

# **Agro-tourism Assessment of the Patronato de Nutricion farms: A Case Study of El Macano**

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A project on the potential of agro and eco-tourism in a small rural community  
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# **Agro-Tourism Assessment of the Patronato de Nutrición's Farms: A Case Study of El Macano**

## *Introduction*

Recently in Panama, there is a growing opportunity for small-scale community farmers to generate additional income through agro-tourism. Organizations recognize the potential of tourism, such as the Patronato de Nutricion, whose goal is to reduce hunger and poverty by constructing sustainable farms in communities. The goal of this project is to analyze and determine the potential and the capacity of the community of El Macano, a community situated near El Valle de Anton, to develop the infrastructure needed for successful ecotourism.

## *Study Site & Methods*

The farm in El Macano is five hectares and is maintained by five families living in the community.

Firstly, oral individual interviews were conducted with the community members in order to assess their willingness and capacity to develop an agro-tourism project on the farm. Secondly, SWOT analysis was used to determine the internal strengths and weaknesses of the community as well as the external factors affecting the community with regard to tourism. Thirdly, the attractions inventory was used to examine the potential tourist attractions on and around the farm.

The activities in El Macano were then organized into a table according to the length of the activity, its difficulty, the interested consumer age group, and the possible impacts of the attraction on the community and the environment. The infrastructure and services that currently exist on the farm were inventoried and their quality, efficiency and accessibility were assessed. Next, the market demand for the tourism project was determined and the potential impacts that the project could have on the environment were evaluated. The last step of the methodology was the cost and benefit analysis.

## *Results*

The transportation, infrastructure and services analysis indicates the need for development before an agro tourism project can be sustained. As for the market demand, respondents placed importance on cultural activities as well as on the quality of the environment. The environmental assessment revealed that the provisioning ecosystem services are by far the most important services for the project. The results of the cost and benefit analysis were both hypothetical and factual, depending on the availability of information and were based on social, environmental and economic impacts; these results were depicted by both a table and by three constructed scenarios.

## *Conclusions & Recommendations*

Both large- and small-scale development must be made in the area before it will be ready to support tourists; it would also be useful to find other interested parties in the community to help with the additional work on the farm. Along with funding, such help could enhance the potential to develop agro-tourism in El Macano.

## **Una evaluación de agro-turismo en las granjas del Patronato de Nutrición: El Macano**

### *Introducción*

Recientemente en Panamá, hay un crecimiento en la posibilidad para la población agrícola de generar más ingresos por el desarrollo de agro-turismo. Organizaciones como el Patronato de Nutrición que tiene la meta de reducir la pobreza reconocen el potencial del turismo en granjas sostenibles. La meta de esta investigación es analizar y determinar el potencial y la capacidad de la comunidad del Macano, que se sitúa cerca del Valle de Antón, de desarrollar la infraestructura necesaria para desarrollar agro-turismo.

### *Sitio de Trabajo y Metodología*

La granja del Macano tiene cinco hectáreas, cuales son cuidados por cinco familias.

Para la metodología, empezamos por entrevistas orales con los miembros de la comunidad para evaluar su disposición y capacidad en desarrollar agro-turismo en la granja. Después, usamos el SWOT análisis para determinar las fuerzas internas y las debilidades de la comunidad. Usamos esta metodología para determinar los factores externos que impactarían la comunidad con la llegada del proyecto. El inventario de atracciones examina las posibles actividades en y alrededor de la granja.

Una tabla enumera las actividades ofrecidas por la granja; las categoriza por su duración, su dificultad, el nivel de interés, y los impactos sobre la comunidad y el medio ambiente. Se notaron las infraestructuras y los servicios que ofrece la granja en ese momento. Luego, determinamos la demanda de mercancías por el uso de encuestas. Los posibles impactos sobre el medio ambiente fueron evaluados. El último paso de la metodología era el análisis de los costos y los beneficios.

### *Resultados*

El análisis del transporte, de la infraestructura y de los servicios indica la necesidad de infraestructuras para sostener agro-turismo. Por las encuestas, vimos que algo muy importante para turistas es la presencia de actividades culturales y de alta cualidad de medio ambiente. La evaluación del medio ambiente revela que los “servicios provisionales” son los más importantes. Los resultados del análisis de los costos y beneficios son ambos hipotéticos y factuales, dependiendo de la disponibilidad de información. Los resultados son divididos en tres aspectos; económico, social y ambiental. Estos resultados fueron ilustrados usando una tabla y tres escenarios ficticios.

### *Conclusiones y Recomendaciones*

Para desarrollar agro-turismo, se necesita construir unas infraestructuras y mejorar unos servicios. Ayudaría mucho tener más empleados en la granja. Junto con fondos, esta ayuda podría aumentar el potencial del Macano a desarrollar agro-turismo.

## **1.0 CONTEXT**

### **1.1 Introduction**

Ecotourism is defined as “responsible travel to natural areas that conserves the environment and improves the welfare of local peoples” by the International Ecotourism Society (Lindberg and Hawkins, 1993). This type of tourism is becoming increasingly popular as individuals and governments realize the importance of conserving heritage and biodiversity as well as improving the quality of life of local communities (World Tourism Organization, 2004). In order to successfully complete these objectives numerous stakeholders must collaborate in a cooperative and responsible manner. These stakeholders include investors and local host communities, who, according to the World Tourism Organization, must agree to informed participation guided by strong leadership that can ensure wide participation and consensus building (Gutierrez et al., 2005). For many developing countries, their natural and cultural heritage can be a source of economic benefits by attracting tourists looking for an authentic, natural or cultural experience (TIES, 2006). Panama is a prime example of such a country. Between 1997 and 2006 the total national income generated by tourism increased by about one billion US dollars and the total number of people employed in the tourism industry doubled (IPAT, 2007). Not only has tourism increased in the past, but Panama is looking forward to increase its tourism potential in the future; the Tourism Authority has developed a plan called “Plan Maestro de Desarrollo Turístico Sostenible 2007-2020” (Autoridad de Turismo de Panama (ATP), 2007). Their goals include the reduction of poverty and better income distribution, which they hope to achieve by creating jobs and decentralizing the state (EuroPraxis Consulting, 2008). In order to achieve these goals, it will be imperative to assure development in the rural sector where most of Panama’s poverty is located

(Elton, 2000). In their planning, the department identified the different types of sustainable tourism that they wish to develop. One of the types with the most potential to empower rural local communities is agro-tourism. For the moment, ATP is working closely with other ministries like Ministerio de Desarrollo Agropecuario (MIDA) and Autoridad de la Micro, Pequeña y Mediana Empresa (AMPYME) to find, empower, regulate and give financial and technical support micro-farms wishing to start tourism project (MIDA 2009; ATP 2009). Hence, there is a growing opportunity for small-scale community farmers to generate additional income.

Other organizations recognize the potential of tourism, including the Patronato de Nutrición, whose goal is to reduce hunger and poverty by constructing sustainable farms in communities. The Patronato believes that some of their farming communities, such as El Macano, which is close to the city of El Valle de Antón, could take advantage of the agro-tourism promotion in order to create a new source of income than their farming activities.

## **1.2 Patronato de Nutrición**

The Patronato de Nutrición is a non-governmental and non-profit organisation working to eradicate hunger in order to combat poverty across Panama. Their goal is to help communities in areas of poverty or extreme poverty in obtaining an adequate daily food intake. The organization was created by Law 17 in 1990, and since then it has been growing. It currently supports “259 communities (in their process of consolidation of the associations of producers)” by having created up to 318 farms (<http://www.patronatodenutricion.org>). Each farm, which ranges between five and 20 hectares to sustain an average of nine families, is organised as a collective management

where fair share and participation of all is required. The production is used for self-subsistence first and also for the commercialisation of surplus. Hence, it needs to include a vast diversity of crops to cover all aspects of a complete alimentation: “cereals, leguminous, vegetables, tubers, among others; breeding of penned animals” (<http://www.patronatodenutricion.org>). The Patronato de Nutrición chose to follow the PROGReso model to fund Sustainable Production Farms in order to ensure long lasting investment and environmentally friendly practices. To motivate the community to follow this type of farming and to participate fully in the project, the Patronato de Nutrición first buys the land for the community. Then when the community is able to properly manage the farm and build its own internal structure, the community can acquire the land. Since the production is not only intended for subsistence, the Patronato de Nutrición assists in the consolidation of associations of producers with legal entity, which allows communities to trade their produce with greater advantages in the competitive market.

The new projects of the Patronato de Nutrición mostly focus on “nutritionally improved” corn seed (QPM). In collaboration with IDIAP, the use of the corn seed was extended to 30 farms in 2007. The role of the Patronato is to promote the socio-economic situation of the community: they are now trying to incorporate new sources of revenue in addition to agriculture to increase the community income and possibilities. One of the most promising ways to do this is to implement agro-tourism in the farms where they see potential. At this point in time, there are five farms across the country undergoing the development of such projects, including one that is finalizing and waiting for the certification by IPAT and MIDA and hopes to open later in 2009.

