in the camping zone	MS Project 2010 is the tool that will be used to manage the schedule, by entering start and end dates of each activity.

4.4.2 Define Activities

It consists in identifying the specific actions to be performed in order to elaborate the project deliverables. For this project, a schedule detailing all the activities related to the research work is being made.

4.4.2.1 Inputs

Schedule Management Plan: Previously described (Chart 19).

Scope Baseline: Previously described (Figure 13, Chart 15 y Chart 16).

Entreprise Environmental Factors

Tool Used: Decomposition, subdividing the WBS work packages into activities.

4.4.2.2 Outputs

List of activities:

Chart 20. List of project activities (Own development)

WBS Code	Element Number	Definition	Responsible	Result
1	Proposal Identification and Development	Development of the guidelines that will be followed to have all inputs required for the investigation.	Project manager	Project Charter
1.1	Work Strategy Definition	Process by which the steps that comprise the Process Plan are assigned.	Project manager	Set of guidelines for the implementation of the Process.
1.2	Problem Identification	Define the needs to create a proposal for an Improvement Plan for the camping area.	Project manager and Project Team	List of needs
1.3	Investigation	Method used to analyze the situation through meetings, expert judgment, interviews, academic data gathering and official ACG information.	Project manager and Project Team	Documentation that allows for a based technical decisions.
1.4	Tools	Procedures used to develop the proposal.	Project manager	Tables, *PMBOK® Guide*, matrixes, lists, graphs.
1.4.1	Stakeholders Identification	Stakeholders analysis and their influence zone on the Project.	Project Team and team leader	Stakeholders list and their impact on the project.
1.4.2	Market Analysis	Process through which an analysis of the standard user and their needs is made.	Project Team and team leader	Behavior Offer and Demand Behaviour.
1.4.3	Field Analysis	Consultation of specific documentation of ACG administration.	Project Team and team leader	List of needs of the Naranjo Site.
1.4.4	Environmental Analysis	Consultation of the environmental requirements of the proposal.	Project manager and Project Team	Identification of missing environmental studies required by ACG.
1.4.5	Financial Analysis	Consultation of the financial situation of PNSR.	Project manager and Project Team	Estimation of PNSR incomes.
1.4.6	Legal Analysis	Consultation of ASP documentation and Costa Rica environmental	Project manager and Project Team	List of laws in an ASP.

WBS Code	Element Number	Definition	Responsible	Result
		regulations.		
2	Development of results	Process by which, different plans analyzed in the Project are detailed	Project manager	Management plan for scope, schedule, costs, quality, risks and stakeholders.
3	Final Details	Procedure in which a list of conclusions and recommendations for proposal are made.	Project manager	List of conclusions and recommendations

Milestones list:

- o Proposal Identification and Development
- o Development of Results
- o Final Details

4.4.3 Sequence Activities

It consists in identifying and documenting the relationships between project activities. The sequence of activities is established by logical relationships. Each activity and milestone, with the exception of the first and the last, connects with at least one predecessor and one successor.

4.4.3.1 Inputs

Schedule Management Plan: Previously described (Chart 19).

List of activities and attributes: Previously described (Chart 20).

Milestones: Described as list above.

Project Scope Statement: Previously described (Chart 15).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.

- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets: The organizational asset that influences the process is the fiscal calendar.

Tool used: The technique used was the so-called precedence diagramming method (PDM), which allows four types of dependencies between activities: end to start, end to end, start to start, and start to finish. The most used has been the finish to start relationship.

4.4.4 Estimate Activity Resources

It consists in estimating the type and quantities of materials, people, equipment or supplies required to execute each activity.

4.4.4.1 Inputs

Schedule Management Plan: Previously described (Chart 19).

List of activities and attributes: Previously described (Chart 20).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.
- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets: The organizational asset that influence the process is the fiscal calendar.

Tool Used: The tool used is the so-called bottom up estimation.

4.4.4.2 Outputs

Resources required for the activities:

The activities with the human and material resources necessary to achieve the established objectives detailing quantities are as follows:

Chart 21. Resources required for the project (Own development)

WBS Code	Activity Name	Human Resource	Material Resource
1	Proposal Identification and Development	Project manager (1p) and Team Leader (1p)	Computer, writing tools.
1.1	Work Strategy Definition	Project manager (1p)	Computer, writing tools.
1.2	Problem Identification	Project manager (1p) and Project Team (5p)	Computer, writing tools.
1.3	Investigation	Project manager (1p) and Project team (5p)	Computer, writing tools, telephone
1.4	Tools	Project manager (1p)	Computer
1.4.1	Stakeholders Identification	Project manager (1p) and Team Leader (1p)	Computer, writing tools, telephone.
1.4.2	Market Analysis	Project manager (1p) and Team Leader (1p)	Computer, writing tools.
1.4.3	Field Analysis	Project manager (1p) and Team Leader (1p)	Computer, writing tools, dasometric tools, transport, telephone.
1.4.4	Environmental Analysis	Project manager (1p), Project team (5p) and environmental consultor (1p)	Computer
1.4.5	Financial Analysis	Project manager (1p) and Project team (5p)	Computer, writing tools.
1.4.6	Legal Analysis	Project manager (1p) and Project team (5p)	Computer
2	Development of results	Project manager (1p)	Computer
3	Final Details	Project manager (1p)	Computer

4.4.5 Estimate Activity Durations

It consists in establishing approximately the amount of work periods necessary to complete each activity with the estimated resources. The activity duration estimation uses information on the scope of work of the activity, the type of resources needed, estimated quantities and their utilization rates.

4.4.5.1 Inputs

Schedule Management Plan: Previously described (Chart 19).

List of activities and attributes: Previously described (Chart 20).

Resources required for the Project: Previously described (Chart 21).

Project Scope Statement: Previously described (Chart 15).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

Schedule Management Plan: Previously described (Chart 19).

List of activities and attributes: Previously described (Chart 20).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.
- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets: The organizational asset that influence the process is the fiscal calendar.

Tool Used: The tool used is the so-called bottom up estimation.

4.4.5.2 Outputs

The tool is the so-called three point estimation, which consists in estimating an activity duration using the pessimistic, most likely and optimistic estimates.

Activity Duration Estimate

Chart 22. Estimated duration of project activities (Own development)

EDT Code	Activity Name	Optimistic time	Probable time	Pessimistic time	Expected time
1	Proposal Identification and Development	18	21	24	21
1.1	Work Strategy Definition	18	21	24	21
1.2	Problem Identification	18	21	24	21
1.3	Investigation	18	21	24	21

1.4	Tools	12	14	16	14
1.4.1	Stakeholders Identification	5	7	9	7
1.4.2	Market Analysis	18	21	24	21
1.4.3	Field Analysis	18	21	24	21
1.4.4	Environmental Analysis	18	21	24	21
1.4.5	Financial Analysis	18	21	24	21
1.4.6	Legal Analysis	18	21	24	21
2	Development of results	12	14	16	14
3	Final Details	18	21	24	21

4.4.6 Develop the Schedule

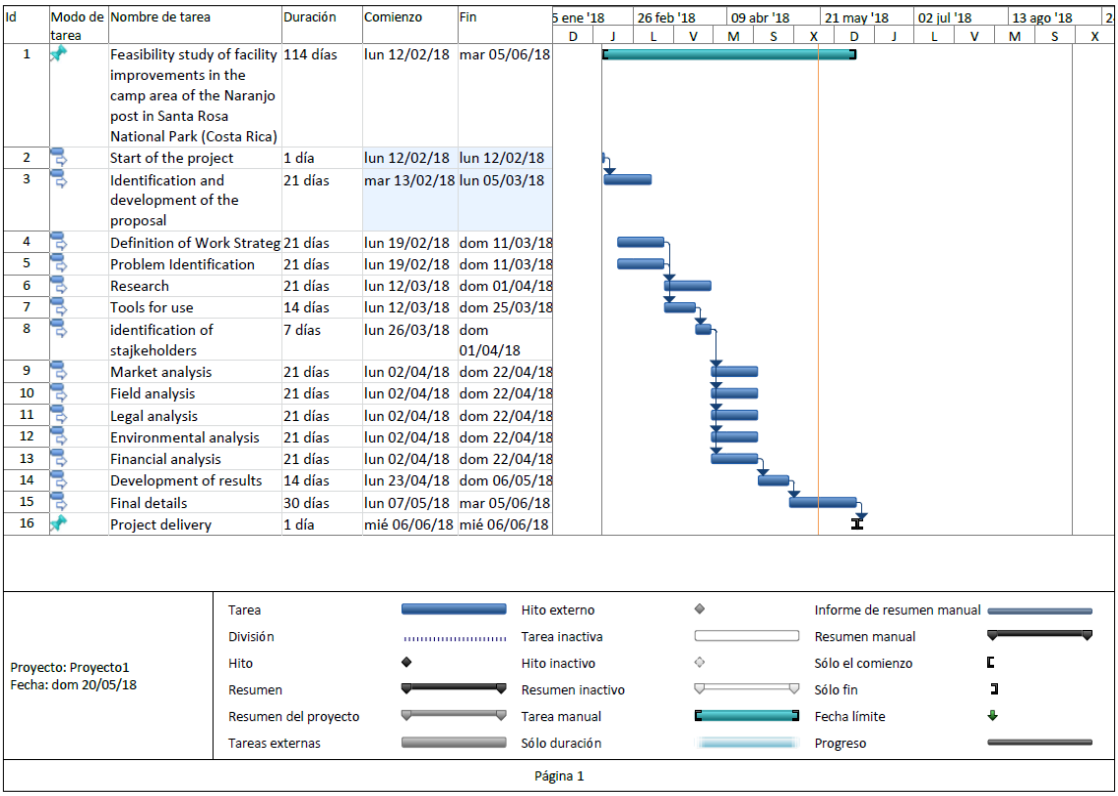
It consists in analyzing the sequence of activities, their duration, the resource requirements and the restrictions to create the project schedule.

4.4.6.1 Inputs

Schedule Management Plan: Previously described (Chart 19).
List of activities and attributes: Previously described (Chart 20).
Resources required for the activities: Previously described (Chart 21).
Activity Duration Estimate: Previously described (Chart 22).
Project Scope Statement: Previously described (Chart 15).
Tool Used: The MS Project 2013 is used. All necessary information is entered and the Gantt Diagram view is displayed.

4.4.6.2 Outputs

Project Schedule



Id	Modo de tarea	Nombre de tarea	Duración	Comienzo	Fin
1		Feasibility study of facility improvements in the camp area of the Naranjo post in Santa Rosa National Park (Costa Rica)	114 días	lun 12/02/18	mar 05/06/18
2		Start of the project	1 día	lun 12/02/18	lun 12/02/18
3		Identification and development of the proposal	21 días	mar 13/02/18	lun 05/03/18
4		Definition of Work Strateg	21 días	lun 19/02/18	dom 11/03/18
5		Problem Identification	21 días	lun 19/02/18	dom 11/03/18
6		Research	21 días	lun 12/03/18	dom 01/04/18
7		Tools for use	14 días	lun 12/03/18	dom 25/03/18
8		identification of stajkeholders	7 días	lun 26/03/18	dom 01/04/18
9		Market analysis	21 días	lun 02/04/18	dom 22/04/18
10		Field analysis	21 días	lun 02/04/18	dom 22/04/18
11		Legal analysis	21 días	lun 02/04/18	dom 22/04/18
12		Environmental analysis	21 días	lun 02/04/18	dom 22/04/18
13		Financial analysis	21 días	lun 02/04/18	dom 22/04/18
14		Development of results	14 días	lun 23/04/18	dom 06/05/18
15		Final details	30 días	lun 07/05/18	mar 05/06/18
16		Project delivery	1 día	mié 06/06/18	mié 06/06/18

Figure 14. Project Schedule (Own development)

4.4.7 Control the Schedule

Monitors the project status in order to update the progress and manage changes to the schedule baseline.

