



Alberta Native Friendship Centres Association

Alternative Food Production and Institutional Sustainability Project

FINAL REPORT

Submitted: June 23, 2006





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Part 1: Final Narrative Report



SECTION A: Background and Objectives

1. Background and Rationale:

The initial idea for this project came about by way of a visit by an ANFCA staff member to Guatemala in April 2005. During this visit the Executive Committee of the local Guatemalan NGO, Asociación para el Desarrollo Integral de Multi-servicios (ADIM) expressed their need to improve their sustainability so that they may better serve their members. Upon returning to Canada the ANFCA staff member discussed the possibilities of initiating an international partnership with members of the ANFCA. Faced with this exciting possibility the ANFCA began a dialogue with ADIM in order to develop a project idea and later to develop a concept paper for the Indigenous Peoples Partnership Program. The ANFCA staff member who originally met with ADIM in June 2005 has over two years of experience working with ADIM, which has helped in developing a relationship between the two organizations.

The Latin American partner for the project, ADIM, represents recently resettled internally displaced refugees that are known as the CPR - Sierra (Comunidades de Población en Resistencia de la Sierra). During the 36-year armed conflict in Guatemala, the CPR - Sierra communities made up a portion of the approximate one million displaced refugees that fled the violence that accompanied the Guatemalan government's counter-insurgency campaign. After the signing of the Peace Accords in 1996, the CPR – Sierra communities began a process of resettlement, in which even the most basic services needed to be developed, including sanitation, basic health services, education, and many others. In 2001, ADIM, which is translated as the Association for the Integral Development of Multi-services, was incorporated and began to administrate projects for the resettled communities. To date, they have implemented CIDA funded projects focused on primary health care as well as human rights and reconciliation, along with many other projects from a variety of funding agencies including the Canada Fund for Local Initiatives (CFLI) from the Canadian Embassy in Guatemala.

The rationale for this project is based on the needs of the rural communities that make up ADIM as well as the capacity of the ANFCA to play a meaningful role in assisting ADIM in their attempt to become more sustainable. The ANFCA plays an important role in assisting Friendship Centres throughout the province of Alberta with governance and management support. This experience will lend itself easily to governance and management support for ADIM. Furthermore, the provincial scope of the ANFCA will allow it to facilitate a process of professional development for Aboriginal youth to a large audience. As the ANFCA is committed to Aboriginal youth development, this project represents an excellent opportunity for youth to explore career possibilities in the social services sector as well as the international development sector.

In all, this initiative represents the ANFCA's first attempt to expand its partnerships beyond Canada. The ANFCA would like to learn from experiences abroad and to share the experiences of Albertan Aboriginals with Indigenous organizations throughout the Americas and the world.

2. Goals and Objectives:

The Concept Paper that was prepared for the IPPP focused on fish and rabbit farming as the main activity associated with the project. However, a few months before the visit by ANFCA representatives to Guatemala in February 2006, the Executive Committee of ADIM expressed



their desire to shift the focus of the project from fish and rabbits production to chicken production. As a result, this changed the focus of each of the studies that were to be done during this visit by ANFCA representatives to Guatemala. The goal of the project remains the same, but the objectives were altered slightly as a result of this decision.

Goal

The initial visit allows the partners to meet, permitting ANFCA's representatives to determine the applicability and feasibility of the project in the Guatemalan context by way of three studies.

Objectives

- a. Feasibility and Environmental Impact Study: This study includes the identification of the appropriate type of poultry as well as the process for commercially producing the animal for consumers. Also the study identifies methods for disease prevention, water quality, sanitation and effluent management. These methods should ensure the environmental sustainability of the project. The results of this study will assist in developing detailed plans to prepare the project proposal that will be submitted to the IPPP.
- b. Market Study: This study includes an analysis of the local demand for poultry products as well as identifying methods for meeting this demand. Also, a reference guide will be produced based on the findings of the study and be used during the entire income generation component of the project. The results of this study will assist in developing detailed plans to prepare the project proposal that will be submitted to the IPPP.
- c. Women's Forum: This forum is hosted in order to identify the ways in which animal husbandry projects could be implemented at the community level and under the management of community-based Women's Committees. The final report on the results of the forum should detail the types of training required in order to implement animal husbandry projects within rural communities.

Once the implementation of these activities is complete, ADIM and the ANFCA will work together in order to prepare the proposal for this project. This project will contribute to the long-term impacts of this initiative, which are the institutional strengthening of ADIM that will provide them with the necessary developmental tools to better serve their communities. Moreover, this will allow the displaced Indigenous communities to have greater access to a variety of nutrients and generate a self-sustainable source of income.

3. Expected Results:

Outputs

1. Increased familiarity by the local partner with Canadian Aboriginal planning and management expertise
2. Increased interest and understanding by the Canadian partner of development issues faced by Indigenous populations in other areas of the world
3. Increased understanding of the local context by organizing a Women's Forum, planning a market study and assessing potential environmental impacts
4. A project proposal, expected to be submitted to the IPPP for additional funding will be prepared following the evaluation of local dynamics



Outcomes

1. Increased potential for the local population to generate income through animal husbandry within their rural communities
2. Stronger institutional capacity within the partner organization ADIM
3. Greater participation of women in the local community affairs
4. Expanded awareness of Indigenous and international development issues and understanding of the Canadian Aboriginal and Guatemalan Indigenous cultures among youth in both participating communities

Impacts

1. Reduced malnutrition among Indigenous Guatemalan communities and establishment of a self-sustaining solution to poverty reduction



SECTION B: Summary Description of Project

1. Management of the Project:

Hiring of Consultants

There were a total of four consultants that led the project activities.

Feasibility and Environmental Impact Study:

The original plan included hiring one consultant to focus on the environmental impact study; however it was possible to find two consultants for the same cost. As a result, it was decided to include a component of the study that would address the feasibility of the project, which would include a description of the production process for broiler chickens. The two consultants that were hired are:

Reyes David Rodriguez Escobedo – Agronomist (student)
Brayne Maldonado – Agronomist

These consultants were hired because of their familiarity with the history of the Ixil region and their technical skills with respect to animal husbandry. Reyes David Rodriguez Escobedo currently runs his own broiler chicken facility near his home in the department of Huehuetenango.

Market Study:

This study was prepared by Edwin Omar De Leon. He has over 10 years of managerial experience in the marketing sector in Guatemala. He provided the technical expertise to design the interview questions for the study and oversaw the interview process with the participation of a group of ADIM's members. Furthermore, he was responsible for compiling the data, analyzing it and providing recommendations.

Women's Forum: (Study relating to the Empowerment of Women's Committees)

It was originally thought that the Women's Forum would take place in late 2005, but this was not possible because of funding delays. As a result, ADIM was no longer capable of providing staff members to host the Forum and to prepare the final report. In response, the spouse of an ANFCA staff member volunteered to organize and host the Women's Forum during a trip that had been previously planned to Guatemala. She also prepared the final report for the Women's Forum. Her name is Swamy Denisse De Leon Contreras. She has experience working with women's groups as she was the chief psychologist for the Ixil region for almost two years in 2004 and 2005. She proved to be an excellent resource person for this project.

Transfer of Funds

The ANFCA was responsible for administering all the funds for this feasibility study project. For the two consultants hired for the project, funds were wired directly to their account by way of a currency exchange company in Edmonton named Custom House.

The funds used for the Women's Forum were provided to the Volunteer Consultant, Swamy Denisse De Leon Contreras, using traveller's cheques. She was responsible for completing a financial report that included the currency exchange amounts.



The travel funds were provided to the ANFCA representatives in accordance with the ANFCA's travel expense policies which coincide with CIDA's regulations.

Visit of ANFCA Representatives to Guatemala

The visit by ANFCA representatives to Guatemala occurred between the 10th and 24th of February, 2006. The period spent in the Ixil region was from 12th to the 22nd of February. The two ANFCA representatives who visited Guatemala are:

Alvaro Loyola – Programs Manager for the ANFCA
Elena Jacobs – National Youth Representative for the ANFCA



Other than meeting the members of ADIM, which was the main objective of this visit, the ANFCA representatives used this opportunity to gather housing and cost of living data in order to plan for the arrival of two Aboriginal youth that will accompany the project once it begins. Both representatives had an opportunity to oversee the implementation of all the activities of project.

2. Description of Project Activities:

The activities for this project are divided into four separate studies each of which had its own activities to complete.

Feasibility and Environmental Impact Study

The main goal of this study was to identify the activities necessary for the feasibility and sustainability of a broiler chicken production facility. This included two main objectives for the study, the first being to provide a design of a broiler chicken production system that was appropriate to the resources currently held by ADIM. The second main objective was to identify the activities needed to ensure that operation of the broiler chicken production facility will not result in any negative consequences upon the environment.

Specifically, the study was to provide detailed information with respect to the following:

- a. the design of a broiler chicken production facility
- b. the costs associated with the construction of the broiler chicken production facility
- c. a framework for the proper operation of the broiler chicken production facility
- d. a description of the land where the facility is to be built
- e. identifying possible impacts on the local environment as well as mitigating measures

The consultants were asked to have their field work to coincide with the visit of the ANFCA representatives to the region, which was between the 12th and 22 of February, 2006. The consultants were then given until March 24th to submit their final report to the ANFCA.