### **1.3 Objectives**

The goal of this project is to analyze and determine the potential and the capacity of the community to develop the infrastructure needed for successful ecotourism. To do so, it is necessary to determine the costs and benefits of developing ecotourism in this farming community. One document will examine the potential for developing agro-tourism on the El Macano farm. The research team will obtain data on the willingness and ability of the community to develop such a project as well as the market demand from tourists and willingness to pay to visit a site such as El Macano. This information will be used to evaluate the costs and benefits of developing the project so that the community and the Patronato de Nutrición can better determine whether or not the agro-tourism project should be developed at this place and time. This information is a tool to foster discussion between the Patronato de Nutrición and the community of El Macano to ensure that the implementation of tourism is not a top-down approach and that the community resigns and bares the costs as described in literature (Stronza, 2001).

The methods used in this project were adapted from “Linking Communities, Tourism & Conservation: A Tourism Assessment Process,” an ecotourism guide published in 2006.

### **1.4 Code of Ethics**

This project strictly followed the McGill University Code of Ethics, available at <http://www.pre.ethics.gc.ca/english/policystatement/policystatement.cfm>. During all the interviews with both the community members and public, including tourists in El Valle and potential backpackers ethical considerations were always made. The researchers introduced themselves orally and in writing on the survey/interview sheets before the

interview commenced. The participants were given the option to decline in participating in the survey or not to answer any interview questions that they were uncomfortable with. All participants were ensured that no identifying information would ever be published in the project's final report or be revealed to any organization or person other than the researchers.

### **1.5 Preparation**

General information about tourism in Panama and more specifically eco- and agro-tourism were researched in order to build a strong base of background information on tourism. The areas of El Valle and El Macano were researched in a general sense to better understand the physical environment and social context for the project.

### **1.6 Study Site: El Macano's Farm**

The farm is located in El Macano, in a valley surrounding the crater of El Valle de Antón. Approximately 100 households currently live in El Macano. The farm itself is run by the members of five households, about 35 people in all, including children. Three of those families live in the town of Roma and walk an hour to get to the farm. The farming community is well-organized concerning the tasks of each member, the share of income and the managing members. The main crops include corn and rice, as well as beans, tomatoes, mangos, bananas, coconuts, and coffee. The farm is also home to animals such as pigs, chicken and fish. Infrastructure on the farm is minimal. There is currently an irrigation system in place, but no electricity or running water. The common buildings include an outhouse, a shed that was previously used as a small kitchen, an open sided hut, a chicken coop, and an additional shed.

El Macano is five kilometers from the city of El Valle de Antón in the province of Coclé. El Valle de Antón is a popular tourist destination due to its famous market and beautiful scenery, thus many tourists are already in the area might visit the farm.

## **2.0 INDIVIDUAL STAKEHOLDER INTERVIEWS**

### **2.1 Methods**

In order to ensure that the project was doable, viable and desirable it was imperative to work directly with the community. In order for any eco- or agro- tourism project to be successful the interest of the community involved is essential.

To better understand interests of the community and to ensure their participation the researchers discussed the possibility with them directly. The discussions were based on interviews that were conducted individually. The interviews were designed to collect information on the community's availability, interest and willingness to get involved in tourism. Prior to administering the interviews, they were evaluated by a native Spanish speaker to ensure that they were easy to understand and appropriate. The team chose to conduct the surveys orally since literacy levels of the community are unknown. The questions were administered by the team to the individuals that currently work on the farm, as well as some that live within El Macano and have family members working on the farm. The members were interviewed individually so that no one person would dominate the discussion and so that no community member felt pressure from any other to answer the questions a certain way. Each person was assured that their answers would be completely anonymous and that their responses would not affect the team's grade in any way. The questions were administered by the team members; with one person asking

the questions while the other two took notes to ensure that no answers were missed and that at least one person would ideally always understand the responses.

## **2.2 Results**

The families are large, but are mostly composed of children under 16 years old. Hence, the labor force is dependent on the few adults. Every family is required to send at least one member to work on the farm twice a week. Those five members (four men and one woman) can count on the help of at least five persons (mostly their spouses). According to the workers, the number of persons potentially working on agro-tourism is about eight in total more the children that are available when they are not at school. Four families have their own land where they grow their subsistence food, and two families have a member working in El Valle. All of them claim that they have little time to spend on tourism and if they do it would be the days that they are already present on the farm. The interviewed members did not have ideas of attractions and activities, but they liked the ideas proposed of farm tour with explanations, demonstration and history, of cooking for tourists, of hiking, of swimming in the hole, selling crafts and recognized the potential of a flower garden. There is only one man making *canastas* (weaved baskets). When asked if it was possible, according to them, to sustain tourism in the farm, the answer was mostly that it would be possible, but they lack the availabilities to do so.

## **2.3 Discussion**

The labor force is very small since there are only five families with few adults. Not only is the labor force small, but as the interview revealed that the members are busy. It is legitimate to say that they find the opportunity costs of working in tourism too high to commit. Most of them value their own land use for subsistence. According to what it

was discussed, the idea of agro tourism is not bad, but they would need to have more people working with them. There might have a potential in the neighborhood, however this would complicate the managerial aspect since it would need a separate organization for the farm and for the agro tourism project.

### **3.0 SWOT ANALYSIS**

#### **3.1 Methods**

SWOT analysis was used to determine the internal strengths and weaknesses of the community as well as the external factors affecting the community with regard to tourism. SWOT is normally performed with the community when planning ecotourism projects after administering individual surveys. Since in the interviews the community stated that they did not wish to begin an ecotourism project at this time the research team wrote some ideas based on prior observations in order to foster conversation about tourism potential with the community.

#### **3.2 Results**

While performing the individual surveys, the community stated that they did not wish to begin an agro tourism project at this time. Hence, most of the SWOT analysis was performed by the researchers. However, through conversations with the community as well as their own experiences the researchers were able to form an idea of some obstacles as well as potential benefits of tourism. The weaknesses included the difficulty transport to the site, the lack of infrastructure and resources and the lack of time of the community members. The community did recognize that being close to El Valle created an opportunity to bring in tourists.

### **3.3 Discussion**

SWOT analysis was not performed in the traditional way with the community members. However, from casual conversations and interviews with community members the researchers inferred that mostly internal weaknesses were preventing tourism. By focusing on difficulties and obstacles, the community might be ill-informed about the implications of an agro-tourism project, feel overwhelmed with the tasks to achieve or simply disagree with the idea of the project.

## **4.0 ATTRACTIONS INVENTORY**

### **4.1 Methods**

This process was used to examine the potential tourist attractions on and around the farm. While visiting the community the research team toured the farm, interacted with the people there and asked them about potential activities and actually performed some of the activities. The activities they found were then divided into three categories:

- Natural and Biodiversity Attractions
- Cultural Attractions
- Recreational Activities

The existing activities in El Macano were then organized into a table according to the length of the activity, its difficulty, the interested consumer age group, and the possible impacts of the attraction on the community and the environment. Afterwards the team researched other agro-tourism projects in Panama to find other potential activities for the farm. The possibility of developing these activities on the farm was also evaluated.

## 4.2 Results

Type of Activity	Activity	Difficulty	Length	Audience	Effects on community	Effects on environment
<b>Natural/ biodiversity</b>	Viewing the surrounding forest	Easy	variable	anyone	might involve walking on public/private, non-farm land	minimal, potential damage to seedlings because of walking
<b>Cultural</b>	Learning about medicinal plants	Medium	1/2 hour	teenagers-adults	none	minimal, harvesting of medicinal plants, cultivating medicinal plants changes natural biodiversity
	Touring the farm	Easy	1 hour	anyone	none	None
	Helping on the farm	Difficult	variable, usually about 3 hours	teenagers-adults	none	None
	Learning to cook traditional meals	Medium	1 hour	7+ yrs	none	minimal, potential to create more food waste because of cooking larger meals
	Learning about basket weaving	medium-difficult	1 hour	7+ yrs	none	minimal, potentially harvesting more palm leaves to use
<b>Recreational</b>	Swimming	Easy	variable	anyone	might involve walking on public/private, non-farm land, intruding on community members using swimming space	minimal, low number of swimmers unlikely to affect fish and animal populations, hopefully no waste will be left around water
	Hiking to Roma	medium-difficult	1 hour each way	12+ yrs	might involve walking on public/private, non-farm land, potential interaction with community	minimal, using already existing road, hopefully no garbage left on road

	Hiking along the main road	medium-difficult	variable	12+ yrs	might involve walking on public/private, non-farm land, potential interaction with community	minimal, using already existing road, hopefully no garbage left on road
	Mountain biking	difficult	variable	teenagers-adults	might involve biking on public/private, non-farm land, potential interaction with community	minimal, using already existing road, hopefully no garbage left on road; off-road could damage plants and temporarily frighten wildlife

Table 1. Attraction Inventory of El Macano.