4.4.7.1 Inputs

Project Schedule: Previously described (Figure 14).

Organizational Process Assets: The organizational assets that influence the process are the fiscal calendar for ACG projects.

Tool Used: The tool used is performance review, which compares the actual durations in relation to the schedule baseline and evaluates if there are significant changes.

4.4.7.2 Outputs

Work Performance Information: In order to determine the performance, a comparison of the estimated times vs. the actual times is made, as shown in the following template.

Chart 23. Performance estimation (Own development)

WBS code	Activity Name	Fictitious Starting Date	Fictitious Finishing Date	Fictitious expected time
1	Proposal Identification and Development	12-02-2018	05-03-2018	21
1.1	Work Strategy Definition	19-02-2018	12-03-2018	21
1.2	Problem Identification	19-02-2018	12-03-2018	21
1.3	Investigation	12-03-2018	02-04-2018	21
1.4	Tools	12-03-2018	26-03-2018	14
1.4.1	Stakeholders Identification	26-03-2018	02-04-2018	7
1.4.2	Market Analysis	02-04-2018	23-04-2018	21
1.4.3	Field Analysis	02-04-2018	23-04-2018	21
1.4.4	Environmental Analysis	02-04-2018	23-04-2018	21
1.4.5	Financial Analysis	02-04-2018	23-04-2018	21
1.4.6	Legal Analysis	02-04-2018	23-04-2018	21
2	Development of results	23-04-2018	07-05-2018	14
3	Final Details	07-05-2018	04-06-2018	21

The Project Manager will be responsible for organizing weekly meetings with project team members to review the schedule and determine if there is any variation in the schedule and its possible impact. Any variation or change in the schedule must go through formal change control procedures and be approved by SINAC, the project sponsor, before it can be renamed.

Chart 24. Schedule Change Request Template (Own development)

Project Schedule Change Request	
Project Name	
Elaboration Date of Request	
Activity Name	
Request Description	
Justification	
Requester	
Approved (Yes/No)	
Signature	

4.5 Cost Management

Cost management includes the processes involved in estimating, budgeting and controlling costs so that the Project is completed within the approved budget. The requirements of stakeholders must be taken into account in order to obtain the costs, since they will have different ways to measure the project costs and

at different times. The planned cost includes its entire life cycle, from the initial planning to its delivery, through the different intermediate analyzes that are performed. Cost management allows companies to know expenses in advance and reduce the chances of exceeding the initial budget.

Usually, and following the information gathered in the *PMBOK® Guide*, project cost management distinguishes four stages: cost planning, cost estimation, budget determination and cost control

4.5.1 Plan Cost Management

It establishes the policies, procedures and documentation necessary to plan, manage, execute the expenses and control the project costs. It is necessary to know what activities are going to be performed.

Once these decisions are made, it is required to look for information about the resources needed to perform those actions. For this, it is necessary to search for historical information of similar projects executed by ourselves or by other companies.

4.5.1.1 Inputs

Project Charter: Previously described (Chart 11).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.
- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets: The organizational asset that influences in the process is the approved budget.

Tool Used: Analytical techniques in order to generate different parameters to request financial resources for its development.

4.5.1.2 Outputs

Cost Management Plan

Chart 25. Cost Management Plan (Own development)

Component	Description
Precision Level	Figures rounded to thousands.
Accuracy Level	The range that will be used for the estimates contemplates a level of accuracy of ± 5%.
Control thresholds	As total cost deviation allowed for the project, it has been established 5% +/-.
Rules of Performance Measurement	Earned Value (EVM) and "S"curve, monthly performance report.

4.5.2 Estimate Costs

It consists in developing an approximation of the financial resources necessary to complete the project activities. Once you know the activities that are going to be performed and the resources that are necessary, it is time to transfer these resources to monetary and temporary units.

4.5.2.1 Inputs

Cost Management Plan: Previously described (Chart 25).

Scope baseline: Previously described (Figure 13, Chart 15 y Chart 16).

Project Schedule: Previously described (Figure 14).

Project Charter: Previously described (Chart 11).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.
- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets. Organizational assets that influence the budget process.

Tool Used. The analogous estimate that fits the project plan, such as the time each partner must invest in the project and the cost of supplies.

4.5.2.2 Outputs

Activity Cost Estimates

Chart 26. Rates by project roles (Own development)

Role	Day Rate ($)	Notes
Project manager	87.60	Number based on the average base salary in Spain of a project manager with less than 3 years of experience ($ 36,791) according to OBS Business School.
Team leader: Profesional 1B	56.51	Figures provided by the ACG Administration.
Team member: Técnico 3	67.97	Figures provided by the ACG Administration.
Team member: Misceláneo	29.10	Figures provided by the ACG Administration..
Team member: Profesional 2	63.10	Figures provided by the ACG Administration..
Team member: Profesional 1A	49.13	Figures provided by the ACG Administration.
Environmental Consultant	48.42	Average Salary of an Environmental Engineer in Costa Rica.
Construction company	64	Estimation made based on historical information of similar projects in ACG.

Chart 27. Cost estimate of activities (Own development)

WBS Code	Activity Name	Days	Resource Cost		Total ($)
			Human ($)	Material ($)	
1	Proposal Identification and Development	21	7265.16	10	7275.16
1.1	Work Strategy Definition	21	7265.16	10	7275.16
1.2	Problem Identification	21	1839.60	10	1849.60
1.3	Investigation	21	3026.31	30	3056.31
1.4	Tools	14	2017.54	0	2017.54
1.4.1	Stakeholders Identification	7	1008.77	30	1038.77
1.4.2	Market Analysis	21	7265.16	10	7275.16
1.4.3	Field Analysis	21	7265.16	50	7315.16
1.4.4	Environmental Analysis	21	8281.98	0	8281.98
1.4.5	Financial Analysis	21	1839.60	10	1849.60
1.4.6	Legal Analysis	21	1839.60	0	1839.60
2	Development of results	14	1226.40	0	1226.40
3	Final Details	21	1839.60	0	1839.60

4.5.3 Determine Budget

It consists in adding the estimated costs of individual activities or work packages in order to establish a baseline of authorized cost. The budget includes the sum of the estimated costs, calculated in previous step, considering the estimated schedule for project completion. Thus, the budget provides an approach of the total investment as well as temporary costs of the whole project.

4.5.3.1 Inputs

Cost Management Plan: Previously described (Chart 25).

Scope baseline. Previously described (Figure 13, Chart 15 y Chart 16).

Activity Cost Estimates. Previously described (Chart 27).

Project Schedule. Previously described (Figure 14).

Organizational Process Assets: The organizational asset that influences in the process is the approved Budget.

Tool Used. The tool used is the sum of the estimated costs in each of the activities, in addition to a 5% for contingencies, factor used in the accuracy level.

4.5.3.2 Outputs

Cost Baseline:

Chart 28. Cost Baseline (Own development)

ID	Deliverable	Cost ($)
1	Proposal Identification and Development	7275.16
1.1	Work Strategy Definition	7275.16
1.2	Problem Identification	1849.60
1.3	Investigation	3056.31
1.4	Tools	2017.54
1.4.1	Stakeholders Identification	1038.77
1.4.2	Market Analysis	7275.16
1.4.3	Field Analysis	7315.16
1.4.4	Environmental Analysis	8281.98
1.4.5	Financial Analysis	1849.60
1.4.6	Legal Analysis	1839.60
2	Development of results	1226.40
3	Final Details	1839.60
	TOTAL	**52140.04**

Project Funding Requirements: Once the baseline cost estimate has been made, the budget will be funded by the Government of Costa Rica, the National Parks Foundation, the Guanacaste Dry Forest Conservation Fund, as well as indirect collaborators such as private companies or individuals.

4.5.4 Control Costs

Monitors the project status in order to update the project budget and manage changes to the cost baseline. Cost control is performed once the project has been launched. It consists of a daily or weekly monitoring at determined control points, of costs at that moment compared with the established baseline, thus checking whether or not they adjust to what was planned. This measurement allows to forecast the general costs of the project and verify if they will have the same trend they have had to this moment.

PMBOK® Guide provides details to plan cost management as an issue related to the cost of resources needed to complete project activities (PMI, 2013). Therefore, this project will incorporate earned value calculations that will be included in the cost accounts in order to measure the financial performance throughout the project.

4.5.4.1 Inputs

Project Funding Requirements: Previously described.

Organizational Process Assets: The organizational asset that influences in the process is the approved Budget.

Tool Used: The earned value technique (EVM) is the standard to measure the schedule performance of the actual progress of project in order to compare with the planning that had been previously done. It combines the scope, the schedule and resources measurement with the purpose of evaluating the performance and the progress of the project, therefore, the three dimensions of the earned value that will be used are the planned value, the earned value and the real cost. In addition, it is intended to control the variations of both cost and time.

- o Planned Value (PV): is the budget assigned and authorized to execute an activity or component of the Work Breakdown Structure (WBS).
- o Current Cost (AC): is the actual cost incurred to execute the work associated with an activity or component of the Work Breakdown Structure

(WBS).

o Earned Value (EV): the value of the work done expressed in terms of the budget assigned to the EDT activities or components once finished.

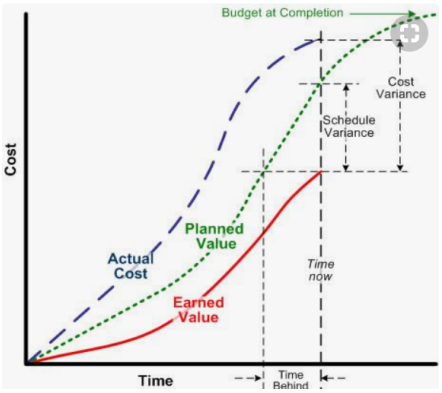


Figure 15. Earned Value Management (CA, 2018)

4.5.4.2 Outputs

Work Performance Information: Based on the above values, variations or deviations will be monitored with respect to the budget approved for the project, these measures are the following:

o Schedule Variance (SV): SV = EV - PV. If the SV is negative, it is considered that the project is delayed and if it is positive, it is considered that the project is ahead of schedule.

o Cost Variance (CV), CV = EV - AC. If the CV is negative it means that the project is over-budget which is equivalent to inefficiency, in the opposite case if the CV is positive it means that the project is in surplus or efficient.

o Schedule performance index (SPI), SPI = EV/AC. If the CPI is less than 1, it indicates a cost higher than planned with respect to the completed work, while if the CPI is greater than 1 it indicates a lower cost than the planned to date.

Change Requests: If there are variations in the project cost performance, the Project Manager must report the situation and provide a detailed corrective action plan to return the project performance to acceptable levels. Those interested in making change requests must fill out the form described below and send it to the project manager, who will meet with the project work team and evaluate said requests, if they are approved, it will be informed to the project sponsor for subsequent implementation.