Market Study

The goal of the study was to design a marketing strategy for the product that is to be produced by ADIM. The study was to take into account the costs associated with the commercialization of the product and the potential revenue that could come about by commercializing the product within the local market. Furthermore, the study is to act as a reference guide once the project begins.

The study was to implement the following activities:

- a. a survey within the local area in order to determine the demand for the product that will be placed on the market
- b. determine the existing products within the local market and the characteristics of the products
- c. identify the competitors within the local market and their characteristics
- d. determine the competitive price for the product as well as the consumer perception of the price
- e. identify the potential revenue based on the potential productive capacity
- f. identify the logistical concerns related to bringing the product to market including the costs related to the retail sale of the product
- g. develop a marketing plan for the sale of the broiler chickens

The consultant was to conduct the field work between the 12th and 22nd of February, 2006. The consultant was given until March 24th to submit the final report to the ANFCA.

Women's Forum: Study relating to the Empowerment of Women's Committees

The main goal of this study was to develop a plan for implementing community-based projects in coordination with the women's committees of each of the communities that ADIM represents. The objectives of this study were to better understand the context in which women's committees operate in their communities and to better understand the types of projects they consider to be most suitable in the communities. It is expected that the results of this study will help improve the capacity of in-community food production.

The study was to implement the following activities:

- a. identify the current issues facing women in their communities
- b. work with the women's committee representatives to identify a list of food security priorities for each community
- c. develop a project plan based on the food security priorities of each community
- d. develop an implementation strategy for each community that takes into account the role of women's committees as well as the types of training that will be required
- e. develop an evaluation plan for each community-based project, which identifies the role of the women's committees and ADIM

The forum was to include the participation of two representatives from the women's committee of each community that ADIM represents. The forum was held in the offices of ADIM-CPR Sierra in the Municipality of Nebaj. The volunteer consultant hosted the Women's Forum between the 16th and 19th of February, 2006. She was given until March 24th to submit the final report to the ANFCA.



3. Results of each Study:

Instead of translating each study from Spanish to English, the main highlights of each study have been summarized below in English. Completing the report in this way has allowed for additional research to be done on broiler chicken facilities in North America, which has helped translate some of the technical aspects of the study. Also, the review of broiler chicken production literature has assisted in identifying gaps in some of the studies, which will assist in strengthening project proposal for this project.

Feasibility Study

a. Introduction

The concept paper for this project presented the idea of developing fish and rabbit farms for both commercial purposes as well as for production in rural communities. However, as time passed the Executive Committee members of ADIM began to consult with their communities and identified that there are a diverse set of needs amongst communities. Furthermore, they began to see that the benefits of poultry farming began to outweigh the benefits of fish and rabbit farming. Specifically, they anticipated a large learning curve with respect to fish and rabbit care methods; a learning curve which does not exist for the raising of chickens. Before conducting the visit to the area in February 2006, the Executive Committee members had made the decision to focus the project on chicken production.

Within Guatemala, the poultry industry is one of the most important within the national economy; however within, the Ixil Region, commercial poultry production does not exist to any measurable degree. Currently, the area is dependent on poultry from outside the region in order to meet local demand. As a result, prices of chicken are inflated and the quality of the product is not responsive to the needs of consumers within the local market.

Based on the climatic conditions of the local area as well as the appropriate farm conditions provided by the local association, the consultant believes that this project is feasible. In his opinion, a broiler chicken production facility would provide ADIM with a consistent revenue source that could support them in their efforts to become more sustainable. Also, the revenue from the sale of chickens in the local market can provide the resources necessary to support community-based projects.

b. Type of Chickens to be Commercially Produced

During the initial visit between the consultant, the representatives of ADIM and the ANFCA, two options for chicken production were considered. The first option was free-range chicken production and the second was broiler chicken production. The first option was not considered to be a feasible option because it does not generate revenue fast enough to meet the needs of ADIM. Although free-range chickens have a higher market value the production time is much longer than broiler chickens and this would lead to significant delays in the project. However, the free-range chicken is considered to be the best type of chicken for community-based projects.

It was decided that the second option was the most appropriate chicken to produce based on its potential to generate revenue. Also, it is possible to produce these types of chickens in less space than what is required for free-range chickens.



Broiler Chickens are produced specifically for their meat, as opposed to chickens bred for egg production. This type of chicken is characterized by its relatively short and intensive production cycle. Today's commercial broiler chickens are marketed between 4-10 weeks depending on the body weight that is desired.¹ Furthermore, these chickens can be produced in small pens, which demand less land for production. As the production time is shorter, these types of chickens demand less resources during production and can be sold at a lower price than other meat products.



In Guatemala, small broiler chicken farm operations are commonly used as income generation tools for many families and small businesses. The consultant informed us that he has his own broiler chicken facility near his home in the department of Huehuetenango and that it has proven to be a dependable source of revenue.

c. Production Process

What follows is a basic introduction to the production cycle of broiler chickens. What is being proposed by the consultant is a medium size facility based on North American standards. Many similarities can be drawn between a Home Broiler Production Facility and what is being proposed by the consultant. The steps outlined below represent the most important stages throughout the production cycle, but do not mention each activity in the production cycle.

Purchasing Chicks

Within Guatemala there are a number of chick suppliers who will deliver chicks to the production facilities. Chicks can be purchased with or without vaccinations depending on the age desired. It is recommended that the vaccinated chicks are purchased when first commencing production activities.

Preparation and Brooding

This step in the production process refers to the care given to chicks when they first arrive to the production facilities at a very young age. Once the chicks arrive the project staff must place the young chicks into a brooding house. The brooding house is a highly controlled facility with specific attention given to temperature. Special heat lamps are used to provide heat to young chicks. Over a period of 3-4 weeks the temperature is lowered, acclimatizing chicks to the local environment.

Feeding

Light is provided to the broiler chicken 24 hours per day, both natural and artificial. This allows the chickens to feed at all times in order to maximize weight gain. For optimal weight gain it is necessary to use a high quality broiler chicken feed, which can be purchased by the chick supplier. Water is also provided to the growing broiler chickens using special watering devices.

Monitoring Broiler Chicken Health

Proper ventilation throughout the growth cycle is of utmost importance. The chick pens must be built to allow for controllable air flow so as to reduce exposure to ammonia and other harmful airborne irritants. Constant monitoring of chicken appearance and behaviour is important in

¹ University of Florida, The Home Broiler Chicken Flock (<http://edis.ifas.ufl.edu/pdffiles/PS/PS03500.PDF>)



order to detect illness amongst chickens. The main failure that can effect chicken production is mortality, caused principally by respiratory and digestive illnesses. The main causes of such illness are directly related to the over-crowding of the pen, temperatures, humidity, and ventilation. Furthermore, the sanitary conditions of the chicken pens are of utmost important; the failure to keep pens clean could result in illness.

Processing for Sale

The final stage in the production cycle is to prepare chickens for sale. Before slaughter it is necessary to stop feeding chickens at least 6 six hours before. If selling chickens before slaughter it is important to inform the purchaser of when the last feeding took place.

d. Construction

Construction of the production facility includes the construction of four chicken pens, one storage room, and one composting centre for chicken mortality. The land currently held by ADIM is sufficient for the construction of the entire facility. Each chicken pen must be large enough to accommodate 1000 mature chickens. Each chicken should have 0.1 m² of floor space in order to develop.

$$\text{Total area for chicken pen} = 0.10 \text{ m}^2 \times 1000 \text{ chickens} = 100 \text{ m}^2$$

Dimensions for the chicken pen need to be 14 m x 8 m, allowing for 112 m². This project will need to build 4 chicken pens.

Floors: Cement floors will be used in each chicken pen. This will ensure that each pen can be easily cleaned after a production cycle.

Litter: This refers to the bedding material that will be placed over top of the cement floors that will make it comfortable for the broiler chickens to walk on. It is important that the material that is used for litter is dry, free from bacteria, absorbing, and non-toxic. The litter should have a depth of between 2-4 inches. Appropriate litter material can consist of wood shavings, rice hulls, soy bean hulls, barley hulls, chopped straw, and sawdust.

Walls: The ideal height for the walls is 2.5 m. The first fifty centimetres off the ground of three of the walls should consist of cinder blocks. On top of this should be a chain link fence. Covering three walls, on the outer side of the pen, should be a tarp that can be raised and lowered in order to control air flow and to maintain controlled temperatures. One wall of the pen should be made out of cement blocks in order to provide a large amount of shade within the pen.

Roof: The roof of each pen should be made using galvanized zinc roofing. Eaves gutters should also be added to the roof in order to control rain water. The roof of each pen along with all exposed cement should be painted white in order to reduce heat transfer from sunlight. ADIM is examining the possibility to use solar panels on the roofs of each pen for powering lights.

Separation of each chicken pen: Each pen should be separated by at least 8 meters in order to reduce the transfer of contaminate illnesses. It is possible that a barrier can be built between pens in order to reduce the risk of contamination between pens.



e. Equipment

The main equipment used for broiler chicken facilities is as follows: feeders, watering devices, lighting, chick guards, fans, tarps, thermometer, weighing scales, and disinfecting equipment.

f. Operations

The production cycle will be staggered allowing for three active chickens pens with one always resting. The chart that follows details the production cycle using 15 day intervals to show how each chicken pen rests for 15 days after a 45 day production cycle.