There are obviously numerous activities that are already available, or that could be made easily available to tourists. Many of these activities are difficult to put into just one category (natural, cultural or recreational) as they are multifaceted and incorporate many aspects of the area. For example, visitors can hike for fun and exercise, and at the same time they will be able to see the variety of plants that occur naturally in the area, exposing them to the biodiversity of El Macano. They will also see where and how the people live around El Macano, helping them learn more about the culture. Most of the activities are quite physical, increasing their difficulty. The easiest activities can be done by most age groups, from children to adults, and require little physical ability or strain. The more difficult activities can be more mentally or physically taxing and the more difficult activities usually require the visitor to be in good physical shape and able to withstand conditions like physical exertion in the heat during hiking or working on the farm. The activities that take place on the farm itself will have no effect on the surrounding community or ecosystem. Some of the other activities will require the tourists to leave the farm and therefore should be approved by the people that live around

the farm that might interact with the tourists before they are allowed to occur. There is little risk of damage to the environment as most of the activities do not require it to be modified or changed. Also as the volume of tourists will probably be kept low the risk of increased amounts of garbage polluting the forests and rivers is minimal. Since the tourists visiting the area are likely to consider themselves as eco-tourists and will strive to have a small impact on the natural environments they visit.

Other tourism activities that have been incorporated into small tours in other parts of Panama include recreational and cultural activities. The more recreational activities include canoeing and fishing in areas near Panama's water bodies, namely rivers and the two oceans. Riding horses is also popular in El Valle, Santa Catalina and other areas. Bird watching and visiting gardens, especially orchid gardens are also popular. In addition to eating and learning how to prepare Panamanian dishes, wine tastings are available at some farms(ref needed) . Cultural activities differ between communities and are of more interest in indigenous communities than in places like El Macano. For example, viewing music and dance presentations are popular when visiting both Kuna and Embera groups, as is body painting in Embera communities.

### **4.3 Discussion**

El Macano has the potential to develop some but not all of the ecotourism activities present in other parts of Panama in order to increase its appeal to tourists. The rivers around the farm are quite small, and therefore are not suitable for canoeing or rafting. Fishing might be possible in some areas as the fish that are raised from the farm are taken from the rivers nearby. There is currently no flower garden at El Macano, nor do any orchids grow there. With additional work a flower garden could be developed and

orchids seem suited to grow in the area, as they are grown in El Valle, so raising them on the farm might be possible. It seems unlikely that wine tastings would be developed at El Macano as the farm does not grow grapes or produce wine and is quite far from anywhere where wine could be purchased. All of the wine would have to be brought in from outside and the community members would have to learn about the wines, which is time consuming and potentially difficult. It also seems that most of the visitors to the farm would probably be young backpackers, who traditionally have less interest in learning about wines. One of the community members is quite talented at playing the guitar, so there could be small performances, but the music is popular music instead of traditional and the ‘concerts’ would have to be quite informal as the performer is not used to playing for audiences and is quite shy. Dance is not something that the community members normally do, nor is body painting part of their culture, so considering them as tourist attractions seems irrelevant.

## **5.0 INFRASTRUCTURE AND SERVICES INVENTORY**

### **5.1 Methods**

The infrastructure and services that currently exist on the farm were inventoried and their quality, efficiency and accessibility were assessed. The assessment was performed by gathering direct observations made by the researchers while visiting and traveling to El Macano. A list of potential new infrastructure that would be needed in order to host visitors was also created in order to determine what kind of preliminary costs there would be to the community to start such a project.

## **5.2 Results**

### ***5.2.1 Transportation Assessment***

The only road to get to El Macano is from El Valle de Antón. The road is dusty, rocky and is meandering with steep slopes, which means that it is accessible only to four-wheel drive vehicles, namely pickups. For the moment, there are three transportation options. The first would be private pick-up taxis, which are available in El Valle de Antón for about \$15 to get to El Macano. There is also a *chiva*, the “public transport” that is used by people in the community that work in El Valle during the day: it costs \$1.50 per person, but space is limited. The pick-up is in good condition and it fits about 8 people and their bags. It is often very full, offers no comfort and the passengers have to hold tight for their safety. It departs from El Valle every day at about 4 pm and goes to El Valle at about 6 am. Hiking is the third option. It is about an hour and a half hike along the main road to reach the community. It is interesting for its scenery, but it is preferable to do in the morning or latter in the day because of the strength of the sun at midday. There are no road signs yet, and thus a guide is needed to reach the farm.

### ***5.2.2 Infrastructure***

There is no lodging for tourists. Because of the very strong wind, camping or a lean-to are not desirable; there would need to be a building to house tourists, probably made out of concrete, which would cost about \$4,000 to build. The building would probably be located on the farm and have room for about ten beds. According to the members of El Macano, the toilet and shower are not extremely expensive to install since they do everything themselves, although they would have to install running water. It

would take a bit more than a month to complete the construction of the house and bathroom and probably cost about \$6,000.

### ***5.2.3 Services***

There are no services at El Macano. The closest health center is in El Valle; at least an hour away. There are low crime rates in the surrounding area, hence there is no police present. The water is drinkable, but how it is treated is unknown and thus may not be suitable for tourists. The farm is a very peaceful place surrounded by nature; there are no major sources of pollution, except the chemicals used on the farm, which are apparently very few and moderate (Guillermo, PdN, 2009).

### **5.3 Discussion**

The means to go to El Macano are restricted, not comfortable and more or less accessible, which can be an obstacle for some tourists. For example, a pick-up taxi is expensive and hard to find, while the hours of public transport and the places are limited. For transportation, some basic improvements can be made, such as sign on the pick-up to indicate which one it is and signs along the road to show the way. The community has the ability to construct the habitation and restrooms themselves. The costs of construction can potentially be diminished if the project receives funding either from an international cooperative organization like a brigade or by the AMPYME. The greatest cost to the community is the construction time. For the services, it is an option to start a small-scale electricity project, but it is not a necessity. From observations, there do not seem to be any important safety issues, however it is important to update resources since the agro tourism certification by ATP and MIDA requires such precautions as first aid certified

members, lists of potential dangers, etc (MIDA, 2009). Overall, there is a lot to be done before starting the project.

## **6.0 MARKET DEMAND**

### **6.1 Methods**

In order to find the demography most interested in the type of tourism El Macano has to offer, the team conducted interviews with current and potential tourists. Interviews were conducted with visitors of El Valle in order to determine if visitors already in the area would be interested in taking a trip to a place like El Macano. The type of person that would or would not be interested in visiting El Macano was identified in order to better know what a tourism development project in the area should focus on, including the activities and services that should be developed and the type of advertising that might be most effective. It also examined the willingness of tourists in the area to pay for services that the farm has to offer in order to assist in pricing. A second survey was given to Panama Field Study Semester students and other young people interested in travel (found at local hostels) that might be potential backpackers to find out more about popular activities and their costs. This was used as an evaluation of the demand for the project and an attempt to estimate the number of persons potentially visiting El Macano; it assessed the popularity of the activities and also evaluated the benefits from them (the amount of money they are willing to pay for each type of activity the community offers). The survey was made available to individuals considered to be potential tourists targeted to projects such as the one in El Macano. Responses were collected from April 15<sup>th</sup> to April 20<sup>th</sup>.

The objectives of the survey were the following:

1. Identify the main attractions that are of interest to younger tourists
2. Identify the most important aspects of traveling for the respondents
3. Measure the potential tourists' interest in visiting El Macano, including the prices that they are willing to pay for the attractions and services available
4. Identify attractions lacking for tourists in El Macano

## 6.2 Results

45 people answered the survey, most of them originating from the United States and Canada.

### 6.2.1 Main attractions

Activities	Number of People Interested	Percentage of People Interested
Biking	21	47%
Visit indigenous populations	20	44%
Visit small towns or villages	33	73%
Visit national parks	40	89%
Observe wildlife	29	64%
Swim in the small rivers	31	69%
Hiking/trekking	32	71%
Visit historical sites	31	69%
Climbing	6	13%
Opportunity to visit cultural heritage sites	32	71%

<b>Attend art or music performances</b>	25	56%
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Table 2. Summary of activities preferred by potential tourists of El Macano.

The majority of respondents to this survey consider visiting national parks (89%) to be an important activity when traveling. Other valued activities are visiting small towns (73%), visiting cultural heritage sites (71%), hiking (71%), and visiting historical sites (69%). For only 13% of them, climbing is important.

### *6.2.2 Travel*

<b>Aspects of Travel</b>	<b>Average Importance, 1-4 (4 being most important)</b>
<b>Good weather</b>	2.976744
<b>Quality of scenery</b>	3.590909
<b>Wildlife</b>	2.863636
<b>Visits to parks</b>	3.113636
<b>Opportunity to stay in nature</b>	2.795455
<b>Desire to learn about other cultures, their ways of life &amp; heritage</b>	3.477273
<b>Participation in major cultural or religious events</b>	2.431818
<b>Opportunity to visit an indigenous or traditional community</b>	2.590909
<b>Good prices for quality received</b>	3.136364
<b>Good local transportation system</b>	2.555556

<b>Adventure/sports</b>	2.883721
<b>Recommendations</b>	2.659091
<b>Facilities for children</b>	1.372093
<b>Accessibility</b>	2.25
<b>Safety</b>	2.840909

Table 3. Avg. importance of travel aspects to potential tourists of El Macano.