Chart 29. Project Cost Change Request Template (Own development)

Project Cost Change Request

Project Name	
Elaboration Date of Request	
Activity Name	
Request Description	
Justification	
Requester	
Approved (Yes/No)	
Signature	

Project Document Updates: Project documents susceptible to be updated include the cost estimation of activities and the basis of estimates.

4.6 Quality Management

The *PMBOK® Guide* states that, "the quality management of the project includes the processes and activities of the executing organization that establish quality policies, objectives and quality responsibilities so that the project meets the needs for which was undertaken "(PMI, 2013).

Processes include Quality Management Planning, quality assurance performance and quality control.

4.6.1 Plan the Quality Management

Identify the requirements and/or quality standards for the project and its deliverables, as well as to document how the project will demonstrate full compliance with them.

4.6.1.1 Inputs

Scope baseline. Previously described (Figure 13, Chart 15 y Chart 16).

Cost baseline. Previously described (Chart 28).

Environmental factors of the company: The projects are executed within an organization called ACG, whose culture, style and structure influence the way these projects are managed. For this project, the environmental factor of the company is positive since updated information is available and assigned on the following factors:

- o Vision, mission and values of SINAC and ACG.
- o Culture, structure and governance of the ACG.
- o Availability and geographical distribution of facilities, resources, infrastructures and materials.

o Standards of the Government of Costa Rica that affect ASP.

o Standards, policies, methods and procedures for the internal functioning of the ACG and Santa Rosa National Park.

Tool used. For the development of this process, quality management and control tools were used, among which the matrix diagram was used due to the fact that it performs an analysis between the quality requirements and the different criteria to be taken into account for each one.

4.6.1.2 Outputs

Quality Management Plan

Chart 30. Project Quality Plan (Own development)

Deliverable	Quality Requirement	Responsible
Identification and development of proposal	Identify the problem and develop the instructions to follow	Project manager
Definition of work strategy	Develop a detailed plan including each of the steps	Project manager
Identification of Problem	Define the project requirements.	Project manager and Team project
Investigation	Analyze the historical and current situation relating to project	Project manager and Team project
Tools	Analyze and identify procedures used.	Project manager
Stakeholders identification	Analysis of Stakeholders and their influence zone	Project Team and team leader
Market Analysis	Analysis of Standard User and his needs	Project Team and team leader
Field Analysis	Consult ACG documentation	Project Team and team leader
Environmental Analysis	Consult and identify environmental requirements in a ASP.	Project manager and Project Team
Financial Analysis	Analyze financial situation of the PNSR.	Project manager and Project Team
Legal Analysis	Consult national laws in ASP.	Project manager and Project Team
Development of results	Detail the plans studied.	Project manager
Final Details	List conclusions and recommendations	Project manager

Quality Metrics

Chart 31. Project quality assurance matrix (Own development)

Quality Metrics	Acceptance Criteria	Requirement for Success	Responsible Person
Comply with the scope of work	The progress of project (P) will be determined through the percentage of activities completed by deliverable, since the total of completed activities (CA) will be compared with the total of planned activities (PA). **P (%) = CA / PA**	A(%) >90 %	Project Team
Comply with the project schedule	By means of the Schedule Performance Index (SPI), the efficiency of the schedule will be measured, that is, the time allocated to project is being used correctly. **SPI = EV / PV** Where: EV: Earned Value PV: Planned Value	SP I≤ 1	Project Team
Comply with the Project budget	The Budgeted Cost Efficiency will be measured through the Cost Performance Index (CPI), which will mean to measure the efficiency of cost for the completed work. **CPI = EV / AC** Where: EV: Earned Value AC: Actual Cost	CPI ≥ 1	Project Team
Comply with deliverables quality	From the percentage of the quantity of deliverables submitted for quality control, with respect to the total of deliverables.	> 90 %	Project Team

4.6.2 Perform the Quality Assurance

Audits the quality requirements and the results of the quality control measurements, to ensure that the appropriate quality standards and operational definitions are used

4.6.2.1 Inputs

Quality Management Plan. Previously described (Chart 30).

Quality Metrics. Previously described (Chart 31).

Tool Used. The tool to be used is the so-called quality audit, which will be under the Quality Department and the Project team responsibility.

Change requests. Those interested in making change requests must use the following template.

Chart 32. Project Quality Change Request Template (Own development)

Request for project quality changes	
Project Name	
Request Preparation Date	
Request Type (Corrective / Preventive)	
Request Description	
Justification	
Requester	
Approved by:	
Signature	

4.6.3 Control Quality.

Monitors and records the results of the execution of quality control activities, in order to evaluate performance and recommend the changes required.

4.6.3.1 Inputs

Quality metrics. Previously described (Chart 31).

Approved change requests. Quality change requests made through the template described in Chart 32 which were approved.

Tool Used. The tool used is the so-called seven quality basic tools, among which the verification sheets were specifically applied, since this consists of carrying out a check on the deliverables that meet the quality established during the planning.

4.6.3.2 Outputs

Validated Changes

Chart 33. Quality Change Validation Template (Own development)

Validation of quality changes			
ID	**Description**	**Requested Change**	**Validated Change (Yes/No)**

Verified Deliverables

Chart 34. Project Deliverables Quality Verification Template (Own development)

Quality Verification List		
ID	**Description**	**Quality Compliance (Yes/No)**

Project documents update. Project documents that are susceptible to be

updated include change records supported by corrective or improvement actions.

Updates to the assets of the organization processes. The assets of the organization processes that are susceptible to be updated are the completed checklists.

4.7 Project Stakeholders Management

The project stakeholders management includes the processes necessary to identify the people, groups or organizations that may affect or be affected by the project, to analyze the stakeholders expectations and their impact on the project, and to develop management strategies appropriate in order to achieve the effective participation of stakeholders in the decisions and in the execution of the project (PMI, 2013).

The stakeholder Management approach for the feasibility study will seek to identify and classify project stakeholders, determine their power, interest and influence, and analyze the most appropriate communication methodology for all of them. This will allow the project team to identify the main influential stakeholders to solicit comments for project planning and obtain support as the project progresses.

Stakeholder management processes include: stakeholder identification, Stakeholder Management Plan, stakeholder engagement management and stakeholder engagement control.

4.7.1 Identify Stakeholders

The stakeholders are people and organizations as clients, sponsors, the execution organization and the public that is actively involved in the project. Also those whose interests may be affected, positively or negatively by the execution or termination of the project, and on the other hand, those who can influence the project and its deliverables.

Each identified stakeholder will be analyzed and classified according to their power and interest. The project team will further identify the key stakeholders that are considered to have the greatest influence on the project or who may be most affected by it and who will require most of the communication and management. Once identified, the Project Manager will document the level of participation they desire, the frequency and type of communication, and any

concerns or conflicting interests they may have. All information about these stakeholders will be stored in the register of stakeholders

4.7.1.1 Inputs

Project Charter. Previously described (Chart 11).

Organization Charter. Previously described (Figure 9).

Tool. It is intended to perform an analysis of the stakeholders, through which it can be identified their interests, expectations and power of influence of each stakeholder.

4.7.1.2 Outputs

Project Influence Zone. This section will provide a geographical understanding of the areas affected by the project and establishes the level of engagement for each one. The areas of influence of this project have been divided into four:

- **Zone 1:** this is the closest area to the project site and whose interactions with the stakeholders will take place very frequently.
- **Zone 2:** In this area, the stakeholders interact with the project frequently, with less frequency than in zone 1 but still evident.
- **Zone 3:** Area whose interactions between the stakeholders and the project are limited in time, or may be restricted to a specific phase of the project.
- **Zone 4:** In this area interactions can occur occasionally with stakeholders.

Considering the abovementioned, in the project under study, the zones could be classified as follows:

Figure 16. Areas of influence of the project (Own development)

These zones will evolve and adjust as the project advances through its life cycle.

Stakeholders Register

Chart 35. Project Stakeholders Registration (Own development)

Stakeholder name	Project role	Role	Communication required	Email
Delia Molinero	Project Manager	Lead the team responsible for achieving the objectives of the project. Coordinate all project stakeholders. Control the resources assigned to the project. Manage restrictions Apply a standard to direct projects (*PMBOK® Guide*)	Project reportings, team meetings	delia.molinero@hotmail.com
SINAC – ACG	Project Sponsor	Provide resources and support to the project. Responsible for facilitating the success of the project	Project meetings	info@sinac.go.cr acg@acguanacaste.ac.cr
Marco Bustos	Team leader	Communicate the instructions, provide direction and guide the team..	Team meetings, reporting	mbustos@acguanacaste.ac.cr
Ecoturism program	Team member	Support the different activities of the project.	Project meetings	ecoturismo@acguanacaste.ac.cr
Ecotourists		People interested in: Knowing an area little threatened by man. Making activities with a high educational content. Living new experiences. Supporting the community financially.	Consultative	
Environmental Consultor		Provide environmental studies. Approve the proposed management regarding environmental limitations.	Project meetings	
Volunteers		Support the different activities of the project selflessly.	Collaborative	
Officials		Follow the main ideas of the project. Support with proposals. Supply information.	Consultative	

Stakeholder name	Project role	Role	Communication required	Email
Researchers/Scientists		Supply information..	Consultative	
Construction company		Support the construction of the project. Propose improvements.	Collaborative	
Ministry of Environment and Energy of Costa Rica (Ministerio de Ambiente y Energía de Costa Rica, MINAE)		Provide resources and support to the project. Responsible for facilitating the success of the project.	Project meetings	info@minae.go.cr
Liberia Surfers Association		Supply information.	Consultative	
Surf Operators		Supply information.	Consultative	
Surf local guides		Supply information.	Consultative	
Surf services providers		Supply information.	Consultative	
Costa Rican Tourism Institute (Instituto costarricense de turismo, ICT)		Support with proposals. Supply information.	Collaborative	contactenos@ict.go.cr
Liberia Chamber of Tourism (Cámara de Turismo de Liberia, CALITUR)		Support with proposals. Supply information.	Collaborative	calitur@calitur.com
Chamber of development of Commerce and Tourism of La Cruz (Asociación Cámara del desarrollo del Comercio y Turismo de La Cruz, ASCATUR)		Support with proposals. Supply information.	Collaborative	ascaturlacruz@gmail.com

Stakeholder name	Project role	Role	Communication required	Email
Guanacaste Chamber of Tourism (Cámara de Turismo Guanacaste, CATURGUA)		Support with proposals. Supply information.	Collaborative	presidente@caturgua.com
Municipality of Liberia		Support with proposals. Supply information.	Collaborative	info@muniliberia@go.cr
Municipality of La Cruz		Support with proposals. Supply information.	Collaborative	info@munilacruz@go.cr

4.7.2 Stakeholders Management Plan

Process through which strategies are developed to manage the participation and engagement of stakeholders with the project throughout its life cycle.

4.7.2.1 Inputs

Stakeholders Register. Previoulsy described (Chart 28).

Tool. Analytical techniques will be used to measure different variables, for this, different matrixes will be applied in order to determine the participation or current engagement of the stakeholders.

4.7.2.2 Outputs

Power-influence matrix: This section presents an exhaustive list of each group involved in the development of the project, directly or indirectly. In addition it has been decided to create a map of the stakeholders to facilitate the understanding taking into account certain parameters such as the level of influence/power or the level of interest. This mapping will be done based on what is known today and it will change and evolve as more is known about the project.