		Chicken Pen			
		1	2	3	4
Days	0 (chicks arrive)	0	0	0	0
	15	0 (chicks arrive)	0	0	0
	30	15	0 (chicks arrive)	0	0
	45 (sale)	30	15	0 (chicks arrive)	0
	0 (chicks arrive)	45 (sale)	30	15	0 (chicks arrive)
	15	0 (chicks arrive)	45 (sale)	30	15
	30	15	0 (chicks arrive)	45 (sale)	30

This chart assumes that all the chickens in each chicken pen will be sold on the 45th day of the production cycle. It is possible to increase or decrease the production cycle depending on consumer demand. Using this method the production facility will have the capacity to bring 1000 broiler chickens to market every fifteen days.

g. Production Costs and Potential Revenue

In order to determine costs for construction, the consultants visited local suppliers and construction workers. All the prices that are outlined below were provided in Quetzals and an approximate exchange rate (Q6 ~ \$1) is used to provide estimates in Canadian dollars.

Also, it is important to highlight that the construction costs for a composting centre have not yet been included because a design is still forthcoming. However, this is a fixed cost that will not affect the operating revenue of the facility. What follows are the approximate costs and revenues that the facility can provide.

Construction costs per chicken pen are as follows:

Number	Budget Item	Total Cost in Quetzals	Total Cost in Canadian Dollars (Q6 ~ \$1)
1	Materials	Q10,482.00	\$1,747.00
2	Equipment	Q3,025.00	\$504.17
3	Labour	Q1,050.00	\$175.00
TOTAL		Q14,557.00	\$2,426.17



The cost of 4 chicken pens: \$2,426.17 x 4 chicken pens = \$9,704.68

It will also be necessary to build a Storage Facility for feed and equipment. These costs are detailed below:

Number	Budget Item	Total Cost in Quetzals	Total Cost in Canadian Dollars (Q6 ~ \$1)
1	Materials	Q20,365.00	\$3,394.17
2	Labour	Q9,000.00	\$1,500.00
TOTAL		Q29,365.00	\$4,894.17

The general costs of operating the broiler chicken facility are as follows: (per 1000 chickens)

Number	Budget Item	Total Cost in Quetzals	Total Cost in Canadian Dollars (Q6 ~ \$1)
1	One-day old chicks	Q4,000.00	\$666.67
2	Chicken feed	Q9,100.00	\$1,516.67
3	Maintenance and Sanitation	Q1,000.00	\$166.67
TOTAL		Q14,100.00	\$2,350.00

Potential revenue can be calculated assuming that each of the 1000 chickens per chicken pen can be sold alive (pre-slaughter) at a price of Q35. This is a very modest estimate; it is possible that the price may rise depending on consumer demand. The production of each pen can potentially create Q35,000 of revenue (\$5,834.00). Each chicken pen will be able to bring 1000 chickens to market every 15 days.

Initial Investment

Chicken Pens	= \$9,704.68
Storage Facility	= \$4,894.17
3 Production Cycles	= \$7,050.00
TOTAL	= \$21,648.85

Note: The costs of the composting centre are not included.

Revenue

Each Production Cycle = \$5,834.00 (based on 1000 chickens at Q35 each)

Both the estimate of revenues and operating costs assume that 1000 chickens will be produced. These estimates do not consider the effects of chicken mortality and varying production amounts. The purpose of this section is to describe the potential revenue of the production facility based on its full capacity.

Overall, the estimated costs and revenues show that the broiler chicken production facility is a viable option for income generation. If the pens are to produce at maximum capacity, production costs per cycle are only half of the potential revenue per cycle.



h. Conclusion

This study successfully achieved its goals and objectives. It provides a detailed plan for the design of the broiler chicken production facility as well as identifying the costs associated with the construction of the facility. The study also includes a guide for the proper operation of the facility. Within the study the consultant has included a week-by-week plan for operation of the facility as well as templates for the monitoring of chicken growth, illness and mortality.

Based on the results of the study it is clear that this project is feasible. The production of broiler chickens can provide sufficient revenue to provide ADIM with a sustainable revenue source which can be used to support community-based projects within the rural communities of ADIM. The land that is currently held by ADIM is enough to construct the production facility and to operate it successfully.

Although the facility described is much smaller than the commercial operations that are common in North America, there are many similarities between experiences in Canada and in Guatemala. It is important that the ANFCA seek a partnership with the Government of Alberta and the University of Alberta in order to better understand the broiler chicken industry, the production process and best practices. The support of these partners will provide the technical expertise necessary in order to ensure that the production facility is efficient and that the facility can produce a quality product.

One of the most important factors that was not considered when preparing this study was the building of a composting centre for broiler chicken mortality; as it was assumed that chicken mortality would be disposed of by burial. After reviewing production processes in North America, specifically within Alberta, composting of chicken mortality is considered to be a viable option for disposing of chicken mortality.² The benefits of this disposal method greatly outweigh the burial option. Composting of broiler chicken mortality can provide an excellent fertilizer that can become another source of income for ADIM. This option will be examined further in the Environmental Impact Study.

² Government of Alberta – AFRD ([http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/agdex8526?opendocument](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex8526?opendocument))

Environmental Impact Study

a. Introduction

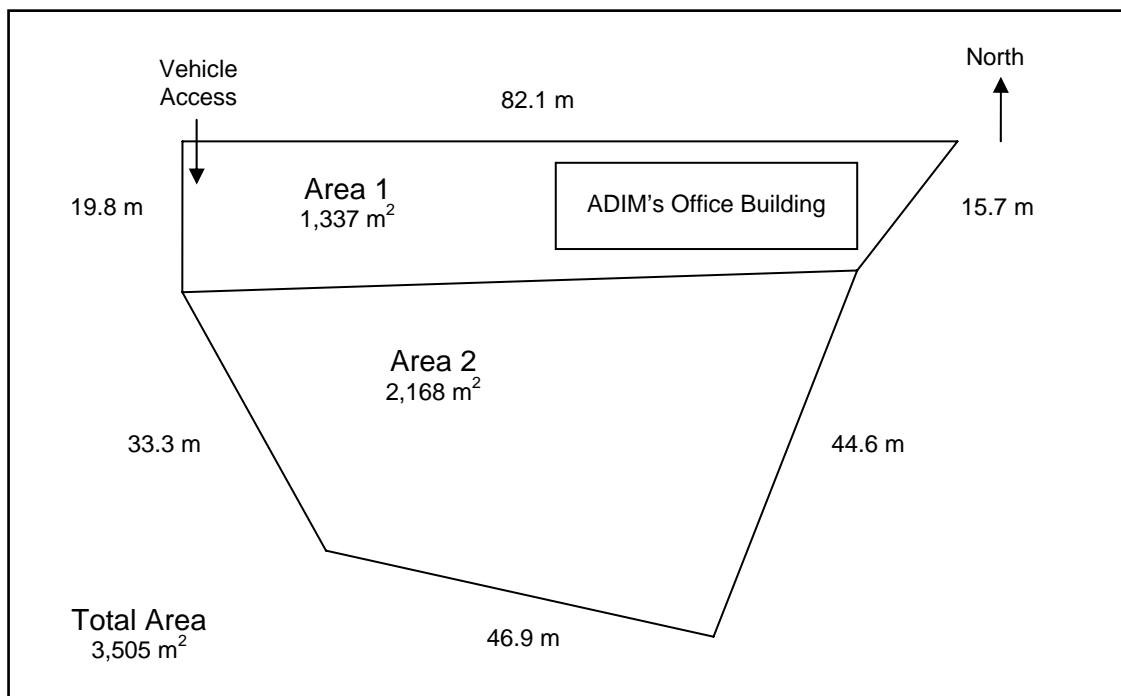
The Environmental Impact Study makes use of a reference guide provided by the Canadian International Development Agency (CIDA) named the Handbook on Environmental Assessment of Non-Governmental Organizations and Institutions Programs and Projects. A checklist for identifying environmental effects was also used in order to prepare the outline of the study. The outline required that the consultant focus on three main aspects of the proposed project:

- possible consequence on the local environment
- stakeholder opinions
- methods for mitigating environmental impact

The consultant for this study worked very closely with the consultant for the Feasibility Study in order to determine the type of poultry production facility should be built. Once this had been decided the consultant visited ADIM's plot of land. In the opinion of the consultant the land that is currently available is sufficient for the construction of the broiler chicken facility. Based on the desired size of the production facility it is possible to build a facility that can house 3000 chickens at one given time.

b. Land Uses and Existing Infrastructure

The total land that is currently held by ADIM is 3,505 m² in area. This area is divided into two smaller portions, the first being 1,337 m² is reserved for the office building of ADIM. The second portion is 2,168 m² and is the land that will be dedicated to the broiler chicken production facility. The following plan shows the dimensions of the property:





Surrounding ADIM's land is the following:

North: The land to the north of the property belongs to the Municipality. Within 10 meters is a new gymnasium that is used for cultural and sporting events. Within 200 meters to the Northwest is a soccer field. Within 200 meters to the Northeast is a secondary school. As the land is sloped in the area was sloped, all the land to the north is approximately 2 meters higher in elevation than the land identified as Area 1.

East: The land to the east of the property belongs to Marcos Caba Caba. This is privately owned, but is currently inactive. There are no streams or water sources in the area. The property is fenced off.

South: The land to the south of the property belongs to Maria Mendoza Mendez. This is privately owned, but is currently inactive. There are no streams or water sources in the area. The property is fenced off. ADIM is currently in negotiation with the owner in order to purchase this land from her. To date, they have not reached an agreement.