Of the 15 items listed as aspects of travel, “facilities for children” was ranked as very low in importance for the respondents (an average rating of 1.4 out of 4). The most common and important item was the “quality of scenery.” This aspect was ranked as 3.6 out of 4. The “desire to learn about other cultures, their ways of life, and heritage” (3.5), the “opportunity to visit parks” (3.1), and “good prices for good quality of services” (3.1) were of next greatest importance. Many other items, such as “good weather” (3.0), “opportunity to see wildlife” (2.9), and “opportunity to do sports” (2.9) were highly ranked as well. Three of the respondents left some rankings blank, and these answers were omitted from the results instead of being counted as low rankings.

### *6.2.3 Activities and Services*

<b>Activities Offered in El Macano</b>	<b>Average Respondents to Pay (US\$)</b>	<b>Price Willing</b>	<b>Number of Respondents Not Willing to Pay/Participate</b>
<b>Trip to swimming hole</b>	4.65625		13
<b>Hike to Roma</b>	4.206897		15
<b>Hike along the main road</b>	2.866667		30
<b>Partake in farm activities</b>	6.375		21
<b>Tour the farm</b>	6.575758		10

<b>Learn about medicinal plants</b>	7.705882	11
<b>Learn about and eat traditional meals</b>	8.614286	10
<b>Learn about basket weaving, purchase products</b>	9.967742	12
<b>Two-day package</b>	25 to 35	

Table 4. Average prices that potential visitors are willing to pay for various activities.

The majority of survey respondents were not interested in hiking along the road (30 say they would not pay out of 45). Those who said they would pay would pay very little (under \$3). While many said that they would not pay to participate in farm activities (21 out of 45), those who said that they would pay suggested an average amount of \$6-7. The results suggest that people would pay the most money for learning about and buying artisanal crafts (\$9-10). The services that received the most responses were partaking in tours of the farm and eating traditional foods. Respondents would only pay between \$4-5 to swim in the swimming holes and to hike to Roma, the nearby village. Finally, to learn about medicinal plants, the potential tourists would pay \$7-8.

As for the services section of the survey, the majority of respondents chose the public transportation option over the private transportation or walking options.

#### ***6.2.4 Summary of survey overall***

Not many people gave specific suggestions for activities, as the question was fill-in-the-blank and thus was assumed optional. Out of the activities suggested for El Macano, the majority involved partaking in a home stay where guests could learn to cook traditional meals and help work on the farm. Similar to the home stay option was the request to partake in cultural learning activities, where guests would be educated on the

history and culture of the area. A large number of people requested horseback riding and biking. Because the respondents were mainly under the age of 30, there were few requests for family-oriented activities for activities geared towards children. Some activities suggested were not appropriate for the area, such as boat tours, exploring caves, and meeting medicinal healers.

## **6.3 Discussion**

### ***6.3.1 Interpretation of Main Attractions***

There is clearly an interest on the part of the survey respondents in participating in cultural activities and activities that allow visitors to discover new areas.

### ***6.3.2 Interpretation of Travel Preferences***

The majority of respondents are interested in the aesthetic appeal of the area, its potential for outdoor activities, and the feasibility of performing such activities. “Participating in major cultural or religious events” (2.4) and “visiting indigenous or traditional communities” (2.6) did not rank as highly as “desire to learn about other cultures, their ways of life and heritage” (3.5), which signifies that perhaps the respondents are less interested in indigenous communities or religious ceremonies. Because of the great number of high-ranking responses, the results show that the respondents are ideal tourist candidates for El Macano.

### ***6.3.3 Interpretation of Activities and Services***

The survey respondents are most willing to pay for the two-day package of visiting the farm a price ranging from \$25 to 35. This result seems fair, as the majority of the respondents are young students who do not receive much income. Some pricing answers may be skewed, as not all of the respondents fully understood the capabilities of

the community and conditions of the surrounding environment. For example, the pricing of the traditional meal was quite high (\$8-9); a more informed respondent of Panamanian food prices would most likely have offered less money for this service. Therefore, when presenting a hypothetical scenario such as the one done for El Macano, a particular effort needs to be made in order to fully inform the potential tourists of the specific boundaries of the tourism service providers.

As for the services section, the survey was a bit flawed and therefore the results will not be analyzed as in depth as results from other sections. The majority of respondents probably chose camping, for example, over the other choices with the idea in mind that such an option would be the cheapest. Doing an average of the prices for overnight stay was not the best way to obtain the information needed, as people answered according to their individual choices (bed, camping, or hammock), which differed among the respondents. Nevertheless, the section about transportation to El Macano was useful, as it clearly demonstrated that the respondents were more inclined to take public transportation.

#### ***6.3.4 Interpretation of Survey Overall***

Clearly, the respondents were most interested in a cultural sharing with the community of El Macano, as a high number of responses (9 out of the 15) were related to traditional activities. The description of El Macano in the introduction of the second part of the survey could explain this bias towards cultural and traditional activities. Some were concerned with the “primitive” aspect of the housing that would be offered, as they requested bug control and clean dining areas. The development of cultural integration activities needs to be a priority of the agro tourism project.

## **7.0 ENVIRONMENTAL ASSESSMENT**

### **7.1 Methods**

The methods for assessing the ecosystem services in El Macano were taken from the Millennium Assessment by the World Resources Institute (Ranganathan et al., 2008). First, the researchers identified the ecosystem services present in the community by brainstorming after they had visited the community and learned about the farm itself and how it operated. Then the services were screened for relevance. The ones that were affected by, or would have an effect on tourism remained on the list while those that were irrelevant were discarded. The services that had a reliable and cost effective substitute were also discarded since it would not matter how the project affected them as long as the substitute was available.

### **7.2 Results**

The majority of the ecosystem services involved in the tourism project relate to the farm production. The main motivation for tourists to visit the site will be to see and experience life on the farm. Therefore, the provisioning ecosystem services are by far the most important services for the project, including crops, aquaculture, livestock, biomass fuel, fibers, and freshwater. The crops provide food for the people living there as well as income because the people sell such goods to the surrounding area. As for biomass fuel, there is sufficient wood material in the area, which is used for cooking, decomposing garbage and crop waste fires, and for constructing structures such as animal pens. Freshwater is very important for consuming, cooking, and cleaning. The farm is dependent on the quantity of freshwater, and the tourists will be dependent on the quality of this water. Furthermore, there is potential to expand on the biodiversity ecosystem

services by perhaps growing orchid gardens and medicinal and herbal gardens for tourists' enjoyment.

As for the regulating services, all of the ecosystem services needed for the regular functioning of the farm will be important. These services include air quality, pollination, climate regulation, erosion [control], water, and disease and pest regulation. The area is abundant in plants, grasses and trees, along with the crop vegetation of the farm; this flora contributes to boosting the area's air quality. The nearby forests provide habitats for pollinating bees, which benefit the crops as well. The trees also capture and store carbon dioxide, and thereby regulate climate on a small scale. Erosion is minimized by the vegetation cover. Since there is heavy plant cover, there is little standing water in the area and so disease-causing insects cannot reproduce around the farm. The multi-cropping nature of the farm further decreases the vulnerability of the farm to pest infestations.

The farm offers various cultural services. Agriculture is an important way of life for the community, as it has been the traditional lifestyle for many years. Therefore, this service is important for tourists seeking to learn the way of life of rural Panama. The farm will also be dependent on the aesthetic qualities of the surrounding area. People may want to hike and explore the region, and will be much happier doing such activities in an aesthetically pleasing place. Developing the flowers around the farm could make the farm more appealing as well. A third cultural service is that of recreation. The two swimming spots must be kept clean, and the hiking trails must be kept cleared

### Most Important Ecosystem Services

The provisioning services are the most significant in relation to the survival and growth of the farm. The substitute for such services could be to purchase crops instead of to grow them, yet this action could impact the overall tourist influx. With no farm, the incentive to visit the area would most likely drop. For the farm to continue, the most important service to maintain is the production of food, which is greatly dependent on the soil quality. Clearly, there is no substitute to attract tourists if the farm ceases production, therefore keeping the related ecosystem services healthy is essential to the agro-tourism project. Aesthetic ecosystem services would need to be maintained in order to please the tourists. One of the reasons the Patronato de Nutricion decided to develop a tourism project at El Macano was because of its natural beauty. In order to conserve this natural beauty the biodiversity of the area must also be conserved so that the plants and animals that live there can continue to do so.

### **7.3 Discussion**

The current conditions and trends of the ecosystem services were then evaluated as well as how they might affect or be affected by the development of a tourism project in the future. The project will have specific impacts on some of the current ecosystem services. Since the project will be conducted on a small-scale, it will not have dramatic impacts on the ecosystem in the foreseeable future. However, some services will be affected to a certain extent. If the project is successful and the farm expands in size, more trees will be cut down. With fewer trees, climate regulation will decrease, erosion will increase, primary production will decrease, photosynthesis will decrease, and soil quality will decrease. In addition, the influx of tourists in the area has the potential to

affect the environment. More hiking trails might be developed, more people will be in the area walking and swimming, potentially disturbing the area's wildlife and increasing sediments and causing erosion on the slopes.