The model to be considered is as follows:

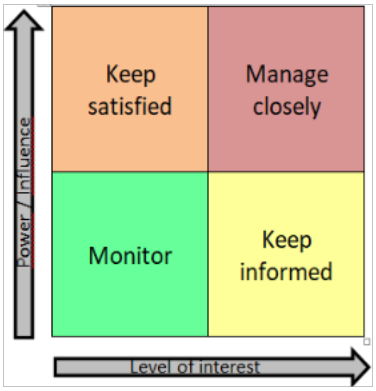


Figure 17. Power-influence matrix model (Own development).

Based on this standard, a power-interest table has been created to facilitate the creation of the stakeholder map.

Chart 36. Power-influence matrix (Own development)

Stakeholder name	Power (Ability to influence)	Interest (How much is being influenced)
Delia Molinero (Project manager)	Very high	Very high

Stakeholder name	Power (Ability to influence)	Interest (How much is being influenced)
Marco Bustos (Team leader)	Very high	Very high
Ecoturism program (Team member)	High	Very high
Ecotourists	Low	Very high
Volunteers	Low	Low
Park Officials	Moderate	Moderate
Environmental Consultant	High	Moderate
Researchers / Scientists	Low	Low
Construction company	Moderate	Low
Government of Costa Rica	High	Moderate
SINAC – ACG (Project Sponsor)	Very High	Very High
Liberia Surfers Association	Low	High
Surf operators	Low	High
Local surf guides	Low	High
Surf service providers	Low	High
Costa Rican Tourism Institute (Instituto costarricense de turismo, ICT)	Low	High
Liberia Chamber of Tourism (Cámara de Turismo de Liberia, CALITUR)	Low	High
Chamber of development of Commerce and Tourism of La Cruz (Asociación Cámara de Comercio y Turismo de La Cruz, ASCATUR)	Low	Moderate
Guanacaste Chamber of Tourism (Cámara de Turismo Guanacaste, CATURGUA)	Low	Moderate
Municipality of Liberia	Low	Low
Municipality of La Cruz	Low	Low

And finally, the stakeholder matrix is shown, in which the role of each stakeholder in the project in question can be quickly and visually understood, it is ultimately, the communication plan with the stakeholders. This table will help identify the planning methods, the communication frequency and the tools to implement the strategy successfully.

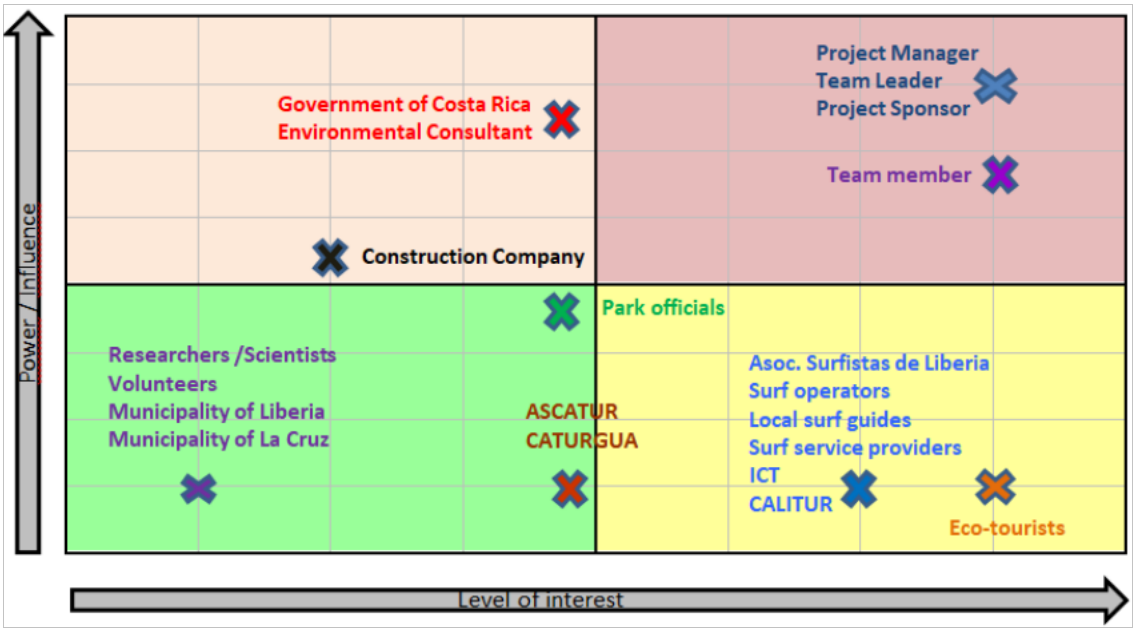


Figure 18. Stakeholder matrix (Own development)

Chart 37. Stakeholder Management Plan (Own development)

Stakeholder name	Project role	Role	Communication required	Email	Power	Interest
Delia Molinero	Project Manager	Lead the team responsible for achieving the objectives of the project. Coordinate all project stakeholders. Control the resources assigned to the project. Manage restrictions Apply a standard to direct projects (*PMBOK® Guide*)	Project reportings, team meetings	delia.molinero@hotmail.com	Very high	Very high
SINAC – ACG	Project Sponsor	Provide resources and support to the project. Responsible for facilitating the success of the project	Project meetings	info@sinac.go.cr acg@acguanacaste.ac.cr	Very high	Very high
Marco Bustos	Team leader	Communicate the instructions, provide direction and guide the team.	Team meetings, reporting	mbustos@acguanacaste.ac.cr	High	Very high
Ecoturism program	Team member	Support the different activities of the project.	Project meetings	ecoturismo@acguanacaste.ac.cr	Low	Very high
Ecotourists		People interested in Knowing an area little threatened by man. Making activities with a high educational content. Living new experiences. Supporting the community financially.	Consultative		Low	Low

Stakeholder name	Project role	Role	Communication required	Email	Power	Interest
Environmental Consultor		Provide environmental studies. Approve the proposed management regarding environmental limitations.	Project meetings		Moderate	Moderate
Volunteers		Support the different activities of the project selflessly.	Collaborative		High	Moderate
Officials		Follow the main ideas of the project. Support with proposals. Supply information.	Consultative		Low	Low
Researchers / Scientists		Supply information..	Consultative		Moderate	Low
Construction company		Support the construction of the project. Propose improvements.	Collaborative		High	Moderate
Ministry of Environment and Energy of Costa Rica (Ministerio de Ambiente y Energía de Costa Rica, MINAE)		Provide resources and support to the project. Responsible for facilitating the success of the project.	Project meetings	info@minae.go.cr	Very High	Very High
Liberia Surfers Association		Supply information.	Consultative		Low	High
Surf Operators		Supply information.	Consultative		Low	High
Surf local guides		Supply information.	Consultative		Low	High
Surf services providers		Supply information.	Consultative		Low	High
Costa Rica Tourism Institute (Instituto		Support with proposals. Supply information.	Collaborative	contactenos@ict.go.cr	Low	High

Stakeholder name	Project role	Role	Communication required	Email	Power	Interest
costarricense de turismo, ICT)						
Liberia Chamber of Tourism (Cámara de Turismo de Liberia, CALITUR)		Support with proposals. Supply information.	Collaborative	calitur@calitur.com	Low	High
Chamber of development of Commerce and Tourism of La Cruz (Asociación Cámara del desarrollo del Comercio y Turismo de La Cruz, ASCATUR)		Support with proposals. Supply information. Soporte con propuestas Información de suministro.	Collaborative	ascaturlacruz@gmail.com	Low	Moderate
Guanacaste Chamber of Tourism (Cámara de Turismo Guanacaste, CATURGUA)		Support with proposals. Supply information.	Collaborative	presidente@caturgua.com	Low	Moderate
Municipality of Liberia		Support with proposals. Supply information.	Collaborative	info@muniliberia@go.cr	Low	Low
Municipality of La Cruz		Support with proposals. Supply information.	Collaborative	info@munilacruz@go.cr	Low	Low

4.7.3 Manage Stakeholders Engagement

During this process, communications with the stakeholders are managed in order to satisfy their needs and mitigate potential conflicts.

4.7.3.1 Inputs

Stakeholders Management Plan: Previously described (Chart 33).
Tool. Use different methods of communication, the selection will be according to the ability of the project manager. What is intended is to generate a tool that allows generating an evaluation and strategy of each involved.

4.7.3.2 Outputs

Stakeholders Management Strategy for the Project: Described in the previous chart.

4.7.4 Control Stakeholders Engagement

During the process of controlling stakeholder participation, the impacts of the project on the stakeholders and vice-versa are monitored

4.7.4.1 Inputs

Project Schedule. Previously described (Chart 8).
Stakeholders Register. Previously described (Chart 28).
Scope Change Request. Previously described (Chart 15).

4.7.4.2 Outputs

Work Performance Report: Previously described (Chart 23).

4.8 Risk Management

The Project Risk Management includes the processes related to the planning of the Risk Management, as well as the identification and analysis of Risks and the planning of responses to the Risks. Including also, the monitoring and control of them.
These processes are updated during the Project Life Cycle. The objectives of the Project Risk Management are, on one side, to increase the probability and impact of positive events, and on the other, to reduce the probability and impact of negative events.

The Risk Management also includes objectives such as adopting response strategies for possible contingencies that may arise during the execution of the Project or evaluating those that are most effective.

A careful and explicit risk plan of this project will increase the chances of success of the other processes, since it will be decided how to approach and perform all the activities that pose a certain risk on the Project.

By definition, a risk is an uncertain event that, if it happens, will have an impact on the project (either negative or positive). Negative risks are considered threats, while risks with positive impact are considered opportunities.

4.8.1 Plan Risk Management

Planning will be important to ensure that the level, type and visibility of Risk Management are in accordance with the importance of the Project.

4.8.1.1 Inputs

Project Charter: Previously described (Chart 11).

Stakeholders Register: Previously described (Chart 14).

Enterprise Environmental Factors: The projects are performed within an organization called ACG, whose culture, style and structure influence the way in which these projects are executed. For this project, the enterprise environmental factor is positive since updated information is available and assigned on the following factors:

- o Vision, Mission and Values of SINAC y ACG.
- o Structure and Governance of ACG.
- o Availability and geographical distribution of facilities, resources, infrastructure and materials.
- o Costa Rica Government Standards that affect the ASP.
- o Standards, policies, methods and procedures of the internal functioning of ACG and the Santa Rosa National Park.

Organizational Process Assets: In this case, the lessons learned, the risk categories and the roles and responsibilities, will be influential.

4.8.1.2 Outputs

Risk Management Plan: describes the way in which risk management activities will be structured and performed. To do this, it will be useful to take advantage of a Risk Breakdown Structure (RBS), which will classify the risks according to the different areas.