West: The land to the west of the property belongs to *Asociación Chajulense* a local cooperative. Their land is currently inactive; however the property is fenced off. There are no streams or water sources in the area.

Currently, the ADIM's land is only used for the office building of ADIM. When the land was purchased the entire area was sloped downwards from north to south. Shortly after the purchase of the property in 2004, ADIM levelled Area 1 in order to commence construction of their office building.



Water Access: The office building does have water access. The water line, which originates in the town centre, connects to a nearby school which subsequently reaches the office building of ADIM.

Electrical Service: Currently, the office building does not have electrical service. However, electrical posts are located within 200 meters of the office building. ADIM is currently negotiating with the municipality in order to service the office building. However, ADIM has also contacted a long-time partner, *Fundación Solar*, in order to examine the possibility of powering the entire facility using solar power.

Telephone Service: Telephone service is wireless. Executive Committee members have access to portable cellular phones and the office building is equipped with a stationary cellular phone designed for offices. The office does not have access to fax or internet service.



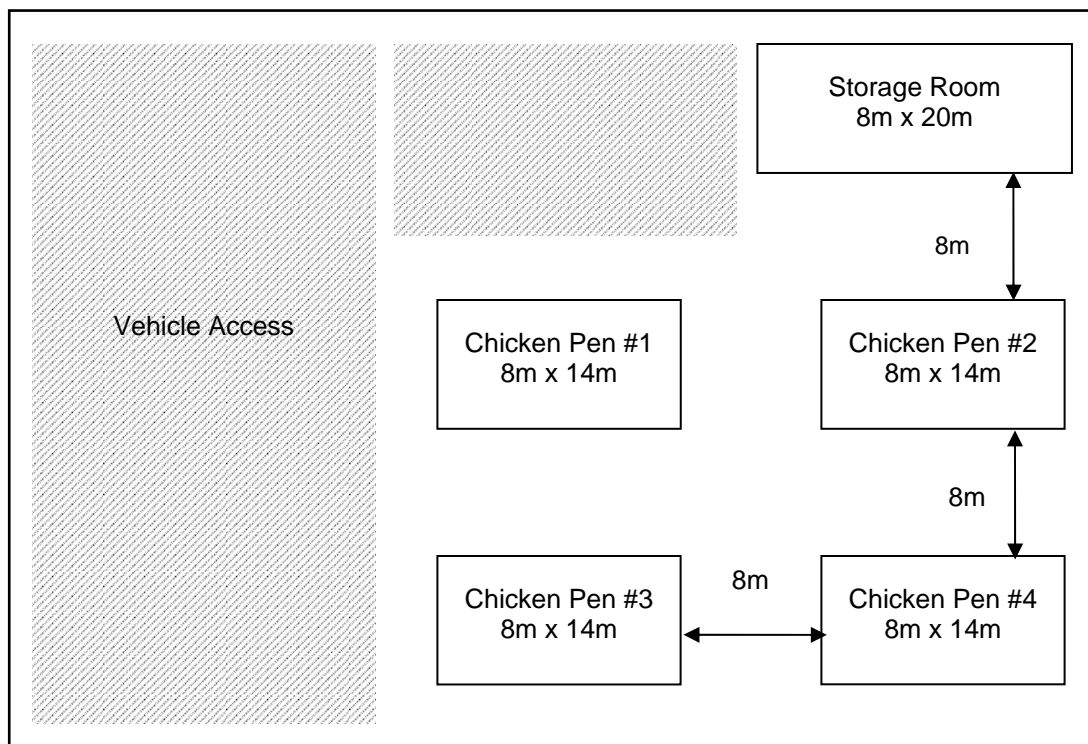
The area identified as Area 2, is currently being used for grazing by horses and mules of community members who are passing through the town. The land is not specifically reserved for this purpose, but will be used this way until operations begin. This area has not been levelled so it remains sloped. A further description of this area is provided below.

c. Size of the Production Facility

The total area allotted to the production facility is 2,168 m². The production facility must provide space for each of the following items:

- 4 chickens pens spaced 8 meters apart
- 1 storage room
- vehicle access
- composting centre for broiler chicken mortality
- drainage/sewage system

Each chicken pen will be 112 m², being 8m by 14m. Each pen should be at least 8m apart. The following plan shows a rough design of the production facility:



Based on the land currently available there is not enough land to build a composting centre for broiler chicken mortality. In response, ADIM has already begun negotiating with the owners of adjacent land in order to purchase it. This land could provide ADIM with approximately 3,500 m² of additional land.

It will also be necessary to design a drainage/sewage system for the facility. As a number of cleaning products will be used to disinfect pens during the resting phases, a proper system needs to be developed in order to manage this waste. The costs of this have not been accounted for.

The area designated to vehicle access will also need to be paved, the cost of which has not been taken into account.



d. Landscape Description

The climate of the Ixil region varies as the municipality has many micro-climates. Relative humidity in the region is between 70% and 80%. Annual rain fall is between 200 and 300 centimetres. The average annual temperature is approximately 19° C.



As previously stated there is no infrastructure present in Area 2. The area contains a total of 17 trees that have only recently begun to grow. There are differing varieties: pine, cypress and evergreen. Also, there a number of small bushes throughout the area. All of this vegetation will be removed for the construction of the facility. However, many trees will be planted between Area 1 and 2 in order to reduce noise and odour from the facility. There are no water sources within this area or close to the area that could be affected by the facility.

e. Site Preparation Activities – Changes to Landscape

Before commencing the construction of the facility it will be necessary to first level the area. Clearly, this will require the use of heavy machinery. ADIM will be responsible for negotiating with the town council in order to have Area 2 levelled. A drainage system will also need to be installed, which will also alter the landscape.

f. Analysis of Environmental Effects and Their Significance

Air Quality

The air quality within the area will be negatively impacted by the operation of the broiler chicken facility. The litter that is used to cover the floor of the chicken pens accumulates manure during the chicken life-cycle, which increases the level of ammonia, dust, and micro-organisms in the air. Proper ventilation can mitigate the impact of poor air quality on chickens, but the facility will produce foul odours that can disturb neighbours. This is the most significant effect that the project will have on the local environment.

Water

As there are no water sources within the property or close to the property, it can be ensured that this project will not have any effect on water sources within the area. However, it is possible that the use of cleaning products for the chicken pens can have an effect on ground water. Currently, the property does not have a drainage system in place. This represents a significant risk to the project, because of the potential impact on adjacent property and its users.

Noise

The production facility will not create any major noise problems; however the chickens will create noise within their pens. This noise is common in the area so it is not expected to disturb neighbours. Transportation of chickens to and from the facility will increase automobile traffic around the area, but is not expected to cause a disturbance to neighbours. This does not represent a significant impact on the environment.



Soil

The levelling of land in Area 2 will remove a significant amount of top soil from the area. Also, the installation of a drainage system will have an impact on the soil in the area. The construction of concrete chicken pens as well as the paving of a vehicle access entrance will result in water run-off, which will also have an impact on the soil in the area. Despite these impacts their significance is minor relative to the benefits of the poultry facility.



Vegetation

As mentioned previously, the existing vegetation in Area 2 will be removed completely to provide the space necessary for the construction of the facility. The significance of this is minor, because the vegetation does not serve any important productive purpose at the moment.

Waste

There are two main waste issues associated with the operation of a broiler chicken farm. Both relate to chicken mortality during the production process, but the first has to do with the response to mass illness within a flock. Illness amongst poultry is quite common and can affect an entire flock, which in some cases can require the destruction of an entire flock. This can be a significant problem because it can have many effects on the environment including impacts on worker health, contagion of nearby flocks, and monetary loss.

The second main waste issue deals with responding to regular chicken mortality amongst chickens and dealing with remains. Currently, there is no facility on the property of ADIM that can support the disposal of regular chicken mortality. Daily mortality is common in broiler chicken production, which is why this issue must be dealt with during the planning process. Both of these waste issues are highly significant.

Consumers and Local Economy

The broiler chicken production facility will have a positive impact on consumers as well as on the local economy. Wholesale suppliers as well as final consumers will have access to a quality product that is produced locally. The reduced transportation costs as well as the increase in local supply of chicken will place downward pressure on the price of chicken. Also, the construction and operation of the production facility will result in new employment for inhabitants of the region. This is a very significant impact of the project.

Community-based Projects

Projects within the rural communities that will benefit from this project will not include intensive animal husbandry activities. As a result the possible impacts of these activities on the local environment are not very significant. The benefits of the project greatly outweigh any possible negative effect from animal husbandry activities because the project will assist in reducing levels of poverty and malnutrition in communities that are facing extreme poverty.

g. Mitigation Measures

Air Quality

Mitigation measures must be put in place to reduce the levels of ammonia within the chicken pens as well as reducing the reach of odour that could affect neighbours. With respect to the



chicken pens, the chain-link fence that makes up three of the walls will allow air to pass through the pen. Fans will also be used to increase air flow when necessary.

With respect to odour emanating from the facility, every effort must be made to keep the facility as clean as possible. Pens should be cleaned as soon as a flock has been sold. Used litter must be stored in a place that reduces air flow. Furthermore, trees can be planted along the north side of the facility in order to reduce air flow, which could assist in keeping foul odours from reaching the nearby gymnasium and school. The representatives of ADIM must speak with the town council informing them of the project plans and the possible impact of foul odour. The town council should also be aware of the plans for mitigating this impact.