The provisioning services, more specifically the crops and animal products, are of great concern because of the slash-and-burn technology that degrades the soil. Currently this is the main method of agriculture used on the farm. According to studies, slash-and-burn agriculture has been proven to degrade soil quality over time, so that eventually it is not possible to cultivate the land any further (Heckadon-Moreno, 1997); obviously a non-productive farm would not attract agro-tourists. If the agro-tourism venture is successful and the farm expands, there will be deforestation around the farm, potentially decreasing the diversity of habitats of natural pest predators, such as birds, bats and snakes. Without these animals, crops will be at risk of infestation. 'Tourist preference' has been identified as an important driver in maintaining low use of chemical inputs and of maintaining an aesthetically pleasing surrounding on the farm. Therefore, if the natural pest control is lost, then the food provisioning services on the farm will be at risk.

Soil quality is another important ecosystem service, as crop production depends on it. Therefore, if the land is over-worked and the soil can no longer support plant life, the farm will be at great risk. A more minor risk is that of replacing subsistence crops with other plants such as orchids and herbal plants, which would serve a recreational purpose for tourists.

## 8.0 COST AND BENEFIT ANALYSIS

### 8.1 Methods

The cost and benefit analysis was first performed on three separate levels, which were then analyzed. The analysis includes all of the results from our research surveys and from observations made in El Macano. Estimates were made for some activities and services, but not for all possible scenarios, simply due to time and resource limitations. The attributed prices for services such as meals and infrastructures reflect what the research team found to be most important for the analysis. Some of the items listed as costs and benefits are supported by studies done in the past.

-Economic: The costs and revenues of the project: food for tourists, constructing more infrastructure, revenue from gained various activities, etc.

- Cultural: The negative and positive impacts of tourism on the community's lifestyle and culture.

-Environment: Land lost and new sources of pollution.

### 8.2 Results

		Costs	Benefits
<b>Economic</b>	Long-term Investment	<ul style="list-style-type: none"> <li>• Hostel, including two rooms w/ five beds in each, one toilet and one shower: \$5,000</li> <li>• Mattresses: \$1,500</li> <li>• Road signs: \$20</li> </ul>	<ul style="list-style-type: none"> <li>• Potential to receive funding to build infrastructure by non-governmental organizations who collaborate with the Patronato de Nutrición</li> <li>• If no funding is received, then an influx of about 10 tourists a month paying \$12 a night would compensate for the estimated costs</li> <li>• Increase in community well-being               <ul style="list-style-type: none"> <li>○ Influx of income</li> <li>○ Greater attention to community may bring in investment</li> </ul> </li> </ul>
	Short-Term	<ul style="list-style-type: none"> <li>• Food</li> </ul>	<ul style="list-style-type: none"> <li>• 1 meal: \$3</li> </ul>

		<ul style="list-style-type: none"> <li>○ 1 lb rice: 25c</li> <li>○ 1 lb beans: 50c</li> <li>○ 1 small fish: 3c</li> <li>○ 1 lb fish: \$1</li> <li>○ 1 lb chicken: \$1.25</li> <li>○ 1 ear of corn: 10c</li> <li>○ 1 lb yucca: 25c</li> <li>○ 2 plantains: 25c</li> <li>○ 1 lb tomatoes: 50-60c</li> <li>● Cleaning products: \$15</li> <li>● Increase in dependency on cash-flow income rather than subsistence farming*</li> <li>● Time (taken away from farm work) <ul style="list-style-type: none"> <li>○ Cleaning</li> <li>○ Cooking</li> <li>○ Tour guide</li> <li>○ Artisanal crafts</li> <li>○ Extra time on the farm to produce surplus food</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Trip to swimming hole: \$4-5</li> <li>● Hike to Roma: \$4-5</li> <li>● Hike along main road: \$2-3</li> <li>● Farm activities: \$6-7</li> <li>● Tour of the farm: \$6-7</li> <li>● Learning about and purchasing artisanal crafts: \$9-10</li> <li>● Two-day package: \$25-35</li> </ul>
<b>Social</b>	<ul style="list-style-type: none"> <li>○ Income disparities among farm cooperative members and non-members*</li> <li>○ Distancing from traditional way of life/acclulturation*</li> <li>○ Overworking the farm cooperative members</li> <li>○ Difficulty in dividing the work among the cooperative members may result in social tension</li> </ul>	<ul style="list-style-type: none"> <li>○ Cultural sharing <ul style="list-style-type: none"> <li>○ Farm education for the tourists</li> <li>○ Knowledge of new cultures for the community members</li> </ul> </li> </ul>	
<b>Environmental</b>	<ul style="list-style-type: none"> <li>○ Increase in trash and sewage</li> <li>○ Potential expansion of farm into forested areas</li> <li>○ Increase in water demand</li> <li>○ Noise pollution</li> </ul>	<ul style="list-style-type: none"> <li>○ Increase care of environment for aesthetic reasons *</li> <li>○ Improvements made to aqueduct system to provide for tourists</li> </ul>	

Table 5. Cost and benefit analysis of the development of agro-tourism in El Macano.

\* Stronza, 2001

In the long-term, the total average costs will be about \$6,720, and the short-term costs will vary depending on the influx of tourists to the farm. The social costs were deduced from observations of the community as well as outside research, and are merely hypothetical. The effects on the environment are also fairly hypothetical; nonetheless, such effects are very important to consider. The actual degree of the costs to the

community and to the environment will be judged by the community-members themselves, as they will be the ones noting the direct changes.

### 8.3 Discussion

From the results shown above, it can be noted that if certain infrastructures receive funding, then there is great potential for the agro tourism project to proceed. Overall, the environmental costs will most probably be minor because of the project’s small scale. Because the project is centered on agro-tourism, the traditional farming practices will most likely be kept intact with the arrival of tourism.

To help in the visioning of the likely monetary costs and benefits for the community, we have created three hypothetical scenarios:

1. *Scenario A; Day Trip*

<b>Tourist profile:</b> A couple visiting from El Valle		
<b>Activity profile:</b> Interested in artisanal crafts and visiting the farm		
<b>Economic activity</b>	Buy two artisanal baskets	\$20
	Tour the farm with guide	\$6-7/person
	One meal	\$3/person
<b>Costs to community</b>	Time to build crafts	2 hours
	Time to cook and clean	3 hours
	Time to give tour	1.5 hours
	Rice	6c/person
	Beans	10c/person
	Chicken	31c/person
<b>Totals</b>	<i>Costs:</i>	<ul style="list-style-type: none"> <li>• About \$1/person</li> <li>• Time: 6.5 hours</li> </ul>
	<i>Benefits:</i>	<ul style="list-style-type: none"> <li>• About \$27 direct profit/person</li> </ul>

This scenario illustrates the hypothetical costs for the community of receiving two tourists for a day. For the number of hours of work required, a high profit would be made.

2. Scenario B; Two-day Trip

<b>Tourist profile:</b> A group of four friends		
<b>Activity profile:</b> Interested in learning about the culture		
<b>Economic activity</b>	Learn to cook traditional meals	\$8
	Tour the area with guide	\$7-8/person
	Medicinal plants	\$7-8/person
	Three meals	\$9/person
	One night stay	\$12/person
<b>Costs to community</b>	Time to teach about plants	1 hour
	Time to teach, cook and clean	6 hours
	Time to give tour	2 hours
	Rice	6c/person
	Beans	10c/person
	Chicken	31c/person
<b>Totals</b>	<i>Costs:</i>	<ul style="list-style-type: none"> <li>About \$1/person</li> <li>Time: 9 hours</li> </ul>
	<i>Benefits:</i>	<ul style="list-style-type: none"> <li>About \$42 direct profit/person</li> </ul>

This scenario illustrates a situation in which the community members would have to give more time to the visitors by, for example, giving tours and teaching. The group of four would also generate a substantial profit for the community.

3. Scenario C; Two-day trip with big group

<b>Tourist profile:</b> A group of ten friends		
<b>Activity profile:</b> Interested in outdoor activities		
<b>Economic activity</b>	Hike to Roma	\$4/person
	Swimming hole	\$4/person
	Three meals	\$9/person
	One night stay	\$12/person
<b>Costs to community</b>	Time to give guided tours	4-8 hours
	Time to cook and clean	4 hours
	Rice	6c/person
	Beans	10c/person
	Chicken	31c/person
<b>Totals</b>	<i>Costs:</i>	<ul style="list-style-type: none"> <li>About \$1/person</li> <li>Time: 8-12 hours</li> </ul>
	<i>Benefits:</i>	<ul style="list-style-type: none"> <li>About \$19 direct profit/person</li> </ul>

Lastly, this scenario illustrates a situation in which more time would be required on behalf of the community members, yet less direct profit would be made than in

previous scenarios. Perhaps even more time would need to be allotted to cleaning considering the size of the group of tourists.