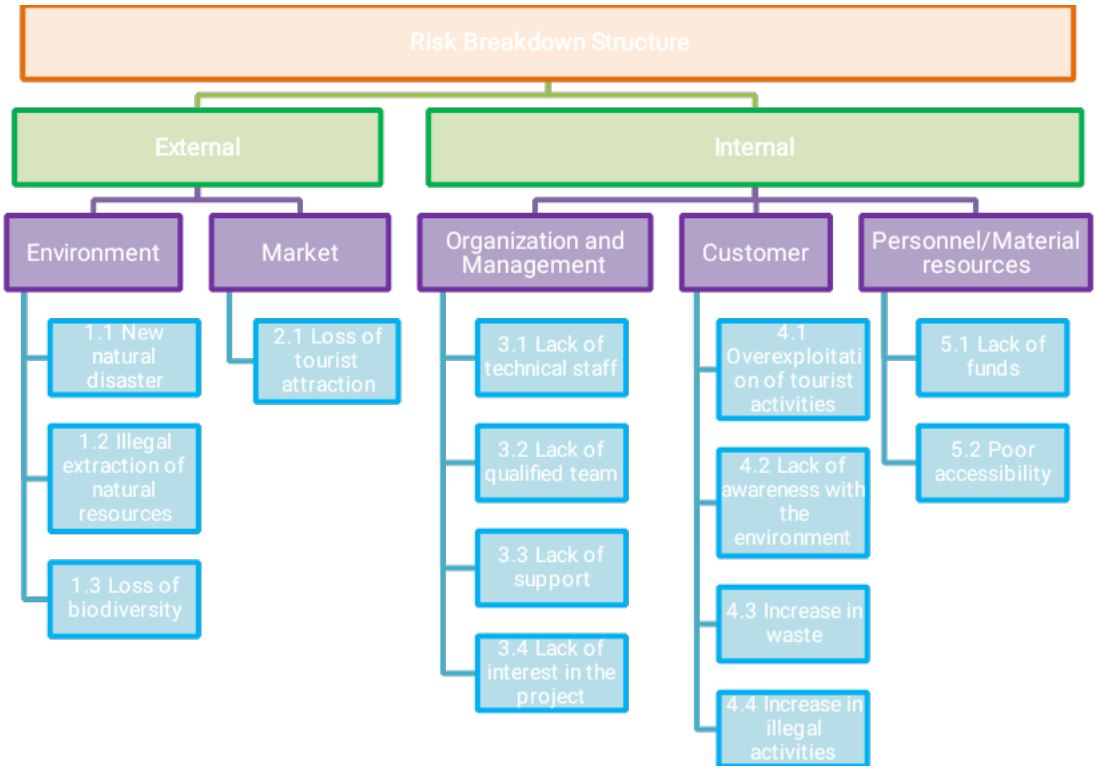


Figure 19. Project Risk Management Plan (Own development)

Definition of Risk Probability and Impact: The quality and credibility of risk analysis requires that different levels of risks probability and impact to be defined, specific to the project context.

Chart 38. Definition of the probability and impact of risks (Own development)

Scale/ Project Objectives	Insignificant (0.05)	Negligible (0.10)	Moderate (0.20)	Extensive (0.40)	Significant (0.80)
Cost	Insignificant cost increase	2-5% of annual budget	5-10% of annual budget	10-30 % of budget	>30% of Project annual budget
Schedule	Insignificant time increase	<5 days	5-10 days	10-20 days	>20 days
Scope	Insignificant scope reduction	Small areas of scope affected	Considerable areas of scope affected	Complete areas of scope affected	Project is inoperative
Quality	Unnoticeable quality reduction	Minor quality reduction	Quality reduction required sponsor approval	Quality reduction unacceptable to sponsor	Project is inoperative

Probability and Impact Matrix: It is a table which links the probability of occurrence of each risk with its impact on the project objectives in case that risk occurs.

Chart 39. Probability and Impact Estimation Matrix (Own development)

Scale/ Project Objectives	Rare	Unlikely	Possible	Likely	Almost certain
Chance	May happen only under expected circumstances	Could happen some time	Might happen some time	Will probably happen in most circumstances	Is expected to happen in most circumstances
Probability	<10%	<35%	<60%	<80%	>80%
Frequency	Has occurred or can reasonably be considered to happen only a few times in 100 years	Has happened 2 or 3 times over 10 years in similar projects	It happens regularly in similar projects	It is likely to happen in the next few years	It will almost certainly happen

4.8.2 Identify Risks

The team will identify the maximum possible number of risks that affect the project. For this, meetings will be held with stakeholders who can provide more information and then, possible risk source will be analyzed.

4.8.2.1 Inputs

Stakeholders Management Plan: Previously described (Chart 37).

Cost Management Plan: Previously described (Chart 25).

Quality Management Plan: Previously described (Chart 30).

Scope Baseline: Previously described (Figure 13, Chart 15 y Chart 16)

Activities Cost Estimation: Previously described (Chart 27)

Stakeholders Register: Previously described (Chart 14).

4.8.2.2 Outputs

Risk Register:

Chart 40. Risk Register (Own development)

RBS Code	Cause	Risk	Consequence	Probability	Impact	PxI	Owner	Strategy
5.2	Lack of maintenance of the access path	Poor accessibility	No project development/project development in non-optimal conditions	0.60	0.60	0.36	SINAC/ Ecotourism Program	Completion of previous works to improve the access road to the Naranjo Beach Site
5.1	Bad budget estimate	Lack of funds	No project development	0.40	0.80	0.32	Project manager	Realization of a realistic and detailed Costa Management Plan
1.1	Environmental factors	New natural disaster	Loss/destruction of facilities	0.30	0.80	0.24	-	Design the construction of the facilities with quality materials and strategic design to minimize the impact of possible natural disasters in the area
4.1	Lack of environmental awareness	Overexplotation of tourist activities	Loss / destruction of environmental value	0.30	0.80	0.24	Costa Rica Government	Realization of different nature awareness activities in the PNSR to promote environmental consciousness
1.2	Lack of environmental awareness	Ilegal extraction of natural resources	Loss / destruction of environmental value	0.20	0.80	0.16	Costa Rica Government	Realization of different nature awareness activities in the PNSR to promote environmental consciousness

RBS Code	Cause	Risk	Consequence	Probability	Impact	PxI	Owner	Strategy
3.4	Inadequate project management/Poor communication between stakeholders	Lack of interest in the project	No project development / project development in non-optimal conditions	0.20	0.80	0.16	Project manager/ Ecotourism program	Making a detailed presentation about the current situation of the facilities and Project Management Plan
3.3	Inadequate stakeholder engagement	Lack of support	No project development / project development in non-optimal conditions	0.30	0.40	0.12	Project manager	Making a detailed presentation about the current situation of the facilities and Project Management Plan
4.2	Lack of environmental education	Lack of environmental awareness	Careless behavior during the stay in the PNSR	0.40	0.30	0.12	Costa Rica Government	Realization of different nature awareness activities in the PNSR to promote environmental consciousness
3.2	Lack of training	Lack of qualified team	Non-optimal project management	0.20	0.30	0.06	Project manager / Ecotourism program	Develop workshops to train personnel. Create Synergies between SINAC and the Ecotourism Program to integrate work teams by pairing experienced workers with the inexperienced ones
4.4	Lack of environmental education	Increase in illegal activities	Loss / destruction of environmental value	0.20	0.30	0.06	Costa Rica Government	Realization of different nature awareness activities in the PNSR to promote environmental consciousness

Risk Register Listing

- o **RBS Code**: This is a unique identification number from the RBS used to identify and track the risk in the risk register.
- o **Cause:** A given or potential requirement, assumption, constraint or condition that creates the possibility of negative or positive outcomes.
- o **Risk:** an uncertain event or condition that if it happens will have a positive or negative effect on the project objectives.
- o **Consequence:** the effect that the risk will cause to the project
- o **Probability:** the probability that a risk (threat or opportunity) will happen (on a scale of 0-10 with 10 being the highest)
- o **Impact:** the effect the risk would have on the project if it happens (on a scale of 0-10 with 10 being the highest).
- o **PxI:** risk score which is determined by multiplying the probability value by the impact value.
- o **Risk owner:** the person assigned by the project manager to watch for triggers and manage the risk response if the risk happens.
- o **Strategy:** The action to be taken if the risk happens.
- o **Cost:** The resources needed in order to plan for and/or to implement the risk response

Risk Matrix: In this matrix the risk is indicated in one side, and in the other its probability (P) and impact (I). The result of multiplying PxI will be the global risk classification. To facilitate understanding, a color code will be used for the risks: green (low risk), yellow (medium risk), red (high risk).

Chart 41. Risk Matrix (Own development)

Pxl Scale				
Risks	**Probability**	**Impact**	**Risk Score**	**Project Risk Ranking**
Poor accessibility	0.60	0.60	0.36	1
Lack of funds	0.40	0.80	0.32	2
New natural disaster	0.30	0.80	0.24	3
Overexplotation of tourist activities	0.30	0.80	0.24	4
Illegal extraction of natural resources	0.20	0.80	0.16	Not a priority
Lack of interest in the project	0.20	0.80	0.16	Not a priority
Lack of support	0.30	0.40	0.12	Not a priority
Lack of environmental awareness	0.40	0.30	0.12	Not a priority
Lack of qualified team	0.20	0.30	0.06	Not a priority
Increase in illegal activities	0.20	0.30	0.06	Not a priority
Increase in waste	0.20	0.20	0.04	Not a priority
Loss of biodiversity	0.20	0.20	0.04	Not a priority
Loss of tourist attraction	0.10	0.40	0.04	Not a priority
Lack of technical staff	0.10	0.20	0.02	Not a priority
		Total Risk Score	**1.98**	

The Risk Matrix is a "living" document, so it must be frequently updated so that it is a reflection of reality and really is a useful tool.

For this, the Risk Matrix should be reviewed in all project status report meetings, making comments on the risks that have impacted the team the most, classifying them again, modifying the probability and impact if they have changed, etc.

5 CONCLUSIONS

1. The present project: "Feasibility study of facility improvements of the Naranjo site camping area in the Santa Rosa National Park (Costa Rica)" was performed in order to expand and improve the quality and offer of tourist services in the Guanacaste Conservation Area (ACG) and through this work, guidelines have been established in order to identify if it is feasible to improve its facilities, using the Project Management Methodology of the PMI.
2. Due to the lack of time, only the first two process groups have been developed: Initiating and Planning. The other three remaining process groups: Execution, Monitoring and Control and Closing have not been studied in this project.
3. Among the areas of knowledge, Scope, Schedule, Cost, Quality, Stakeholders and Risks were used. While it is recommendable to use the ten areas of knowledge, according to good practices in project execution, due to limitations to access information, in time and other resources; only six of the ten existing areas could be developed.
4. Developing the scope, time and resources management when limited availability of human resources exists, makes necessary to define objectives, schedules and assignments aligned with the reality of the project members, otherwise the future and success of project would be compromised.
5. A market analysis has been performed in which the main attractions, products offered and profile of the visitor, among others, have been presented. In addition, the main indicators of the two populations closest to the PNSR have been analyzed, observing their current potential.
6. Based on the SWOT Analysis made, the following is highlighted:
    - o Strengths: It is a site with cultural and historical elements associated with nature, which protects a unique ecosystem such as the Dry Forest.
    - o Opportunities: Possibility of increasing the products offered in the PNSR.
    - o Weaknesses: Lack of human and economic resources.
    - o Threats: High presence of forest fires in the area.
7. Regarding the general analyzes performed, the following should be highlighted.

- o The ACG respects the tourism policy developed for the Costa Rica National Parks and all its related laws.
- o It is necessary to perform an environmental impact study in the PNSR.
- o The estimated proposal of the economic analysis is 232,068 dollars.