Water

A proper drainage system will need to be included in the cost of construction for the facility. This drainage system should be able to capture all water run off from the chicken pens as well as the storage facility and be able to store this waste in a septic tank below ground. The composting centre should also be taken into account when designing the drainage system. A design for this drainage system must be done before commencing with this project.

Waste

An emergency response plan will need to be in place before commencing project activities. Workers and supervisors must have a full understanding of this plan. This plan should include regular monitoring of chicken flocks, regular vaccination, culling procedures, and methods for destroying infected birds. Technical support will play an important part in developing this emergency response plan. The ANFCA can play a major role in identifying Canadian partners to assist in developing this plan.

In regards to regular chicken mortality during the production process, composting is a widely accepted practice for disposal. According to the Government of Alberta Ministry of Agriculture, Food and Rural Development, “composting poultry mortalities has been proven to be a viable disposal option.” They further state that most composting designs involve covered bin facilities. More information needs to be gathered in order to design an adequate waste disposal system for chicken mortality. It will also be necessary to identify the amount of land available for waste disposal. Currently, there is not enough space available for the construction of the composting Centre.

h. Conclusion

This study was successful in identifying the major impacts that project activities could have on the local environment as well as identifying mitigating measures for these potential impacts. Based on the results of the study, the project will not have significant impacts on the local environment in view of the mitigation measures that are being proposed. If the project can successfully implement the mitigating measures before and during the operation of the facility all impacts on the local environment will be significantly reduced.

The most significant impact that the project may have on the local environment is the foul odour and its possible effect on the nearby school and gymnasium. However, as long as there is dialogue between stakeholders before the project begins and the potential impacts are discussed between all interested parties, conflict can be avoided.



With respect to ground water and waste, the mitigation measures that have been identified are common in broiler chicken production facilities throughout North America. As long as the proper measures are implemented before commencing the project it will be possible to avoid operational problems. As stated earlier, the ANFCA can play an important role in the operation of the facility by accessing the technical expertise of the Government of Alberta and the University of Alberta with respect to broiler chicken production.

Overall, this project represents a very positive development for the region. The positive impacts on the local economy, consumers, and rural community members are important. This project represents a sustainable response to the extreme poverty of the region that will help in reducing poverty and malnutrition. This project will create employment for inhabitants of the region and will improve the quality of life of people in the region.



Market Study

a. Introduction

The main purpose of this study was to gather market information and design a marketing strategy for the sale of broiler chickens in the urban markets within the Ixil region. The results of this study are to be used as a reference guide during the course of the project.

The study was led by the consultant Edwin Omar De Leon and included the participation of Catalina Rivera Zuñiga and Casildo Santiago Sanchez as interview personnel. The field work was done on 17th and 18th of February, 2006.

Based on the findings of the study the consultant considers broiler chicken production to be an important income generation activity that can provide sustainable support to ADIM in the short and long term. The market for chicken is quite large in this area as consumers consider it to be the meat of choice. Based on the proposed size of the production facility, ADIM will be entering into the market with a relatively small amount of supply, which will allow time for the production facility and project staff to gain experience and to improve production methods.

b. Size of the Market (Ixil Region)

According to the 2002 Census published by the *Instituto Nacional de Estadística* (National Statistics Institute for Guatemala) the population data for the Ixil region is as follows:

Total Population per County

Chajul – 31,780 inhabitants

Nebaj – 53,617 inhabitants

Cotzal – 20,050 inhabitants

Statistics on the urban population per county and per age group is provided below:

Age Group	Chajul	Nebaj	Cotzal	TOTAL
0-9	3,279	6,133	2,993	12,405
10-19	2,408	4,528	2,124	9,060
20-29	1,427	2,577	1,363	5,367
30-39	1,082	2,031	866	3,979
40-49	719	1,353	635	2,707
50-59	526	837	478	1,841
60-69	352	556	328	1,236
70-79	206	322	150	678
80 +	96	147	100	343
TOTAL	10,095	18,484	9,037	37,616



Based on the results of the interviews 40% of respondents identified that they had a preference for chicken and the majority purchase it between one and two times per week. The age group that is the most economically active is the group between 20 and 60 years of age, which totals 13,894 inhabitants within the urban areas of the Ixil region. A conservative estimate of the amount of chicken consumed per week per purchaser is 4 pounds. Using this data it is possible to estimate the approximate size of the urban consumer market for chicken as follows:

- ✓ Consumers = $13,894 * 40\% = 5,557$
- ✓ Demand for chicken = $5,557 \text{ consumers} * 4 \text{ pounds of chicken per week} = 22,228 \text{ pounds/wk}$

It is important to highlight that this is a very conservative estimate of consumer demand per week because it does not take into consideration the amount of chicken that children and seniors will consume. However, the figure does represent the lowest margin of demand that exists in the urban consumer market.

Broiler chickens have an average weight of 4.5 pounds at almost 7 weeks of age. When compared with the urban consumer demand for chicken, approximately 5000 chickens are consumed per week in the region. ADIM is proposing a broiler chicken facility with the capacity of placing 1000 chickens on the market every two weeks. Clearly, there is enough demand in the local market to absorb the production being proposed by ADIM.

c. Methodology

The methodology for this study focused mainly on interviews with urban inhabitants within the region as well as analyzing census data. A total of 60 interviews were conducted within the town centres of the three counties' that make up the Ixil region. Each of these town centres have a market place in which chicken can be purchased.

The respondents that participated in interviews were within the age range of 20 and 60 years of age. Individuals within this age range are considered to be economically active within the region and potential consumers. Each respondent was asked a set of 7 questions that were meant to generate information regarding consumer preferences and habits.

Census data was used to estimate the approximate size of the market for chicken within the Ixil region. Population data was cross-referenced with data collected from interviews and data made available by the feasibility study.

d. Interview Results

Which of the four options would you rather eat? (Chicken, Rabbit, Fish, Beef)

Of the 60 respondents, 24 (40%) identified chicken as their food of choice.

Why do you prefer it?

Of the 24 respondents that identified chicken as their food of choice, 22 (90%) stated that their preference was based on the low price of the product. 1 respondent identified taste as the basis of his preference and 1 other respondent could not state the reason for their preference.

How many times during the week do you consume it?

Of the 24 respondents that identified chicken as their food of choice, 14 (58%) stated that they consume chicken two times a week on average. 9 respondents (38%) stated that they consume



chicken one time per week on average, and 1 respondent (4%) stated that he consumes chicken three times a week.

How do you purchase it?

Of the 24 respondents that identified chicken as their food of choice, 14 (58%) stated that they purchase their chicken frozen or butchered. The remaining 10 respondents (42%) stated that they purchase their chicken while still alive.

If you purchase it frozen or butchered, which piece do you consume the most?

Of the 24 respondents that identified chicken as their food of choice, 19 (79%) identified a preference for chicken breast while only 3 respondents (13%) identified chicken thighs as their preference. The remaining respondents identified that they enjoyed the whole chicken.

Where do you purchase the product?

Of the 24 respondents that identified chicken as their food of choice, 16 (67%) stated that they purchased their chicken at the local market within their town. 7 (29%) respondents stated that they purchased chicken at a store nearby their house. The remaining respondent stated that he raises his own chickens.

How do you prefer to prepare your meal?

Of the 24 respondents that identified chicken as their food of choice, 22 (92%) stated that they boil their chicken as part of a stew or soup. Only 2 (8%) respondents stated that they fry their chicken.

Other comments by respondents

- Those respondents who identified chicken as their food of choice stated that they have a preference for the quality of free-range chickens instead of broiler chickens; however they did recognize the fact that free-range chickens are more expensive. As a result, many feel that they are willing to trade the quality of the free range chicken for the low price of broiler chickens. It is clear that there is a market for free-range chickens if they can be produced at a low cost.
- Respondents also stated that they would prefer to purchase whole/live chickens however the price sometimes makes this option inaccessible. As a result most respondents stated they choose to purchase their chickens after slaughter and by piece.
- Respondents in the town of Nebaj stated that their market is the most accessible because it has fresh products twice per week and is open every other day with reduced supply. In the other towns, the markets are open only once per week with fresh products.
- The majority of respondents choose to boil their chicken as part of a stew or soup, which demonstrates their healthy consumption habits. This must play an important role when controlling the fat content of the broiler chickens.

e. Main Factors which determine Consumer Preferences for Chicken

The results of the interviews provide sufficient information in order to make the following general observations of local consumer habits:

- Consumers prefer the low price chicken relative to other meats available on the market
- Consumers prefer low fat content chickens (lean)
- Consumers prefer the quality of free-range chickens as opposed to broiler chickens, but are willing to trade quality for low price



- The majority of consumers prefer purchasing butchered chicken, but many consumers are willing to purchase live chickens
- Consumers prefer chicken breasts over any other piece of the chicken
- The majority of consumers purchase their chicken from local markets, directly from a butcher
- Consumers have healthy eating habits
- Consumers in the town of Nebaj are the most active out of the three towns in the area

f. Pricing and Marketing

The current market price within the local markets of each of the three towns is Q8.00 per pound for broiler chickens. Per-pound prices of other products include beef which sells at Q13.00 and fish which sells at Q16. Free-range chicken sells at over Q20 per pound. Clearly, the per-pound price of broiler chickens undercuts each of these products. This is one of the main reasons why consumers prefer this type of chicken.