## **9.0 LIMITATIONS**

The study was difficult to complete since the community is currently quite remote. While it is only five kilometers from El Valle, it is difficult to reach as only one truck goes to and from the area each day. As a result the researchers were not able to spend as much time in the community as would have been desirable. With only two days available each week for work on this project, working at the site each and every week was impossible since transport was so difficult. The *chiva* that travels to El Macano only leaves El Valle once a day at four o'clock in the afternoon, so arriving on a Thursday eliminates Thursday as a work day. The *chiva* leaves the community only at six o'clock in the morning, so leaving on Friday means that there is essentially only one night to work. The surveys that were performed also have the potential for bias. The survey for potential visitors was consciously given only to backpackers. Therefore these visitors might share certain viewpoints, increasing homogeneity in the surveys. The surveys given to El Valle tourists were also given mostly to people on the main streets in the town, and tourists that have a tendency to explore unusual things or areas were missed, which might be the very type of person that would be interested in El Macano. The sample sizes of both surveys were also small, increasing the likelihood of biased results. During the week there are few tourists in El Valle since the major tourist attraction, the town's market, is most active on Sunday. Therefore locating tourists was difficult and not a large number of people took the surveys. Some respondents were not technically tourists, but people that recently moved to live in El Valle; this fact may have affected the

results. The language barrier might also have been a problem. This communication issue might also have caused misunderstandings between the researchers and the host institution members. The Patronato de Nutrición staff is also limited; each person oversees many projects and may not have time to work with the research team. For this reason, the project may be missing pertinent information.

## **10.0 FINAL RECOMMENDATIONS**

### **10.1 Obstacles**

After the cost and benefit assessment, the team recognized that there are obstacles hindering the possibility of developing agro tourism in El Macano. As mentioned above, among the major obstacles is the language barrier. Therefore, even tourists with a small basis in Spanish have difficulty to understand the fast and contracted way of speaking of rural persons.

Moreover, transportation and the conditions of the road are issues. From the market demand survey, tourists rated the aspects of good local transportation system and easy accessibility as important. Hence, some tourists might be discouraged by the state of transportation. The transportation circumstances (except the option of private taxi) hinder the incoming of day-trippers, as the public *chiva* hours are limiting. Having to hike to the community and back in the same day might limit tourists' activities at the farm.

As for infrastructure and services, the community would be starting with nothing. The needed period of construction for such infrastructure would be long, which might result in initial economic hardships before revenue is brought in. Furthermore, the time dedicated to the construction means less work on the Patronato de Nutrición's farm and

on the individual community members' plots. The community might face discouragement at this point.

Finally, the main obstacles encountered and expressed by the community are the lack of people and available time to be involved in the project. The workforce of the families working on the Patronato de Nutricion's farm is limited to a few adults, who often work second jobs on the side. From what the team understood from the interviews and conversations, the opportunity costs to work on the agro-tourism project is too high. The members apparently value working on their own farms for food more than relying on monetary income. This concern brings up a valuable point, one that is depicted in literature containing examples of communities that became dependent on tourism income and thus when the tourism demand declined, experienced economic troubles (Stronza, 2001).

## **10.2 Potential**

The research team is fairly confident in the potential of the community to develop an agro-tourism project, given that certain infrastructures, services and helping bodies are introduced to El Macano. The farm itself can provide many different activities for a wide variety of visitors. Those who are interested in more cultural activities will be just as satisfied with the farm as those who are interested in more sport-oriented vacations.

Nevertheless, to implement a feasible agro-tourism project in El Macano, the research team places great importance on the aspect of funding and of labor. A non-governmental organization would need to monetarily support the construction of, for example, the housing and plumbing for tourists. Another limitation for the community is the lack of extra working hands. As mentioned previously, many members object to the

project, claiming that they are already quite busy balancing work in El Valle and work on the farm. Other sites with farm cooperatives similar to the one of El Macano have been successful, perhaps because they have more people available to help. All the same, one of the objectives of the agro-tourism project is to provide local jobs for the community members rather than have them commute to and from El Valle on foot or by *chiva*. The community members are knowledgeable in many fields, from agriculture to construction to artisanal work to cooking, and thus have strong potential to make the project a success. In other words, perhaps all that is needed for the project to make progress is external funding, job security for the community members, and insurance that similar projects have been successfully implemented in other rural communities in the region.

### **10.3 Final Recommendations**

Some development must be made in the area before it will be ready to support tourists. Obviously, it would be ideal to introduce running water and electricity so that more tourists would be attracted to the area and consider visiting as well as making them more comfortable during their stay. These developments however, take time and money, and might change the cultural experience people hope to have at the farm. In the more immediate future there are some more basic developments that should be made to make the area more accessible. Making signs marking the roads and trails would make the farm itself easier to find. Trail markers would also facilitate hiking and tours, but also allow tourists to hike independently, freeing up the community's time since they would not have to always work as guides. Currently even the *chiva* that goes to and from El Valle is not marked. A simple sign on the side would allow tourists to locate it more easily and make arriving at the farm less stressful. On a related note, a map of the road

leading to the farm and the trails around it would also be useful. This would probably be more complicated to make but would be valuable to tourists.

Since one of the community's major issues with the tourism project was that they do not have enough time to devote to additional work on the farm it would be useful to find other interested parties in the community. When the farm started some community members declined to participate, but perhaps this new and different tourism project might be something that they would be more interested in. With additional help the project would not require as much extra time from the people that already work at El Macano, easing their stress.

If such a project is to be developed in El Macano, we believe it will be important to continue to survey the target audience from time to time. The analysis and interpretation of the results must be made available to the community members, either orally or formally during group meetings. Recommendations can then continue to be made, allowing the project to evolve and adapt to changing tourists' needs. Perhaps the project could eventually target a more varied audience, such as families and school groups, rather than just the typical backpacking tourist.

In the hypothetical situation that tourism is developed in the community, we recommend using a website to not only inform more people about tourism in El Macano, but to set up the survey and distribute it to the targeted audience. The surveying part of the process greatly enhanced our knowledge base on the interests of potential tourists and on the prices that they are willing to pay; the optional section for suggestions of activities further enhanced our measure of tourists' interests in relation to agro tourism in El Macano.

## 11.0 SCHEDULE

	Ciudad del Saber	El Macano/El Valle	Total
Days Spent/Person	12	9	21
Days Spent/Group	36	27	63
Group Hours	288	216	504

## 12.0 ADDRESSES FOR THANK YOU LETTERS

0843-376 Balboa, Ancón, Panamá. República de Panamá

### 13.0 REFERENCES

- Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, Social Sciences and Humanities Research Council of Canada, *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*. 1998 (with 2000, 2002 and 2005 amendments). Available at: <http://www.pre.ethics.gc.ca/english/policystatement/policystatement.cfm>.
- Elton, Charlotte. 2000. Sustainable Development and the integration of the Canal Area to the rest of the Nation. Ch.3 in Perez, Orlando J., *Post-Invasion Panama: the Challenges of democratization in the New World Order*. Boston: Lexington Books, pp 57-68
- EuroPraxis Consulting, 2008. Presentación final: Plan Maestro de Turismo Sostenible de Panamá 2007-2020. Retrieved on ATP website [http://www.atp.gob.pa/documentos/Presentacion\\_del\\_Plan\\_Maestro\\_Final\\_Oct08.pdf](http://www.atp.gob.pa/documentos/Presentacion_del_Plan_Maestro_Final_Oct08.pdf)
- Gutierrez, E., K. Lamoureux, S. Matus, and K. Sebnnya 2005. *Linking Communities, Tourism and Conservation: A Tourism Assessment Process*. George Washington University and Conservation International.
- Heckadon-Moreno, S. 1997. Spanish Rule, Independence and the Modern Colonization Frontiers. In A. Coates (Ed.), *Central America: A Natural and Cultural History* (pp. 177-214). New Haven: Yale University Press.
- IPAT 2007. Statistics Report 1996-2007. Departamento de Estadística del Instituto Panameño de Turismo.
- Lindberg, K., and D. Hawkins 1993. *Ecotourism: A Guide for Planners and Managers*. The International Ecotourism Society, North Bennington, Vermont.
- Ministerio de Desarrollo Agropecuario. 2009; Agroturismo. Retrieved on MIDA website <http://mida.gob.pa/agroturismo/content/view/7/3/lang,en/>
- Public Relations (Relaciones Publicas) of Autoridad de Turismo de Panama. 2009. Permian a Microempresarios turisticos. Retrieved on ATP website [http://www.atp.gob.pa/index.php?view=article&id=141%3Apremi-an-a-microempresarios-turisticos&option=com\\_content&Itemid=77](http://www.atp.gob.pa/index.php?view=article&id=141%3Apremi-an-a-microempresarios-turisticos&option=com_content&Itemid=77)
- Ranganathan, J., Raudsepp-Hearne, C., Lucas, N., Irwin, F., Zurek, M., Bennett, K., et al. (2008). *Ecosystem Services: A Guide for Decision Makers.*: World Resources Institute.