8. The amount of personnel available in the Santa Rosa National Park is scarce, however the existing and selected candidates for this project possess the required knowledge.
9. In projects where there is interest from multiple organizations, both internal and external, it is of vital importance to define a detailed management of stakeholders. It would also be interesting to create a Stakeholders Management Plan and define the appropriate channels through which the information is going to be disclosed.
10. The project has been carried out in almost four months, beginning on February 12 and ending on June 6, meeting the schedule established for this project.
11. The area of influence most affected by the project is mostly the area surrounding the Guanacaste Conservation Area, populations of the province of Guanacaste and the accesses from the Inter-American Highway.
12. The type of risks that could most affect the project are the lack of maintenance in access to the Naranjo site, lack of funds, environmental factors and possible overexploitation of tourist activities.
13. The use of MS Project software is a fundamental tool for the project management since it provides great versatility and information processing power.
14. The PMI methodology has been used, following an order and logical structure of the process groups and knowledge areas, so that, any changes generated in the future will be easy to identify, manage and approve.
15. The reading and understanding of the "Code of Ethics and Professional Conduct" proposed by the PMI, is of vital importance for the Project Manager, since this document defines the basic obligations of responsibility, respect, impartiality and honesty that Project Manager must comply aligned with his ethical and professional commitment.
16. Performing a project following PMI best practices, allows for standardized results with a better work structure, maximizing the use of resources and time through techniques and analysis tools previously

validated and accepted by PMI members.

6 RECOMMENDATIONS

1. It has been recommended the SINAC Board of Directors, and in particular the Ecoturism Program of the PNSR (ACG), to implement the methodology established by the *PMBOK® Guide* within the organizational culture for future processes and proposals for improvement projects inside an ASP.
2. It is recommended the Project Manager to propose a project team that manages the methodology based on the *PMBOK® Guide* for future projects.
3. The project team is advised to document all the advances and agreements accomplished, as they will be an example for future projects.
4. It is recommended the Project Sponsor, to visualize the result of the project as an example for future projects and to determine that not only the scope of the present project is to be achieved, but also a series of guidelines must be established in the processes of continuous improvement in the SINAC.
5. The Sponsor is advised to urge management to regular meetings, which allow them to develop continuous improvement processes that are aligned with the mission and vision of the company.
6. The Board of Directors of the PNSR is advised to carry out an environmental study since it is currently non-existent (to be updated annually), including not only the impact that the project would generate but also the recovery that the environment could have in this site.
7. It is recommended that SINAC estimate a possible increase in the Naranjo Beach staff that meets the needs of the site, since there is the possibility of a significant increase in the number of visitors thanks to the proposed improvements.
8. It is recommended the ACG to carry out a better management regarding the administration of the Naranjo Beach site in view of the possible increase in visitors.
9. It is recommended the Project Manager to perform an annual budget analysis to compare the figures before and after the improvements and be able to use this information to assist in decisions on future projects.
10. It is recommended SINAC to invest a quantity of money in mitigating the destructive actions caused in the works process in order to reduce the environmental impact produced.

7 BIBLIOGRAPHY

Abrego, L. (2011, March 31). Análisis de contenido. Retrieved from https://es.slideshare.net/laurablue/analisis-de-contenido

Aparicio, A. W.D. Palacios, A.M. Martínez, I. Ángel, C. Verduzco & E. Retana. (n.d.). El cuestionario. Métodos de investigación avanzada. Retrieved from: https://www.uam.es/personal_pdi/stmaria/jmurillo/Met_Inves_Avan/Presentaciones/Cuestionario_(trab).pdf

Área de Conservación Guanacaste (ACG). (n.d.). Sistema Nacional de áreas de Conservación (SINAC). Retrieved from http://www.sinac.go.cr/ES/ac/acg/Paginas/default.aspx

Bará. M. (2016). OBS. ¿Cuál es el salario de un Project Manager?. Retrieved from https://www.obs-edu.com/es/blog-investigacion/project-management/cual-es-el-salario-de-un-project-manager

Chambers. (2018). Earned Value Management. Retrieved from http://www.chambers.com.au/glossary/earned_value_management.php?goback=.gde_840897_member_116151512

Causas de fracaso de un Proyecto. (2016). OBS. Retrieved from https://www.obs-edu.com/es/blog-project-management/causas-de-fracaso-de-un-proyecto/estudio-de-viabilidad-de-un-proyecto-como-y-por-que-llevarlo-cabo

Dorado, R. (2013, April 16). Herramientas para la gestión de proyectos. Retrieved from http://www.eoi.es/blogs/madeon/2013/04/16/herramientas-para-la-gestion-de-proyectos/

Esterkin, J. (2010, September 16). ¿Qué son los proyectos entregables? Retrieved from https://iaap.wordpress.com/2010/09/16/%C2%BFque-son-los-entregables-del-proyecto/

Fernanda, L. (2010, October 24).Gestión de proyectos. Retrieved from https://es.slideshare.net/lumesa/gstin-de-proyectos-resumen-pmbo

Fuentes de información. (n.d.). Biblioteca UAH. Retrieved from http://www3.uah.es/bibliotecaformacion/BPOL/FUENTESDEINFORMACION/index.html

Fuentes de información. (n.d.). Biblioteca UAH. Retrieved from http://www3.uah.es/bibliotecaformacion/BPOL/FUENTESDEINFORMACION/tipos_de_fuentes_de_informacin.html

Galán, M. (2009, May 29). La entrevista en la investigación. Retrieved from http://manuelgalan.blogspot.com.es/2009/05/la-entrevista-en-investigacion.html

Gonzalez, J.L. (2011). Metodología de la investigación tecnología educativa. Diferencia entre Método y Metodología. Retrieved from https://sites.google.com/a/upaep.mx/metodologia-de-la-investigacion-tecnologia-educativa/diferencia-entre-metodo-y-metodologia

IDS. (2013). COSTA RICA Índice de desarrollo Social (IDS) 2013. Retrieved from https://documentos.mideplan.go.cr/alfresco/d/d/workspace/SpacesStore/ab677d6c-fafd-4128-86df-a6aa04ab70ef/IDS%202013%20resumen.pdf?guest=true

ITM Platform. (2016, August 10). Gestión de costs de Proyecto: ¿por qué es tan importante?. Retrieved from http://www.itmplatform.com/es/blog/gestion-de-costes-de-proyecto-por-que-es-tan-importante/

Jaramillo, C. (2013). Project-Speak: Assumptions and Constraints. Retrieved from https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnx1cGNpbnRyb2FnZXJlbmNpYXxneDo2ZmRmNDkzNTNkNmI0NDFm

Las diez áreas de conocimiento según PMI. (2016, August 31). Conexion Esan. Retrieved from https://www.esan.edu.pe/apuntes-empresariales/2016/08/las-diez-areas-de-conocimiento-segun-el-pmi/

Manterola, C. & T. Otzen. (2014). Observational studies. The most commonly used designs in clinical research. *International journal of morphology.* 32(2): 634-645. Retrieved from http://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0717-95022014000200042

Metodología de la investigación. (2017, December 5). Explorable. Retrieved from https://explorable.com/es/metodologia-de-la-investigacion

Pérez, A. (2015, June 30). *Breve análisis de las webs de los Parques Nacionales de España. Propuesta de pequeñas mejoras para el Parque Nacional de la Sierra de Guadarrama.* (Final Project Degree, Universidad de Valladolid). Retrieved from: https://uvadoc.uva.es/bitstream/10324/13144/1/TFG-N.262.pdf

Project Management Institute. (2013). A Guide to the Project Management Body

of Knowledge, (*PMBOK® Guide*) - Fifth Edition, Project Management Institute, Inc., 2013.

Tipos de fuentes de información. (n.d.). How to study. Retrieved from https://www.how-to-study.com/metodos-de-estudio/tipos-de-fuentes-de-informacion.asp

8 APPENDICES

Appendix 1: FGP Charter

Date	Project Name:
November 13, 2017	Feasibility study of facility improvements in the camping area of the Naranjo site in Santa Rosa National Park (Costa Rica)
Knowledge Areas / Processes	**Applicacion Area (Zone / Activity)**
Knowledge areas: Project Scope Management Project Schedule Management Project Cost Management Project Quality Management Project Risk Management Project Stakeholder Management. Process groups: Initiating Planning Executing Monitoring and Controlling Closing	Ecoturism
Start date	**Finish date**
November 13, 2017	July 15, 2018
Project Objectives (general and specific)	

General objective:

The project general objective was to develop a feasibility study on the expansion and quality improvement and the sustainable tourism services offer in the camping area of Naranjo Site in the Santa Rosa National Park (Costa Rica) to determine the viability of the proposal.

Specific objectives:

9. Execute a market analysis to know the visitors profile, interests and their areas of influence, which include:
   1.4 OfferAnalysis
   1.5 Demand Analysis
   1.6 SWOT Analysis
10. Perform a general analysis of the PNSR current situation, subdividing it into:
    10.1. Legal Analysis
    10.2. Environmental Analysis
    10.3. Financial Analysis
11. Create a Scope Management Plan to define and control what is included and what is not included in the project, ensuring that the project has all the work necessary to be completed successfully.
12. Establish a Schedule Management Plan to conduct the project completion on time.
13. Design a Cost Management Plan to estimate, budget and control the costs in such a way that the project is executed with the approved funds, so as not to exceed the project estimate.
14. Develop a Quality Management Plan where the processes and activities that determine responsibilities, objectives and quality policies are managed so that the project is executed satisfactorily.
15. Produce a Stakeholder Management Plan that identifies and evaluates stakeholder expectations and their impact on the project.
16. Implement a Risk Management Plan where the processes related to the identification, analysis, response planning, as well as monitoring, control and minimization of the project are developed.

Project purpose or justification (Merit and expected results)

The beach area of Santa Rosa National Park has traditionally been committed to maintaining the place original conditions, so that improvements have never been made. However, currently, thanks to the creation of a Tourism Plan of the Park, there is a mentality of change and enthusiasm to launch a new project that expands the tourist options of the area.

In contrast, Naranjo is a unique mix of beach, trails, dry forest and mangrove, with attractive geological formations; among which stands out the Peña Bruja (rock embedded in the sea), the Carbonal hill and the Naranjo Valley. The appreciation of varied flora and fauna is part of its attraction, where according to the time is possible the nesting of sea turtles, the presence of crocodiles, added to the beauty of the lagoon limbo and its estuary.

It is for these two reasons that it is evident the need to create a proposal for a plan to improve the area, which would propose the improvement of aspects such as the comfort of visitors in the camping area

Based on this, the fundamental purpose of this research will be to determine if these improvements are feasible and analyze if they respond to visitor needs.

Description of Product or Service to be generated by the Project – Project final deliverables

The final deliverable of the project will be the conclusion obtained from the feasibility study being handled. The conclusion will indicate whether or not the development of the different projects is a viable idea.