At the same time, the results of the interviews show that higher fat contents in chickens are perceived as being of poor quality. Consumers have a perception that broiler chickens have a higher fat content than free-range chickens so special attention has to be given to producing lean broiler chickens. Also, emphasis must be placed on marketing the healthy aspects of the product to consumers.

Instead of trying to compete in price with the current poultry products on the market, it would be better to compete with existing products based on characteristics such as quality, taste, and cleanliness. The fact that the production will be local will increase its value in the eyes of consumers, allowing local production to compete effectively with current products in the market that are imported from other regions in Guatemala. Once the project begins it will be necessary for project staff members to identify poultry production certifications that are available in Guatemala and to identify the requirements for these certifications. It is also possible to seek certification that allows for poultry products to be exported, this should also be explored. If the production facility is successful in receiving certification it will demonstrate the quality of product to consumers.

Branding will also be an important component of the marketing strategy for the product. It is only by way of a brand name that consumers can associate the product with local production facilities and other characteristics such as quality, taste and cleanliness. During the visit with ADIM a number of possible brand names were discussed. One of the most successful was *Pollo de la Sierra*, translated as Chicken from the Mountains. The name makes reference to the rural and mountainous Ixil region. During the project it will be necessary to select a brand name and to develop a trademark for the poultry products that will be produced. Other than some frozen packaged products, the poultry products that are currently available in the region are all sold with no brand names or trademarks.

As stated earlier, the average price for pre-slaughter chickens is Q35. This price is based on 4.5 pound chickens at almost 7 weeks of age. The primary consumers for pre-slaughter chickens are butchers.



g. Wholesale VS Retail

Based on the current capacity, it would be best for ADIM to focus on the wholesale side of the market. The retail side of the market would involve the slaughter of chickens as well as the establishment of butcher shops to sell the chicken to final consumers. Clearly, this would involve a large amount of investment as well as training. In the short-term this is not a feasible option because of the capital needed as well as the steep learning curve associated with slaughtering. Instead, the short-term plan should focus on establishing a strong production facility and developing a client base of butchers in each of the main markets within the Ixil region. Currently, ADIM is in the process of conducting a survey of all the butcher shops within the region in order to better understand the characteristics of the wholesale demand for chicken products. This information will be forthcoming.

h. Logistics

It will be necessary to invest in equipment to transport final products to market. The plan would have the production facility supplying broiler chickens to markets in each of the three towns in the Ixil region. Each town is approximately 1 hour apart by vehicle. It will be necessary to purchase a medium-size truck for transporting products to markets.

i. Conclusions

In general, this study was successful in reaching its goal and objectives. It was possible to gather important market information including the approximate demand for chicken in the local market, consumer preferences, pricing information, and marketing information. This information will play an important role in developing the marketing strategy for the project. The findings included in this report can also be used as a reference guide for project staff during the course of the project.

Although it was possible to collect very valuable information by way of this study, it was not possible to collect information regarding wholesale consumers of chicken. It will be necessary for ADIM to determine the number of butcher shops within the Ixil region, the number of wholesale consumers, and the prevailing price for wholesale chicken. Until this information is collected it will not be possible to complete the marketing strategy for the production facility.

One of the main benefits of having wholesale consumers as clients is that ADIM will have the opportunity to establish contracts with these consumers ensuring consistent sales. They will be able to operate knowing that their product will be sold. This will provide the necessary support for the project during its first year of operation, providing time for the production facility to improve and become more efficient.

In all, this market study shows that the sale of chicken in the local market is a feasible income generation tool. Consumers are very familiar with the product and demonstrate a consistent demand for the product.



Women's Forum: Study relating to the Empowerment of Women's Committees

a. Introduction

The Women's Forum was held between the 16th and 19th of February, 2006. It was organized for women's committee representatives from each of the communities that are represented by ADIM. The results of the forum were compiled into a final report which is available in the appendix of this report.

The communities represented at the forum are as follows:

- Santa Clara
- Xecoyeu
- Chaxa
- Antiguo Amajchel
- Santa Rosa
- Laguna Caba
- Nuevo Amajchel
- Xolcuay
- Chel
- Pulay

The forum included four main activities:

- Discussion on the current issues that are facing women in their communities
- Identifying food security priorities for each community
- Discussion regarding the strategy for community-based projects, which includes identifying the roles of women's committees as well as the type of training that are necessary for women's committees
- Develop a work plan as well as an evaluation plan for women's committees in coordination with the Executive Committee of ADIM

The forum was a success. It provided an opportunity for participants to discuss their views on food security and methods for improving community-based food production. Participants expressed the ways in which women can play an active role in developing their communities. Without the forum it would not have been possible to develop a proper plan for implementing the community-based projects, which will be an important part of the overall project.

b. Current Community Context

What follows are characteristics of the community life identified by those women participating in the women's forum.

- The condition of health within the communities is severely affected by the poor nutrition.
- All community members are affected by nutritional and vitamin deficiencies that negatively impact the immune systems of each community member.
- There is a lack of adequate transport to and from communities. This has an important impact on health; specifically in terms of medical emergencies such as complications with pregnancy and complications during birth.



- Within communities there is a lack of diversification in the types of foods available to community members.
- Poor nutrition has specific impacts on children who consequently suffer from learning and attention problems in schools;
- There exists severe problems with educational systems within communities; there is a lack of qualified teachers, infrastructure, and materials. Only primary education is available at the community level;
- There exist problems associated with violence amongst youth within the communities.

c. Current Issues Facing Women at the Community Level

- Discrimination, exclusion and violence against women which includes the loss of self esteem. Violence against women has developed into a trans-generational custom. For example, some parents refuse to allow their daughters to attend school.
- Women do not participate in the process of community development or in decision making at the community level. This provokes passivity amongst women within the community.
- There are no training and education programs designed specifically for organized women’s committees or groups.
- No programs exist that promote and facilitate the involvement of women in formal studies or professional development.
- There are no projects designed for women or projects that are implemented by them at the community level.

d. Identifying the Food Security Priorities for each Community

Each community provided a list of food production priorities based on the perspectives of their Women’s Committees. Based on the results shown in the chart below, the needs are different in each community and in many cases the needs do not match what has been proposed in the concept paper for this project. It is for this reason that it was so important to host a forum for Women’s Committees to discuss their needs so that the project may attempt to better resolve the issues that they identify.



**FOOD PRODUCTION NEEDS
PRIORITIZED BY WOMEN’S COMMITTEES FROM EACH COMMUNITY**

Number	Community	Priority 1	Priority 2	Priority 3	Priority 4	Priority 5
1	Nuevo Amajchel	Lamb	Vegetable	Rabbit	Poultry	---
2	Santa Clara	Cattle	Goat	Vegetable	Poultry	Fruit Trees
3	Xecoyeu	Organic Chicken	Lamb	Vegetable	Rabbit	Fish
4	Xolcuay	Cattle	Vegetable	Chicken	Fruit Trees	Lamb



5	Chel	Lamb	Vegetable	Rabbit	Poultry	----
6	Antiguo Amajchel	Lamb	Vegetable	Rabbit	Poultry	----
7	Pal	Cattle	Poultry	Vegetable	Fish	Rabbit
8	Chaxa	Cattle	Poultry	Vegetable	Rabbit	Fish
9	Laguna Caba	Cattle	Vegetable	Rabbit	Organic Chicken	Fruit Trees
10	Pulay	Lamb	Vegetable	Rabbit	Poultry	----

The results of this process demonstrate that chicken production is not the first priority from the perspective of women’s committees in each of the communities. Their needs are diverse and as a result the project will need to develop a strategy for meeting a diverse set of needs amongst the communities.

e. Project Summaries for each Community:

Participants were asked to form groups in order to develop a project summary for a project that they would like to implement in their community. In some cases a group had representation from only one community and in other cases a group had representation from two communities. Below are the results of this process.

Community: Nuevo Amajchel
<u>Representatives from Women’s Committee:</u> 1. Magdalena Cobo Ramirez 2. Maria Cobo Raymundo
<u>Lamb Project:</u> This community would like to initiate a household-based lamb production project. The community representatives believe that a communal project would not work within the community because some members of the community work more than others and this causes problems at the time of distributing the benefits of the project. However, the community representatives believe that the community would be willing to initiate a communal project if there is no other choice, but the entire community would have to participate in a discussion on the subject and assume the responsibility.
<u>Project Inputs:</u> 1. Lambs (both female and male) 2. Construction materials for stables 3. Fencing material 4. Seeds for planting grass for grazing
<u>Role of Women’s Committees:</u> The Women’s Committee will be responsible for the implementation of all the activities associated with this project. It will prepare a list of all women and households that will play an active role in the projects activities. It will also be responsible for the monitoring and evaluation of the project. Project beneficiaries will be responsible for caring for the lambs.



When the lamb has reached maturity the Women’s Committee will be responsible for overseeing the sale of the lambs as well as designating a set amount for consumption within the community.

Training Required:

The following training will be required in order to initiate the project:

1. How to raise and care for lamb.
2. The use of vaccinations and other medications for the lamb.
3. How to convert waste from the lambs into organic fertilizer.