- Stronza, Amanda. 2001. Anthropology of Tourism: Forging New Ground for Ecotourism and Other Alternatives. *Annual Review of Anthropology*. Vol 30 pp261-283 Retrieved April, 5<sup>th</sup> 2009 from <http://www.jstor.org/stable>
- TIES. 2006. Community Based Ecotourism: Best Practice Stories and Resources. Asian Pacific eNewsletter. International Ecotourism Society.
- WTO. 2004. Sustainable Development of Tourism: Concepts and Definitions. World Tourism Organization.

## 14.0 APPENDICES

### 14.1 Appendix A Community interview questions

#### *Time available:*

- ¿Cuántos días está en la granja cada semana?
- ¿Tiene un trabajo secundario que no está ligada a la granja?
- ¿Tiene hijos?
- ¿Podría pasar más horas en la granja con turistas? Si puede, ¿cuántas horas puede dar?

#### *Skills:*

- ¿Qué hace en la granja ahora?
- ¿Tiene otras habilidades? ¿Cuáles son? (Por ejemplo talentos artesanales, de cocinar, de escribir, etc.)
- ¿Qué puede ofrecer a turistas? (ie cocinar, historia de la región, ser guía para caminatas, tocar la guitarra, etc.)

#### *Feasibility:*

- ¿Piensa que podría sostener turistas en el Macano?
- Había un restaurante antes en la granja. ¿Puede hablar sobre este restaurante? ¿Cuándo cerró? ¿Quién venía? ¿Tuvo éxito? ¿Quién estaba en carga del restaurante?

#### *Willingness:*

- ¿Quiere participar en un proyecto en agro turismo?
- ¿Cuántas horas podría ofrecer para este trabajo o proyecto?
  - 1-4 horas la semana
  - 4-6 horas la semana
  - Más

### 14.2 Appendix B SWOT Analysis

Introductory paragraph presented to the community members:

Estamos aquí para discutir de la posibilidad de desarrollar ecoturismo. Queremos hablar de lo que puede ofrecer la comunidad a los turistas y de los problemas o complicaciones que podrían venir con un proyecto en agro turismo. Tratará de: Aspectos positivos del ecoturismo para la comunidad/Aspectos negativos del ecoturismo para la comunidad. (Aspectos positivos que puede ofrecer la comunidad/Aspectos negativos que puede ofrecer la comunidad).

#### FUERZAS/INTERNAS

- Capacidad de trabajar juntos en la comunidad
- Capacidad de crear atracciones para turistas

#### DEBILIDADES/INTERNAS

- Transportación al sitio
- Capacidad de comunicar
- Equilibrio de tiempo
- Falta de infraestructura

#### AMENAZAS/EXTERNAS

- Transportación al sitio
- El Valle como competencia
- Falta de publicidad

#### OPORTUNIDADES/EXTERNAS

- Está cerca del Valle donde hay muchos turistas

### **14.3 Appendix C**

#### Survey for visitors in El Valle

Thank you for participating in our visitor survey. We are three University Students doing an internship in the region. We are studying the potential for agro-tourism development in El Macano; a community located at 5 km from El Valle Anton. We would like to conduct a survey to determine the demand and construct a profile of the potential visitors to the area. We are abiding by the McGill code of ethics in conducting the survey. The results of the survey that will be used in our final product will be anonymous and will only be used for the purpose of our assessment. The answers will be used for informational purposes only and have no bearing on our grades (or on whether or not tourism will be developed in the area), so please be as honest as possible.

- 1) What is your country of origin? \_\_\_\_\_
- 2) Age? \_\_\_\_\_
- 3) Gender? F M
- 4) Is it your first time visiting the area? Yes No
- 5) If you answered no to Question 4, how many times have you visited?
- 6) Who are you traveling with?
  - Alone
  - Family
  - Friends
  - As a couple
- 7) What was your primary reason for visiting El Valle? (please choose one)
  - Leisure
  - business
  - visiting friends and relatives
  - education, short-term (less than 1 year)
  - volunteerism, short-term (less than 1 year)

Other \_\_\_\_\_

8) How long are you visiting El Valle?

- For the day
- 2-4 days
- 5-10 days
- 11-20 days
- More than 21 days

9) How did you hear about this area? (please choose one)

- radio
- television
- newspaper
- magazine
- Internet
- travel brochure
- tour operator
- word of mouth

10) What was your main mode of transportation to this area? (please choose one)

- personal/rented car
- airplane
- tour bus/vehicle
- taxi
- other, please specify \_\_\_\_\_

11) Please rate how important each of the following things are to you when traveling. 1-4, 4 being the most important

- Good weather conditions 1 2 3 4
- Quality of natural scenery & landscapes/environment 1 2 3 4
- Opportunity to see wildlife 1 2 3 4
- Visits to parks and other pristine natural areas 1 2 3 4
- Opportunity to stay in pristine natural environment 1 2 3 4
- Desire to learn about other cultures, their ways of life & heritage 1 2 3 4
- Participation in major cultural or religious events 1 2 3 4
- Opportunity to visit an indigenous or traditional community 1 2 3 4
- Opportunities to experience traditional ways of life 1 2 3 4
- Opportunities for learning about and experiencing natural and cultural attractions 1 2 3 4
- Opportunities for adventure/sports activities 1 2 3 4
- Good prices for quality received 1 2 3 4
- Good local transportation system 1 2 3 4
- Recommendations from a friend/book 1 2 3 4
- Facilities for children 1 2 3 4
- Accessibility 1 2 3 4
- Safety 1 2 3 4

12) What activities do you like to do when you travel? ( pick as many as you want)

- Biking
- Visiting indigenous populations
- Visiting small towns or villages
- Visiting national parks

- Wildlife viewing
- Swimming
- Hiking/trekking
- Visiting historical sights
- Climbing
- Cultural heritage sights
- Attending art or music performances (i.e. dancing, drumming, singing, craft demonstrations)

13) Scenario: If you were to visit a rural community for your next vacation, how much money would you be willing to spend on the following things? El Macano is a small community characterized by traditional agricultural lifestyle. The community is closely situated to a popular tourist destination, but there is very low accessibility to the community itself. The community has no restaurant or bar; the food is solely provided by the farm cooperative itself. There is a local store in Roma, the neighboring community, which is an hour's walk away. The store sells a very limited number of items. Drinking water must be brought from El Valle to the community. Right now there is no tourist infrastructure. The project that would be developed would be very small-scale, so the facilities provided would be very primitive. The area offers various hiking trails.

- How would you prefer to get there?
  - Hike on the rocky path, 1 hour 15 minutes (medium difficulty)
  - Public transportation, 45 minutes (departures once daily costing \$1.50)
  - Private transportation, 40 minutes (\$15)
- How would you prefer to sleep?
  - Hammock
  - Concrete floor
  - Camping
  - Bed
  - Not stay overnight
- How much would you be willing to pay for your choice? \_\_\_\_\_
- How much would you be willing to pay for attractions such as:
  - Hike to a swimming hole \_\_\_\_\_
  - Hike to Roma \_\_\_\_\_
  - Hike along the main road \_\_\_\_\_
  - Partaking in farm activities \_\_\_\_\_
  - Touring the farm (including explanations of practices) \_\_\_\_\_
  - Learn about medicinal plants \_\_\_\_\_
  - Eating traditional meals \_\_\_\_\_
  - Learning about basket weaving and purchasing products \_\_\_\_\_

14) If you had the opportunity to go to the farm and enjoy the above activities, sleep, and eat there for one night, how much would you be willing to pay altogether as a package?

- \$15 and under
- \$16-25
- \$26-30
- \$31-35
- \$36 and above

15) What other activities would you suggest to add in the agro tourism project of El Macano?

#### Encuesta para turistas en El Valle

Gracias por participar en nuestra encuesta. Somos tres estudiantes universitarias trabajando en una pasantía en la región. Estamos estudiando el potencial de desarrollar agro turismo en El Macano, una comunidad que está a cinco Km. del Valle de Antón. Quisiéramos realizar un sondeo para determinar la demanda de turismo en ese lugar y para construir un perfil de los visitantes potenciales al lugar. En nuestro proyecto final, los resultados de la encuesta serán anónimos y usados solamente para la evaluación. Las repuestas servirán únicamente como fuentes de información y no van a afectar nuestras notas finales (ni van a afectar el hecho de desarrollar turismo en la comunidad), entonces por favor sean honestos.

- 7) ¿Cuál es su país de origen?
- 8) ¿Edad?
- 9) ¿Sexo?
- 10) ¿Es su primera vez visitando El Valle?
- 11) Si han respondido no a la pregunta 4, ¿cuántas veces ha visitado Ud. ese lugar?
- 12) ¿Con quién está viajando?

- Solo
- Familia
- Amigos
- En pareja

7) ¿Cuál fue su motivación principal para visitar El Valle? (Por favor, escoge una)

- Recreativo
- Negocios
- Visitando amigos y/o familia
- Educación, corto tiempo (menos de 1 año)
- Voluntario, corto tiempo (menos de 1 año)
- Otra \_\_\_\_\_

8) ¿Por cuánto tiempo está visitando El Valle?