Throughout this feasibility analysis, the following deliverables will be developed:

- o Market study to analyze the existing offer and demand in the PNSR, and based on the results obtained, the most appropriate decisions will be taken.
- o General Analysis. Legal analysis to conduct the project within the established regulations.
- o Scope Management Plan which details how the project scope will be defined, developed, and verified in order to meet the project objectives throughout the project lifecycle.
- o Schedule Management Plan which will include activities that ensure the project is completed on time.
- o Cost Management Plan which will make certain that the project remains within budget.
- o Quality Management Plan in which the resources needed to complete the project successfully will be highlighted along with the activities needed to achieve them.
- o Stakeholder Management Plan which is a plan that details the project activities related to engaging stakeholders and making the most effective use of their participation as well as determining the level of interest in the project.
- o Risk Management Plan where the processes related to management planning, identification, analysis, risk response planning, as well as its monitoring, control and minimization in the project are developed.

Assumptions

It is assumed that all resources will be procured.

It is assumed that the budget, scope and schedule will be met as much as possible.

It is assumed that sufficient support will be received from the supporting organization and technical advice.

Constraints

Schedule: The project must be completed within a maximum of three months.

Resources: The project must be completed just with one person, the Project Manager.

Scope: Due to time constraints, the scope of this project would be limited only to meet this academic endeavor. The research shall continue beyond.

Technical: Supervisory support is mandatory for reviewing the project deliverables.

Preliminary risks

If the supervision support is not performed adequately or the feedback time exceeds the stipulated time, this situation could cause a delay that affects the scope, schedule, cost and quality of the project.

If not all project requirements are identified and, consequently, the project is delayed in issuing the deliverables and the development of WBS, WBS dictionary and Schedule.

If the stakeholders are not identified and managed, it could affect the scope, time and quality of the project.

If the time is insufficient to complete the study, this could affect the scope and quality of the project.

If the documentation is not available, it could cause delays that affect the schedule.

If the approval of the deliverables is inadequate, this could change the milestones of the project.

If access to information is inadequate, it could worsen the quality, schedule and scope of the project.

Budget

Not defined yet.

Milestones and dates

WBS Code	Milestone	Start date	End date
DEGREE FINAL PROJECT		November 13, 2017	July 15, 2018
1	GRADUATION SEMINAR	November 13, 2017	January 7, 2017
1.1	FGP Deliverables	November 13, 2017	December 17 , 2017
1.1.1	Project Charter	November 13, 2017	November 19, 2017
1.1.2	Project WBS	November 13, 2017	November 19, 2017
1.1.3	Chapter 1: Introduction	November 20, 2017	November 26, 2017
1.1.4	Chapter 2: Theorical Framework	November 27, 2017	December 3, 2017
1.1.5	Chapter 3: Methodological Framework	December 4, 2017	December 10, 2017
1.1.6	Project Annexes	December 11, 2017	December 17, 2017
1.1.6.1	Bibliography	December 11, 2017	December 13 , 2017
1.1.6.2	Schedule	December 14 , 2017	December 17, 2017
1.2	Graduation seminar approval	December 31, 2017	January 7, 2017
2	TUTORING PROCESS	February 19, 2018	May 20, 2018
2.1	Tutor	February 19, 2018	February 21, 2018
2.2	Adjustments of previous chapters	February 22, 2018	February 28, 2018
2.2.1	Adjust charter	February 22, 2018	February 23, 2018
2.2.2	Adjust WBS	February 23, 2018	February 24, 2018
2.2.3	Adjust Chapter 1	February 24, 2018	February 25, 2018
2.2.4	Adjust Chapter 2	February 25, 2018	February 26, 2018
2.2.5	Adjust Chapter 3	February 26, 2018	February 28, 2018
2.3	Chapter 4: Development results	March 1, 2018	May 6, 2018
2.4	Chapter 5: Conclusions	May 7, 2018	May 13, 2018
2.5	Chapter 6: Recommendations	May 14, 2018	May 20, 2018
3	READING BY REVIEWERS	May 21, 2018	June 10, 2018
3.1	Reviewers assignment request	May 21, 2018	May 31, 2018
3.2	Reviewers work	June 1, 2018	June 10 , 2018
4	ADJUSTEMENTS	June 11, 2018	July 8, 2018
4.1	Report for reviewers	June 11, 2018	June 20, 2018
4.2	FGP Update	June 21, 2018	June 30, 2018
4.3	Second review by reviewers	July 1, 2018	July 8, 2018

5	PRESENTATION TO BOARD OF EXAMINERS	July 9, 2018	July 15, 2018
5.1	Final review by board	July 9, 2018	July 12, 2018
5.2	FGP grade report	July 13, 2018	July 15, 2018

Relevant historical information

The National System of Conservation Areas is an institutional management system that integrates the competences in forestry, wildlife, water systems and protected wild areas, of Ministry of Environment and Energy (MINAE), in order to dictate policies, plan and execute processes aimed at achieving sustainability in the management of Costa Rica natural resources.

SINAC is divided into 11 terrestrial and marine conservation areas and 169 protected wild areas under different management categories; such as national parks, biological reserves, wildlife refuges, protective areas, national monuments and forest reserves. One of the 11 conservation areas is Guanacaste (ACG), where it is located the Santa Rosa National Park. It is located in the Santa Elena Peninsula, in the cantons of La Cruz and Liberia and is made up of the zones of Santa Rosa, Santa Elena, Murciélago and the Marine Zone.

The backgrounds of the Santa Rosa National Park date back to July 1, 1966, when La Casona of Santa Rosa was declared a National Monument, along with some 1,000 hectares of land surrounding the historic site. In 1971 it was declared as a National Park and was increased to little more than 10 thousand hectares. Later the park was expanded in different stages, achieving in the year 2000 a current extension of 81,000 hectares, consisting of 43,000 hectares of land and 38,000 hectares of land.

In Santa Rosa National Park is located one of the most historically important areas of the country; La Casona and stone corrals which were the scene of the greatest national heroic deed: The Battle of Santa Rosa on March 20, 1856. The park is important for the protection and restoration of the habitats of the so-called Dry Pacific climate. The beaches Nancite and Naranjo are of great scenic beauty and important areas for the spawning of sea turtles such as the olive and leatherback. There are about ten habitats in Santa Rosa, among them: deciduous forests, oak forests, evergreen forests, mangroves, swamps, riverine forests, scrubby forests, beach vegetation and grasslands or savannas.

Naranjo was for many years one of the haciendas of Santa Rosa, where its main objective was the possession of dual purpose cattle (meat and milk), the extraction of salt, as well as the extraction of wood associated with eras.

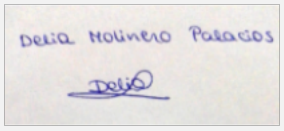
In Naranjo you can see different ecosystems, mangrove forests, dry forest, estuaries, a beautiful beach, and species of flora and fauna, such as turtles, raccoons, deer, jaguars, crocodiles and many species of birds.

Stakeholders

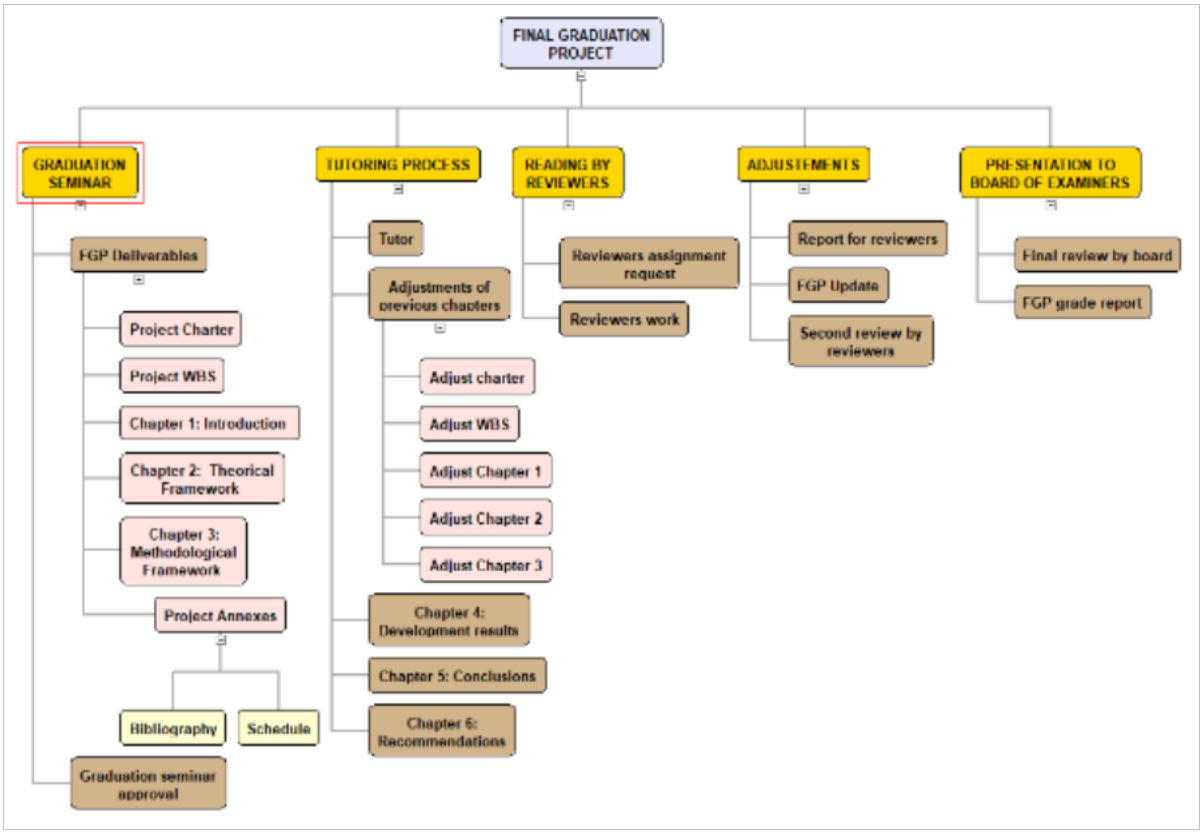
DIRECT STAKEHOLDERS

Project Manager	Delia Molinero
Technical Advice	Marco Bustos
Main visitors	Students, Scientists, Naturalists, Surfers, Hikers, Campers
Officials of the different programs of the Guanacaste Conservation Area (ACG)	Eotourism, Control and Surveillance, Fire Control and Prevention, Environmental Education, Investigation and
University Academic Staff	Tutor, Course Facilitator, FGP Lecturer

INDIRECT STAKEHOLDERS

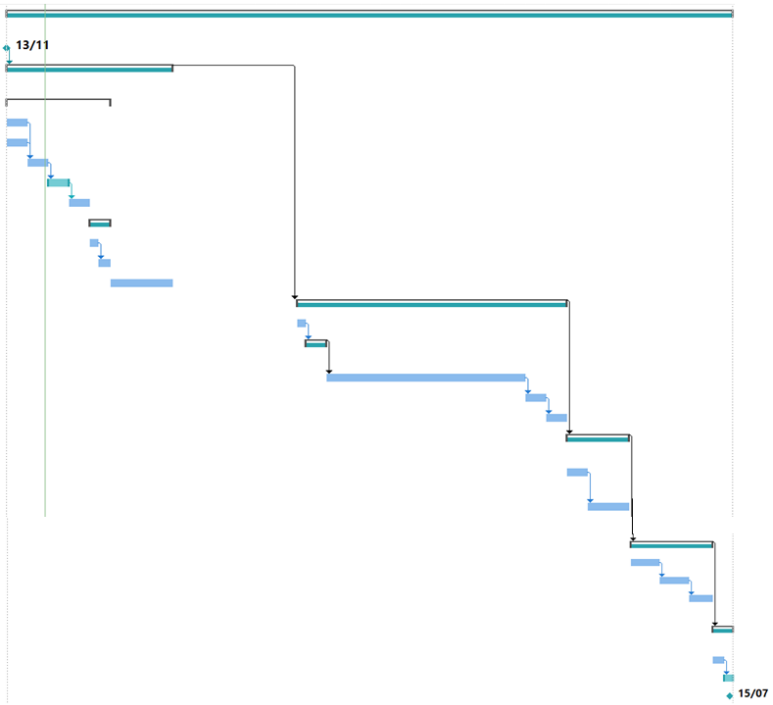
Society	
Government of Costa Rica	
National System of Conservation Areas (Sistema Nacional de Áreas de Conservación)	SINAC
University Academic Staff	Academic Assistant, Course Facilitator, Project Review Board,
Project Manager: Delia Molinero Palacios	**Signature:** 
Authorized by:	**Signature:**