Communities: Santa Clara and Xecoyeu

Representatives from Women’s Committee:

1. Paula Cuyuch Baten (Santa Clara)
2. Maria Rivera Cobo (Xecoyeu)

Organic Chicken Project:

The Women’s Committees of these two communities express that they are interested in receiving a project that would provide households with organic chickens. Households in these communities already have organic chickens, but the problem is that community members do not have the training to keep their chickens from contracting illnesses.

Project Inputs:

1. Construction materials for building chicken coops.
2. Vaccinations and small inventories of medicines.

Role of Women’s Committees:

The beneficiaries of the project will agree to transport all the materials necessary to build the chicken coops. The Women’s Committees will be responsible for the implementation and monitoring of the project. They will also coordinate with community’s officials and families. The community representatives have committed themselves to return to their communities and present this project to their community’s in order to receive collective approval of the project.

Training Required:

The Women’s Committees have stated that they would like to receive leadership training for women within their communities.

Community: Xolcuay

Representatives from Women’s Committee:

1. Justa Hernandez Hutuy
2. Maria Castro Tzunux

Organic Chicken Project:

The Women’s Committee would like to develop a communal project for the raising of organic chickens. They have access to private land upon which a small farm can be built until a collective plot of land can be secured.

Project Inputs:

1. Construction materials for building the chicken coops.



2. Vaccinations and small inventories of medicines.
<p><u>Role of Women’s Committees:</u> The Women’s Committees will organize community members to</p>
<p><u>Training Required:</u> The Women’s Committee would like to be trained in the following areas:</p> <ol style="list-style-type: none"> 1. Project Administration 2. Illness prevention and vaccinations <p>The Women’s Committee would like the training sessions to be available to all the members within the community, while also taking advantage of the experience and knowledge of those in the community who already have some training.</p>
Community: Chel
<p><u>Representatives from Women’s Committee:</u></p> <ol style="list-style-type: none"> 1. Maria Raymundo Gallego
<p><u>Lamb Project:</u> The Women’s Committee has requested a Lamb project that will be communally based, with communal land provided by the community. The community would like to begin the project with a donation of 50 lambs.</p>
<p><u>Project Inputs:</u></p> <ol style="list-style-type: none"> 1. Construction materials are required for the building of the stables 2. Fencing material 3. Seeds for grass for grazing
<p><u>Role of Women’s Committees:</u> Community members will provide all the labour in order to build the stables for the lambs. The community will also provide all the wood necessary for the stables. The Women’s Committee will be responsible for the planning and organization of the project as well as ensuring adequate communication with community members. The committee will also be responsible for ensuring the cleanliness of the area in which the lambs will stay as well as mediating any potential conflicts which may arise as a result of the lambs.</p>
<p><u>Training Required:</u></p> <ol style="list-style-type: none"> 1. Project administration and implementation 2. Prevention of disease and illness 3. Vaccinations

Community: Antiguo Amajchel
<p><u>Representatives from Women’s Committee:</u></p> <ol style="list-style-type: none"> 1. Maria Cedillo Perez 2. Rosa Cruz Sanchez
<p><u>Lamb Project:</u> The community can designate a communal area for the lamb project. They would like to have 28 lambs.</p>
<p><u>Project Inputs:</u></p> <ol style="list-style-type: none"> 1. Construction materials are required for the building of the stables 2. Fencing material



<p>3. Seeds for grass for grazing</p>
<p><u>Role of Women’s Committees:</u> The Women’s Committee will be responsible for overseeing the construction of the stables for the lambs. They will also be responsible for taking the lambs out for grazing. The Women’s Committee will organize and be present for the meetings within their community and will include women from the community in these meetings.</p>
<p><u>Training Required:</u></p> <ol style="list-style-type: none"> 1. Project administration and implementation 2. Prevention of disease and illness 3. Vaccinations
<p>Communities: Pal y Chaxa</p>
<p><u>Representatives from Women’s Committee:</u></p> <ol style="list-style-type: none"> 1. Maria Nunal Nunal (Chaxa) 2. Antonia Nunal Sanchez (Chaxa) 3. Juana Guzman Brito (Pal) 4. Catarina Briito Matom (Pal)
<p><u>Organic Chicken Project:</u> Both communities have already implemented a household chicken project, but would like to implement an additional project focusing on improving chicken production and care. In each of the communities they ask that the project be implemented on a household basis.</p>
<p><u>Project Inputs:</u></p> <ol style="list-style-type: none"> 1. Materials for the construction of chicken coops. 2. Equipment for the proper functioning of the chicken coops. 3. Vaccinations and small inventories of medicines.
<p><u>Role of Women’s Committees:</u> The Women’s Committee will be responsible for the overall management of the project at the community level as well as to evaluate the development of the project at the community level. The Committee will be responsible for the transportation of all materials to the community, prepare feed for the chickens, and to ensure proper feeding of the chickens. The Committee’s will also be responsible for the cleanliness of the chicken coops and for the proper care of the chickens.</p>
<p><u>Training Required:</u></p> <ol style="list-style-type: none"> 1. Vaccinations 2. Care and raising of organic chickens 3. Making use of chicken waste for fertilizer
<p>Community: Laguna Caba</p>
<p><u>Representatives from Women’s Committee:</u></p> <ol style="list-style-type: none"> 1. Juana Brito Velazco 2. Teresa Marcos Matom
<p><u>Organic Chicken Project:</u> The community is interested in implementing a communal organic chicken project. The Women’s Committee has access to a communal piece of land that could be used for the</p>



construction of a chicken coop. The Women’s Committee will be responsible for the operation of the communal chicken coop and will sell the mature chickens within the community and within neighbouring communities.

Project Inputs:

1. Construction materials for the chicken coop
2. Equipment for the communal chicken coop
3. Manual corn grinder
4. Chickens (baby chicks)

Role of Women’s Committees:

The Committee will be responsible for organizing women within the community in order to develop a supervision schedule for the communal chicken coop. The Committee will coordinate with ADIM in order to conduct evaluations of the project. The Committee will also coordinate with ADIM in order to provide training sessions within the community.

Training Required:

1. Project development
2. Caring for organic chickens (feeding and cleaning)
3. Vaccinations

During the group discussions the groups stated that they would like to see the women’s committees play a more active role in the decision making within their communities. They would like to be involved in development activities in their communities and receive training. However, at the time of developing a project summary for their community, many of the groups chose to develop projects that were household-based instead of communally-based. This process demonstrated that individualism is a common characteristic of people in their communities. In many ways, this contradicts their wishes to be considered as united group in their communities.

It will be necessary to work with women’s committees in order to demonstrate the ways in which communal projects can achieve greater results in the long-term.

f. Project Supervision and Evaluation Plans

This section will focus specifically on the different roles that the women’s committees and the participants from the Executive Committee of ADIM will play during the implementation of community-based projects. However, it is important to highlight that this exercise demonstrated the lack of training received by women’s committees to date. During this planning session it was clear that the women’s committee participants are not familiar with the process of designing a work plan or developing an evaluation plan for a project.

During this process both ADIM and the women’s committees committed themselves to assume certain roles when this project reaches implementation. The women’s committees will be responsible for coordinating with community leaders, implementing the projects and monitoring the project at the community level. Women’s committees will also be responsible for providing monthly project activity reports to ADIM based on information gathered during weekly visits to households.

ADIM will be responsible for coordination with funding agencies and to provide information directly to women’s committees. ADIM will also be responsible for providing project support and



training to women's committees. ADIM will monitor project performance at the community level by way of routine community visits every two months. Sharing experiences amongst communities will also be done as much as possible. A facilitator will be designated by ADIM to work with the communities.

g. Conclusion:

Overall, the study was successful in developing a strategy for implementing community-based projects in coordination with women's committees. The Women's Forum provided a valuable opportunity for community representatives to assist in the design of this project and for the ANFCA representatives to better understand the challenges facing women's committees. The forum has resulted in three main conclusions:

- The findings of this study show that it will be necessary to implement a responsive system for coordinating projects with community-based women's committees. Keeping with the theme of animal husbandry, these committees should be able to formulate their own community-based projects based on the needs that they identify and receive financial and technical support from ADIM. In this way it will be possible for women's committees to feel more ownership over the projects that they will be coordinating in their communities.
- Technical training for women's committees will need to be an important component of all community-based projects. The Women's Forum showed that many of the women's committees still lack many technical skills with regard to project development and implementation.
- Each community-based project should be accompanied by workshops regarding gender equity and women rights, which should be directed at the entire community. There are still many barriers that continue to inhibit the full participation of women in community affairs. Education remains the most important solution to solving this problem.

These three conclusions will be most valuable when preparing the proposal for the project. These conclusions show that it is not feasible to attempt to implement one type of project in each of the rural communities. The forum has allowed all those involved in this project to appreciate the diversity that exists amongst the communities that are represented by ADIM.

4. Achieved Results compared to Anticipated Results:

Refer to Section C, number 3: Detailed Final Report on Achievement and Sustainability of Results.

5. Roles and Responsibilities of Stakeholders:

ADIM

With respect to the design of the studies, ADIM assisted in identifying what the goal and objectives of the studies should be. The role of ADIM during the implementation of the studies was the same as that of the ANFCA; they oversaw the implementation. Some members of the Executive Committee of ADIM assisted with the activities of each study. ADIM also provided information to each of the consultants as needed.



With respect to the development of the proposal, ADIM will play an active role in its development. Currently, ADIM is responsible for gathering the information which still needs to be collected. Once this information is collected it will be possible to begin writing the proposal.