- El día
- 2-4 días
- 5-10 días
- 11-20 días
- Más de 21 días

9) ¿Cómo se entero de este lugar? (Escoja uno por favor)

- Radio
- Televisión
- Periódico
- Revista
- Internet
- Folleto de viajes
- Guía de visita
- Por medio de otras personas

10) ¿Cuál fue su modo de transporte hasta El Valle? (Por favor, escoja una)

- Avión
- Carro personal/alquilado
- Bus de visitas/vehículo
- Taxi
- Otra, indique por favor \_\_\_\_\_

11) Por favor evalúe la importancia de las siguientes cosas cuando Ud. esta de viajes.  
1-4, 4 es la más importante.

- |   |         |
|---|---------|
| • Buen clima  | 1 2 3 4 |
| • Calidad del medio ambiente                                  | 1 2 3 4 |
| • Oportunidad de ver plantas y animales salvajes              | 1 2 3 4 |
| • Visitas a parques y otras áreas naturales                   | 1 2 3 4 |
| • Oportunidad de quedarse en áreas naturales                  | 1 2 3 4 |
| • Deseo de aprender sobre otras culturas                      | 1 2 3 4 |
| • Participar en eventos culturales o religiosos               | 1 2 3 4 |
| • Oportunidad de visitar una comunidad indígena o tradicional | 1 2 3 4 |
| • Oportunidad de compartir modos de vidas tradicionales       | 1 2 3 4 |
| • Oportunidad de compartir atracciones naturales y culturales | 1 2 3 4 |
| • Oportunidad para hacer deportes                             | 1 2 3 4 |
| • Buenos precios para buena calidad de servicios              | 1 2 3 4 |
| • Buen sistema local de transporte                            | 1 2 3 4 |
| • Recomendaciones de un amigo/libro                           | 1 2 3 4 |
| • Recursos para niños   | 1 2 3 4 |
| • Accesibilidad   | 1 2 3 4 |
| • Seguridad   | 1 2 3 4 |

15) Cuales actividades le gusta hacer cuando esta de viaje? (Puede escoger varias)

- Visitar poblaciones indígenas
- Montar en bicicleta

- Visitar pueblos pequeños
- Visitar parques nacionales
- Observar plantas y animales salvajes
- Nadar
- Senderismo
- Visitar sitios históricos
- Alpinismo
- Sitios culturales
- Asistir a representaciones de arte o de música (bailar, tam-tam, cantos, artesanía, etc.)

16) Scenario: El Macano es una pequeña comunidad que se caracteriza por su moda de vida tradicional agrícola. La comunidad se sitúa cerca de un destino turístico llamado El Valle de Anton, pero la accesibilidad de este sitio hasta la comunidad es muy mala. La comunidad no tiene ni un restaurante ni un bar; la comunidad cultiva toda la comida. Hay una pequeña tienda en Roma, una comunidad vecina, que queda a una hora del Macano. Se venden muy pocas cosas en esa tienda. Uno tiene que llevar su agua (para tomar) del Valle hasta la comunidad. Ahora mismo no hay ninguna infraestructura turística. El proyecto estaría desarrollado en una escala muy pequeña, entonces las instalaciones que tendría serían muy primitivas. El área ofrece varios senderos para pasear y caminar.

17) ¿De qué manera preferiría Ud. llegar hasta allá?

- Caminar por un camino rocoso, 1 hora 15 minutos (de medio dificultad)
- Transporte público, 45 minutos (salidas una vez al día costando \$1.50)
- Transporte privado, 40 minutos (\$15)
- ¿Cómo preferiría Ud. dormir?
  - Hamaca
  - Suelo
  - Camping
  - Cama
  - No quedarse la noche
- ¿Cuánto pagaría Ud.? \_\_\_\_\_
- ¿Cuánto pagaría por las siguientes atracciones?:
  - Caminata hasta un lugar para bañarse \_\_\_\_\_
  - Caminata hasta Roma \_\_\_\_\_
  - Caminata por el camino principal \_\_\_\_\_
  - Participando en las actividades de la granja \_\_\_\_\_
  - Hacer una visita de la granja (incluyendo explicaciones de las actividades) \_\_\_\_\_
  - Aprender sobre las plantas medicinales \_\_\_\_\_

- Comer comida tradicional \_\_\_\_\_
- Aprender sobre la artesanía y comprar los productos \_\_\_\_\_

18) Si tuviera la oportunidad de visitar la granja y disfrutar de las actividades mencionadas arriba, dormir y tener la comida allá por una noche, ¿cuánto pagaría para todo en total?

- \$15 o menos
- \$16-25
- \$26-30
- \$31-35
- \$36 o más

16) ¿Cuáles actividades sugeriría Ud. desarrollar en la granja para mejorar el turismo?

Survey potential visitors (backpacker)

We are three McGill students doing a field semester in Panama. Part of this program is to conduct a study for our internship. Our project is to assess agro tourism in a small community called El Macano. We would like to conduct a survey to determine the demand and construct a profile of the potential visitors to the area. We are abiding by the McGill code of ethics in conducting the survey. The results of the survey that will be used in our final product will be anonymous and will only be used for the purpose of our assessment. The answers will be used for informational purposes only and have no bearing on our grades (or on whether or not tourism will be developed in the area), so please be as honest as possible.

13) What is your country of origin?

14) Age?

15) Gender?

16) When were you last traveling (outside of your country of residence)?

17) Where were you last traveling (outside of your country of residence)?

a. How long were you traveling for?

b. With whom? (friends, family, etc.)

c. What were your main purposes of travel? (You may pick multiple reasons)

1. Education
2. Leisure
3. Business
4. Volunteering
5. Visiting family and friends
6. Other

18) When traveling, which kind of housing do you stay in?

1. Camping

2. Dorm room/Hostel
3. Private room/Hostel
4. Hotel (High end)
5. Hotel (Low end)
6. Other

19) Please rate how important each of the following things are to you when traveling.

1-4, 4 being the most important.

- Good weather conditions  
1 2 3 4
- Quality of natural scenery & landscapes/environment  
1 2 3 4
- Opportunity to see wildlife  
1 2 3 4
- Visits to parks and other pristine natural areas  
1 2 3 4
- Opportunity to stay in pristine natural environment  
1 2 3 4
- Desire to learn about other cultures, their ways of life & heritage  
1 2 3 4
- Participation in major cultural or religious events  
1 2 3 4
- Opportunity to visit an indigenous or traditional community  
1 2 3 4
- Opportunities to experience traditional ways of life  
1 2 3 4
- Opportunities for learning about and experiencing natural and cultural attractions  
1 2 3 4
- Opportunities for adventure/sports activities  
1 2 3 4
- Good prices for quality received  
1 2 3 4
- Good local transportation system  
1 2 3 4
- Recommendations from a friend/book  
1 2 3 4
- Facilities for children  
1 2 3 4
- Accessibility  
1 2 3 4
- Safety  
1 2 3 4

20) What activities do you like to do when you travel? (you may pick multiple)

- Biking
- Visiting indigenous populations
- Visiting small towns or villages
- Visiting national parks
- Wildlife viewing
- Swimming
- Hiking/trekking
- Visiting historical sights
- Climbing
- Cultural heritage sights
- Attending art or music performances (i.e. dancing, drumming, singing, craft demonstrations)

21) Scenario: If you were to visit a rural community for your next vacation, how much money would you be willing to spend on the following things? El Macano is a small community characterized by traditional agricultural lifestyle. The community is closely situated to a popular tourist destination, but there is very low accessibility to the community itself. The community has no restaurant or bar; the food is solely provided by the farm cooperative itself. There is a local store in Roma, the neighboring community, which is an hour's walk away. The store sells a very limited number of items. Drinking water must be brought from El Valle to the community. Right now there is no tourist infrastructure. The project that would be developed would be very small-scale, so the facilities provided would be very primitive. The area offers various hiking trails.

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  - Private transportation, 40 minutes (\$15)
- How would you prefer to sleep?
  - Hammock
  - Concrete floor
  - Camping
  - Bed
  - Not stay overnight
- How much would you be willing to pay for your choice? \_\_\_\_\_
- How much would you be willing to pay for attractions such as:
  - Hike to a swimming hole \_\_\_\_\_
  - Hike to Roma \_\_\_\_\_

- Hike along the main road \_\_\_\_\_
- Partaking in farm activities \_\_\_\_\_
- Touring the farm (including explanations of practices) \_\_\_\_\_
- Learn about medicinal plants \_\_\_\_\_
- Eating traditional meals (one meal) \_\_\_\_\_
- Learning about basket weaving and purchasing products \_\_\_\_\_

22) If you had the opportunity to go to the farm and enjoy the above activities, sleep, and eat there for one night, how much would you be willing to pay altogether as a package?

1. \$15 and under
2. \$16-25
3. \$26-30
4. \$31-35
5. \$36 and above

23) What other activities would you suggest to add in the agro tourism project of El Macano?