Appendix 2: FGP WBS



Appendix 3: FGP Schedule

FINAL GRADUATION PROJECT	**183 días**	**lun 13/11/17**	**dom 15/07/18**
START	0 días	lun 13/11/17	lun 13/11/17
GRADUATION SEMINAR	**45 días**	**lun 13/11/17**	**dom 07/01/18**
FGP Deliverables	**28 días**	**lun 13/11/17**	**dom 17/12/17**
Project Charter	6 días	lun 13/11/17	dom 19/11/17
Project WBS	6 días	lun 13/11/17	dom 19/11/17
Chapter 1: Introduct	6 días	lun 20/11/17	dom 26/11/17
Chapter 2: Theorical	6 días	lun 27/11/17	dom 03/12/17
Chapter 3: Methodol	5 días	lun 04/12/17	dom 10/12/17
Project Annexes	**6 días**	**lun 11/12/17**	**dom 17/12/17**
Bibliography	3 días	lun 11/12/17	mié 13/12/17
Schedule	2 días	jue 14/12/17	dom 17/12/17
Graduation seminar apı	16 días	lun 18/12/17	dom 07/01/18
TUTORING PROCESS	**68 días**	**lun 19/02/18**	**dom 20/05/18**
Tutor	3 días	lun 19/02/18	mié 21/02/18
Adjustments of previous chapters	**7 días**	**jue 22/02/18**	**mié 28/02/18**
Chapter 4: Developmen	47 días	jue 01/03/18	dom 06/05/18
Chapter 5: Conclusions	5 días?	lun 07/05/18	dom 13/05/18
Chapter 6: Recommend	5 días?	lun 14/05/18	dom 20/05/18
READING BY REVIEWERS	**16 días**	**lun 21/05/18**	**dom 10/06/18**
Reviewers assignment request	5 días?	lun 21/05/18	dom 27/05/18
Reviewers work	10 días	lun 28/05/18	dom 10/06/18
ADJUSTEMENTS	**22 días**	**lun 11/06/18**	**dom 08/07/18**
Report for reviewers	8 días?	lun 11/06/18	mié 20/06/18
FGP Update	7 días?	jue 21/06/18	sáb 30/06/18
Second review by reviewers	6 días?	dom 01/07/18	dom 08/07/18
PRESENTATION TO BOARD OF EXAMINERS	**6 días**	**lun 09/07/18**	**dom 15/07/18**
Final review by board	4 días?	lun 09/07/18	jue 12/07/18
FGP grade report	1 día	vie 13/07/18	vie 13/07/18
FIN	1 día	dom 15/07/18	dom 15/07/18



Appendix 4: Other relevant information

FGP Philology Letter

Venezuela
June 3rd, 2018

To whom it may concern

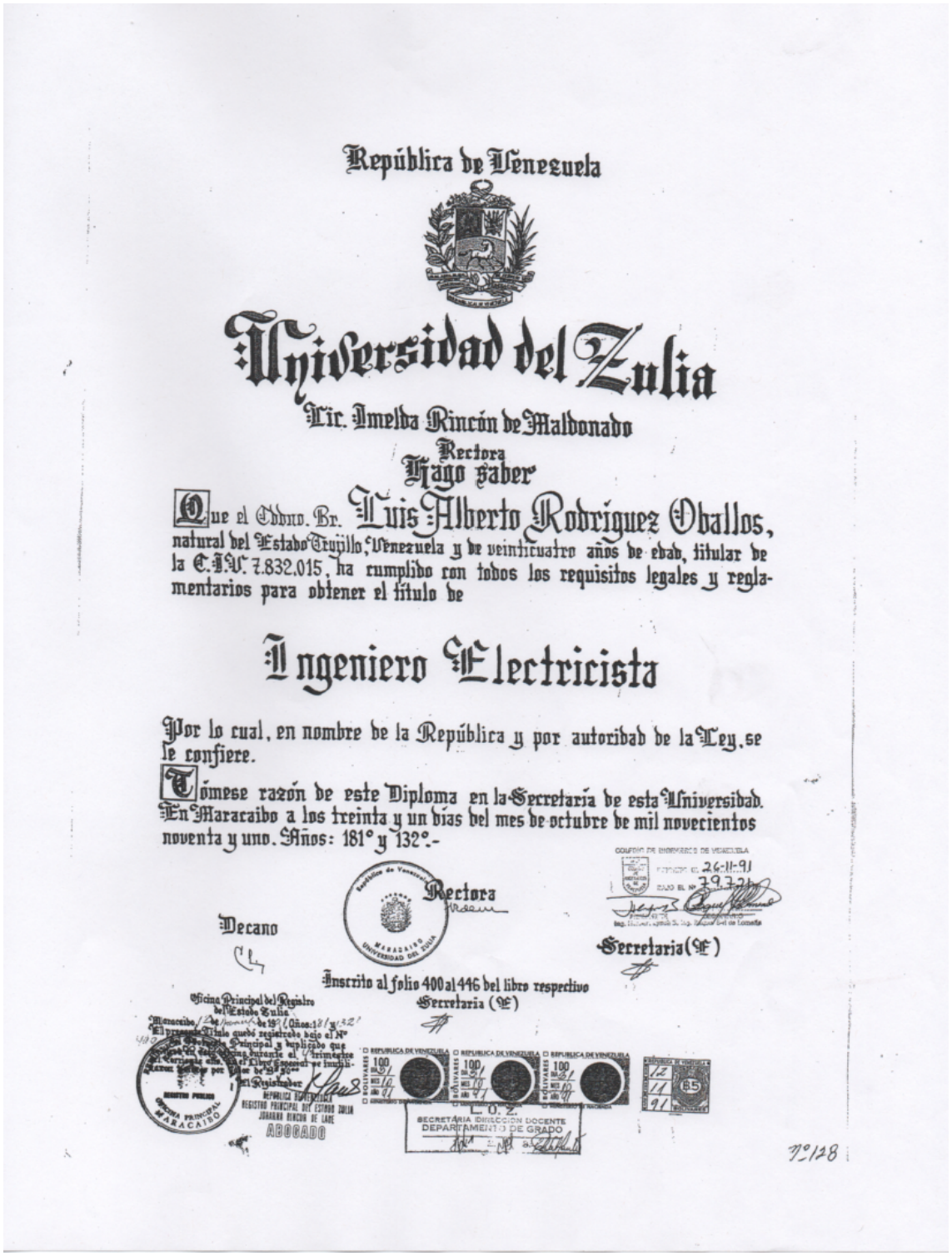
I would like to reference the following Final Graduation Project: **"Feasibility Study for facility improvements of the Naranjo site camping area in the Santa Rosa National Park (Costa Rica)"**, as partial fulfillment of the requirements of the Master in Project Management Degree for Universidad para la Cooperación Internacional, produced by Delia Molinero Palacios. I have worked closely with Delia Molinero Palacios, editing grammar and style throughout the document. Any required changes and improvements suggested by myself have been duly corrected by Ms. Molinero. I am assured that the document is now accurate in the use of English Language.

I am Electrical Engineer with more than 26 years of experience in Project Management and Execution with advanced level of English proficiency, acquired through continuous attendance to certified programs and courses, this is in addition to the frequent use of this language in my daily work under a professional and technical approach.

With Regards,

Eng. Luis Rodríguez

Bachelor's Degree



República de Venezuela

Universidad del Zulia

Lic. Imelda Rincón de Maldonado

Rectora

Hago saber

Que el Cdano. Br. **Luis Alberto Rodriguez Oballos,** natural del Estado Trujillo, Venezuela y de veinticuatro años de edad, titular de la C.I.V. 7.832.015, ha cumplido con todos los requisitos legales y reglamentarios para obtener el título de

Ingeniero Electricista

Por lo cual, en nombre de la República y por autoridad de la Ley, se le confiere.

Tómese razón de este Diploma en la Secretaría de esta Universidad. En Maracaibo a los treinta y un días del mes de octubre de mil novecientos noventa y uno. Años: 181° y 132°.-

Rectora

Decano

Secretaria (E)

Inscrito al folio 400 al 446 del libro respectivo
Secretaria (E)

Oficina Principal del Registro del Estado Zulia

REPUBLICA BOLIVARIANA DE VENEZUELA
REGISTRO PRINCIPAL DEL ESTADO ZULIA
JURANA RINCON DE LADE
ABOGADO

SECRETARIA DIRECCION DOCENTE
DEPARTAMENTO DE GRADO

Nº128

Engineer Management Program

IESA

EL INSTITUTO DE ESTUDIOS SUPERIORES DE ADMINISTRACIÓN

OTORGA EL PRESENTE CERTIFICADO A

Luis Alberto Rodríguez Oballos

POR HABER COMPLETADO EL

106° Programa de Gerencia para Ingenieros

REALIZADO EN ***Caracas*** , DURANTE LOS DÍAS ***16 de Mayo al 12 de Agosto de 2005***

CON UNA DURACIÓN DE ***160*** HORAS ACADÉMICAS.

PRESIDENTE

DIRECTOR ACADÉMICO

COORDINADOR

Project Management Program

IESA

El Instituto de Estudios Superiores de Administración

otorga el presente certificado a

Luis Alberto Rodríguez Oballos

por haber completado el

21° Programa de Gerencia de Proyectos

Realizado en ***Caracas***, durante los días ***20 de Mayo al 04 de Junio de 2004***

con una duración de ***48*** horas académicas.

Presidente

Director Académico

Coordinador

Project management best practices

THE UNIVERSITY OF TEXAS AT AUSTIN

COLLEGE OF ENGINEERING
CENTER FOR LIFELONG ENGINEERING EDUCATION

This is to certify that

Luis Rodriguez

has completed an engineering program

CII Project Management Short Course
Front-End Planning and Design

Punto Fijo, Estado Falcon, Venezuela

July 11-15, 2001

Dean of Engineering

Integratin People, Organizational and Techincal Skills

Project Management Institute

2.8 CEUs and 28 PDUs

Continuing Education Units and Professional Development Units

Awarded to

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PMI Project Management Institute

English Certificate

CEPET

Centro de Formación y Adiestramiento de Petróleos de Venezuela y sus Filiales

Otorga el presente certificado a:

LUIS RODRIGUEZ

Por haber culminado satisfactoriamente

INGLES NIVEL VI

Duración: 144 Horas

Lugar: Paraguaná

Fecha: 24-04 al 14-06-95

María Rosa de Salcedo

Instructor

CEPET