ANFCA

During the implementation of the studies, the ANFCA representatives oversaw implementation, along with ADIM. The ANFCA representatives were also responsible for identifying the costs associated with having two Aboriginal youth visit the project.

With respect to the preparing the proposal for this project, the ANFCA will be responsible for submitting the final proposal to the IPPP. Before this can happen it will be necessary to work in cooperation with ADIM in order to write the proposal. All the components of the proposal need to be understood by each organization before the proposal can be submitted.



SECTION C: Analytical Review of the Project

1. Project Rationale and Justification:

Based on the visit by ANFCA representatives to the Ixil region, it is clear that poverty remains one of the most visible characteristics of the region. A quick look at housing, services, and infrastructure shows that there is very minimal economic activity within the region. Clearly this has impacts on families. The prospects for younger generations are not very good, as many young men and women have a difficult time finding employment that is meaningful to them. Illegal entry into the United States is a common option for many of the young people who live in the area. In many cases, those who leave the region are those who have already achieved academic success in some area and whose technical skills could potentially benefit the region if only these young people could find employment. There is a clear difference between the quality of life within the three main towns in the region and life in rural communities. Within rural communities housing, education, and health are in very poor conditions. The economic activity in these communities depends on the land, and most families in the region have limited access to this resource. In most cases, land quality is poor and access to the land is limited. Clearly, there are many development challenges in this region. These challenges represent needs in the region, which in turn serve as the rationale and justification for this project.

After visiting the region and working with ADIM to further develop this project, it has become clear to ANFCA members that the ANFCA can play an important role in supporting sustainable development in the region. The experience of the ANFCA with respect to strengthening governance and management amongst Friendship Centres throughout Alberta makes it an ideal organization to support ADIM in its efforts to become more sustainable. The support role that the ANFCA plays in Alberta can easily be made available for Indigenous organizations abroad. Clearly, this will be a learning experience for the ANFCA as this will be its first attempt to establish a working relationship with an Indigenous organization outside of Canada, but the ANFCA has a strong institutional history and is well-suited to take on this new initiative. Also, the youth component of this project relates directly to the objectives of the ANFCA. Aboriginal youth development is very important to the ANFCA, which is why it is committed to making this project a success.

2. Planned and Achieved Goal and Objectives:

In general, this project was successful in achieving the planned goal and objectives. The visit by ANFCA representatives to Guatemala allowed ANFCA representatives to see first-hand the context in which ADIM operates. It provided an opportunity for ANFCA representatives to work with ADIM and the consultants to implement the activities related to the studies as well as hosting the Women's Forum. As a result, the ANFCA representatives consider this project to be appropriate to the needs of ADIM and its member as well as feasible based on the findings of the studies.

Feasibility and Environmental Impact Study: The initial meeting between the two consultants hired for this study along with ADIM and ANFCA representatives was very positive. It was possible to identify the needs of ADIM with regard to sustainability as well as identifying the best poultry production system for their needs. The study successfully outlines the production process for broiler chickens as well as the costs associated with building the production facility.



The major challenge associated with this study was to identify an appropriate method for disposing of broiler chicken mortality during the production process. As eluded to earlier in this report, specific consideration will be given to composting as a method of disposing of broiler chicken mortality.

Market Study: The market study was successful in identifying the local demand for poultry products and providing an analysis of the characteristics that accompany this demand. Furthermore, the study provides important insights into the marketing aspects of production, specifically with respect to branding. However, more market research needs to be done with respect to identifying wholesale consumers for the product as, at this time, ADIM is not comfortable with the idea of slaughtering chickens for retail consumers. Over the coming months the Executive Committee of ADIM will need to make contacts with butchers throughout the Ixil region in order to begin establishing a client base.

Women's Forum: The forum for Women's Committees was very successful. Although there was not participation from all the communities the forum did provide very important information that has come to modify the approach to the community-based activities for this project. The forum showed the diversity of needs amongst communities as well as highlighting the major challenges that continue to hinder the full participation of women in the process of community development. The results of the forum provide a detailed plan for an animal husbandry project in each community as well as a list of training activities that will be required. The results of the forum also provide a list of topics for training ranging from community development to gender equity.

Overall, this project was a success. The entire process associated with the studies and the visit by ANFCA representatives to Guatemala was an important learning experience.

3. Detailed Final Report on Achievement and Sustainability of Results:

The project was successful in achieving the outputs of the feasibility phase of the project. However, it is still not possible to verify the outcomes and impacts of the actual project because it has not yet been implemented. This report includes achievements to date.

Outputs

- The visit by ANFCA representatives to Guatemala made possible the exchange of the Aboriginal experience in Canada and the Indigenous experience in Guatemala. ADIM was also familiarized with the institutional experience of the ANFCA and the role that it currently plays within the Friendship Centre movement in Canada. The visit provided an opportunity to the ANFCA to take part in the planning of the studies as well as their implementation.
- Both representatives of the ANFCA had an opportunity to understand the realities that face Indigenous people in Guatemala. Both representatives learned about the community development challenges that are facing the rural communities as well as the political context in which these challenges exist. These representatives shared this experience with other members of the ANFCA upon their return.
- Each of the three studies successfully identified the activities that will need to be implemented in order to achieve the outcomes and impacts identified for this project. Valuable information was recovered with respect to operations of a poultry production facility, the impacts that these activities might have on the environment, market related activities, and the activities related to implementing community-based projects in cooperation with community Women's Committees.



- ADIM and the ANFCA are currently preparing the project proposal that will be submitted to the IPPP for additional funds in order to implement the activities outlined in the studies. It is anticipated that this proposal will be ready for submission in September 2006.

Outcomes

- Based on the finding of the studies, it will be possible to increase the potential of income generation at the community level based on animal husbandry activities. However, the needs of each community are diverse and it will be necessary for each community to be trained in its area of interest before substantial achievements can be made.
- Commercial food production is a viable option for ADIM in order to improve its financial position and in so doing its institutional sustainability. The ANFCA offers strong governance and management experience that will assist in strengthening the capacity of ADIM.
- Based on the results of the Women's Forum it is clear that there are many challenges associated with increasing the participation of women in community affairs, however, many women have shown leadership by participating in the Women's Forum and will continue to do so in their communities.
- Information regarding the project has already been disseminated to youth participating on the Alberta Aboriginal Youth Council (AAYC) and once funding is confirmed the project staff will begin looking for youth participants.

Impacts

- Based on the findings of the reports it will be possible to establish a commercial food-production system that will assist in providing financial sustainability to ADIM as well as providing resources that will be used for community-based animal husbandry projects. Once established these activities will assist in reducing levels of malnutrition, representing a self-sustaining method for poverty reduction.

4. Political Considerations:

The most important political considerations that arose from this process relate to the involvement of women in the process of community development. The Women's Forum brought to light a number of obstacles that continue to keep women from participating fully in community affairs. As identified in the report on the Women's Forum, it will be necessary to integrate gender related workshops for both men and women into the support that will be provided to communities.

5. Analysis of the Proposal Development Process:

With regard to developing the Concept Paper for this project, the process included the involvement of ADIM and the ANFCA. Both organizations were involved with the initial brainstorming, the initial design of the project and the final approval of the concept paper. During this process ADIM consulted with its community members, which helped further define the general direction of the project. The proposal development process has included participation from both organizations.

One of the main challenges of developing the proposal has been the lack of full participation by ANFCA members. The language barrier and the lack of international development experience have hindered participation in this process. In response to this challenge the ANFCA planning team for this project will attempt to include Elder and youth involvement into the process. These



ANFCA members can play an important role in defining the cultural objectives of the project and the role that youth can play in making this project successful in Guatemala and in Canada.

Another challenge associated with this process is maintaining regular communication between ADIM and the ANFCA. The costs associated with telephone are quite high and e-mail does not always allow for the best communication. It is possible that voice-over-IP telephone service may provide a solution to this challenge.

Over the coming months the ANFCA and ADIM will be in constant communication in order to develop the project proposal for this project. The proposal will be prepared in English and Spanish in order for both organizations to approve the proposal before it is submitted to the IPPP.

6. Analysis of Financial Process:

During the implementation of the activities for this project, the ANFCA managed all funds. Once the project begins it will no longer be possible to operate in this manner. It will be necessary to establish a payment schedule for the project and to wire funds accordingly.

In order to pay the consultants for this project the ANFCA used the services of Custom House, a currency exchange and wiring company. This company will be used to make payment transfers to ADIM once the project begins.

7. Logistical Difficulties:

During this visit it was not possible for the ANFCA representatives to visit one of the rural communities because of time constraints. In some cases communities are over 4 hours away from the town centre on trails that are only accessible by foot. The poor access to these communities will represent a challenge throughout the course of this project, limiting the communication and visits to these communities. Also, during the rainy season access to these communities is even more limited, which will present a challenge when transporting materials to and from communities.

8. Public Relations Issues:

To date, there has not been sufficient public awareness brought to this project. Once the project proposal is finished the ANFCA will prepare an information pamphlet that will be distributed throughout the province to Aboriginal and non-Aboriginal communities in order to increase awareness of the opportunities this project provides for youth. Once the project begins, youth participants will be involved in hosting workshops to discuss the issues facing Indigenous communities in Guatemala and the similarity of these issues with those faced by Aboriginal communities in Canada.